

# 1

## Brands of Airlines

Different types of airline brands find its way in the highly competitive airline market serving customers with diverse travel preferences. It is almost impossible to come across two identical airlines. There are several characteristics based on which airlines are defined and classified. These characteristics play a significant role in the undertaking of the airline's network planning and scheduling. Generally, airlines could be classified and branded based on schedule availability (chartered and scheduled airlines), size and domain of service (e.g. regional, national, and major), business model (legacy, low cost, and ultralow cost), ownership (publicly, privately, and mixed owned), network structure (hub-and-spoke and point-to-point), locality and network coverage (domestic and international), and transport service type (cargo only and passenger and cargo airlines). A combination of these characteristics defines the brand of the airline.

### 1.1 Schedule Availability

#### 1.1.1 Charter Airlines

Charter airlines provide on-demand and as-needed service for a group of customers (or cargo) that share travel itinerary including origin, destination, and date of travel. Thus, these airlines do not provide a published flight schedule with pricing and seat availability. Any party that is interested in a customized travel service contacts the charter airline (or its agents) and agrees on initiating the flight. The agreement usually involves deciding on date of travel, origin, destination, pricing, and number of seats required. Charter airlines focus on serving customers with customized needs such as urgent or time-sensitive travel, privacy, and need of flexibility (French 1995; Buck and Lei 2004). Charter airlines are also used in peak travel periods or during special events, when demand temporarily increases above available capacity. Example of these events include pilgrimage seasons (e.g. pilgrimage in Saudi Arabia), major

sports champions and games, tour operations for tourism, etc. (Karlaftis and Papastavrou 1998; Williams 2001). Some charter airlines may also follow a set schedule, with a certain number of flights per week to desirable tourist destinations. Even in this case, individual passengers do not book their tickets for the flight; they are sold in bulk to a tour company or a travel agency. The departure time of these flights are usually flexible based on the preferences of the service requesters.

### 1.1.2 Scheduled Airlines

The scheduled airlines plan and publish flight schedules on regular basis ahead of the scheduled dates of operation. The published schedule involves detailed information on served markets, departure and arrival times of each flight, available seat capacity, pricing and associated ticket restrictions, and fees. The flight schedule is usually published a few months before its implementation. During this period, which is also known as the booking horizon, prospective travelers can shop among the available itineraries offered by all airlines and select (book) the one that meets their travel preferences. The published schedule might be subject to several minor modifications and amendments made by the airline during the booking horizon. The seat availability is updated when a new booking is materialized on any itinerary. Pricing and ticket restriction information are subject to more frequent updates, as airlines respond to changes in demand and competition with other airlines. The published schedule is made available to customers and travel agents. Thus, customers can buy their tickets directly from the airline or through travel agents.

## 1.2 Size and Domain of Service

### 1.2.1 Major Airlines

The term major airlines is used in the United States to define large airlines that generate an annual operating revenue of one billion dollars or more. These airlines typically have a large network that covers most of the major destinations in the domestic market with reasonable service frequency. Major airlines usually connect its hubs and major destinations to other international major destinations. Most major airlines operate a mixed fleet of small-, medium-, and large-sized airplanes.

### 1.2.2 National Airlines

National airlines are scheduled airlines with annual operating revenues between \$100 million and \$1 billion. These airlines might serve certain regions of the country.

They may also provide long-distance routes and serve some international destinations. National airlines usually operate medium-sized airplanes.

### 1.2.3 Regional Airlines

As the name suggests, regional airlines focus their service on a region, where they carry traffic from small communities and connect them to a major nearby destination (Truitt and Haynes 1994; Forbes and Lederman 2007). Regional airlines typically use small aircraft to serve passengers originating from these small communities, as demand generated from these communities is not high enough to fill a large aircraft. Regional airlines could be operating as an independent airline under their own brand or as an affiliated airline operating under the brand of another airline. However, in most cases regional airlines operate as an affiliated airline, where they sign contracts with one or more major airlines to work under its brand. Under this contract, regional airline carries traffic from small communities and connect them to a hub served by the major airline. The major airline can then connect this traffic over its network to other destinations. In this case, the regional airline is known as a feeder airline, as it feeds traffic to the flights of the major airline. When the regional airline serves as an affiliated (feeder) airline, the regional airline only provides the aircraft and the crew to operate the flight. The schedule of flights as well as seat availability and pricing is determined by the major airline.

## 1.3 Business Model

### 1.3.1 Legacy Airlines (or Mainline)

Legacy airlines (or carriers) is a term used to describe major airlines in the United States. It originally refers to airlines that had established interstate service by the time of the route liberalization, which was permitted by the Airline Deregulation Act of 1978 (Reynolds-Feighan 1998; Goetz and Vowles 2009). Legacy airlines typically provide higher quality services, compared with other airlines. For example, a legacy airline typically offers first class and business class seating, convenient schedule in business markets, frequent-flyer program, and exclusive airport lounges. Many legacy airlines are also members of worldwide airline alliance. Being part of a worldwide alliance allows the airline to expand its service via its partner airlines. In addition, legacy airlines generally have better cabin services, where some of them offer free meal service on long-haul flights, free snacks, and in-flight entertainment. The term legacy airline is used in many cases in exchange of the terms major or mainline airline.

### 1.3.2 Low-cost Airlines

Low-cost airlines or low-cost carriers (LCC) refer to airlines that maintain low operating cost structure and typically can offer cheap fares to its customers. LCC usually focuses on attracting travelers that are price sensitive (e.g. leisure travelers). However, an airline that has a low-cost structure is not necessarily a low-fare airline. An airline can have a low-cost structure and still can charge high fares, when customers are willing to pay such high fares. There are different measures that low-cost airlines usually consider to reduce their cost of operation. For example, LCC usually fly single fleet type to reduce crew training and maintenance cost, increasing aircraft utilization by minimizing ground/turn time at connections, flying to less-congested secondary airports to avoid congestion at major airports, reducing marketing and sales cost by eliminating commissions to travel agents and sell tickets online via the airline's websites, and finally maintaining a less complex operation by focusing their services in a limited number of markets (Dobruszkes 2006; Vidović et al. 2013).

### 1.3.3 Ultralow-cost Airlines

Ultralow-cost carrier (ULCC) is a brand used to describe airlines that take additional measures to cut cost (and increase revenue) beyond those considered by LCCs. These airlines attract price-sensitive customers by offering very low fares. It is argued that these measures usually happen on the expenses of comfort, convenience, and amenities offered to customers. For example, aircrafts are configured to have all-couch cabin seats, with no cabin for first or business class seats. In addition, the seats are configured to add as many rows as possible by reducing the leg room between rows. This configuration allows the airline to have more seats per flight and increase their revenue and decrease the per-seat cost. Furthermore, to make up for revenue lost due to decreased ticket prices, the airline may charge for extras like food, priority boarding, seat allocating, baggage, etc. This nonticket revenue is known as ancillary revenue, and it became a very important stream of revenue for ULCC. As mentioned above, these airlines typically target customers who are sensitive to ticket price and less sensitive to quality of service or service frequency (i.e. not time sensitive). This demand is typically very elastic, as it significantly increases or decreases as the price of the ticket goes down or up. ULCC unbundles the service offered to the customers. Instead of having customers pay for a flight ticket that includes all service components such as free check-in bags, free carry-on, and flight meals/snacks, the service is unbundled where customers pay only for any ancillary services they want. Both ULCC and LCC are also commonly referred to as value airlines, budget airlines, or no-frills airlines (O'Connell and Williams 2005; Fageda et al. 2015; Vowles and Lück 2016).

## 1.4 Ownership

### 1.4.1 Public or State Ownership

Public- or state-owned airlines (also known as flag carriers or national carriers) refer to airlines that are under full control of a state government in terms of both ownership and management. States recognize the fact that airlines are critical to the country's economic development and national security, and thus they have to be fully under the control of the state. State-owned airlines are mostly considered as part of the national pride with the main goal of the management team is to maintain the airline and keep the business operating. Profitability might not be the first priority of a state-owned airline, as the government can always subsidize any reported losses. However, when government lacks funding, management will be under the pressure to minimize the losses and be self-sustainable. Besides the direct monetary funding, the state can offer other forms of subsidies to the airline including facilitating less expensive loans, less rate on using aviation infrastructure such as airports and terminals, subsidies on fuel price, tax breaks, etc. While it is inconclusive, many researchers argue that state-owned airlines are less efficient compared with privately owned airlines (Chang et al. 2004). State-owned airlines are usually characterized by excess employment, as politicians might force hiring to improve their image and reduce unemployment rates. It is suggested that politicians and bureaucrats may substitute their own goals and preferences, such as employment and image, over efficiency and productivity considerations.

### 1.4.2 Private Ownership

Private ownership airlines are completely owned by investors from the private sector. Thus, private ownership usually makes airlines more efficient, where owners pressure the management team to achieve higher returns for their investments (Backx et al. 2002). The possibility of losing investment funding forces private airlines to continuously find ways to reduce costs and improve revenues. There is no other objective of management of privately owned airlines other than improving efficiency of the business to maximize profitability. Private airlines are less subjected to bureaucratic practices compared to state-owned ones and are often more flexible. This flexibility gives these airlines better chances to take advantages of opportunities that arise to improve efficiency. From the consumer point of view, if a market is served only by privately owned airlines, the government usually interfere to ensure fair competition among the airlines and to prevent any form of monopoly practice by any of these privately owned airlines.

## 1.5 Network Structure

### 1.5.1 Hub and Spoke

Hub-and-spoke airlines adopt a network structure in which one or more major cities (airports) are selected to serve as hubs for the airline (Shaw 1993; Bryan and O'Kelly 1999; Nero 1999; Brueckner and Zhang 2001; Burghouwt et al. 2003). Flights are scheduled to connect the hub to other destinations, known as spoke cities. Thus, any flight in the schedule is either starting or ending at a hub. Most airlines worldwide operate in a hub-and-spoke network structure. For these airlines, the hub is usually located at the capital city or at a major industrial or commercial city. The spokes represent other domestic and international cities. The flights of hub-and-spoke airlines carry local and connecting traffic from/to the hub(s). Local traffic is the traffic originating or ending at the hub. Connecting traffic includes passengers that travel between two spoke destinations through the hub.

### 1.5.2 Point-to-Point

Point-to-point airlines develop their networks by scheduling flights between city-pairs, as long as the demand between the two cities justifies scheduling these flights. In this case, the majority of the demand of the flight is local traffic, which is the demand between the origin and the destination of the flight (Alderighi et al. 2005; Alderighi et al. 2007; Marti et al. 2015).

### 1.5.3 Hybrid

In some cases, to gain the benefits of the hub-and-spoke structure, airlines that adopt the point-to-point structure tend to define some cities as concentration/focus points. Flights are scheduled to meet at these focus cities within a predefined time window to allow connection opportunities. Such structure is known as the hybrid network structure. The network structure of the hybrid airline includes both characteristics of the hub-and-spoke and point-to-point network structure. Thus, these airlines have some major destinations that operate as hubs, where they provide flights into and out of these hubs. They also connect spoke destinations directly with nonstop flights (Lordan et al. 2014). More discussion on the airline network structures is given Chapter 2.

## 1.6 Transport Service Type

### 1.6.1 Cargo Airlines

Cargo airlines (or airfreight carriers) are dedicated to the transport of cargo by air (Zhang and Zhang 2002). A cargo airline could be an independent airline or

a subsidiary of larger passenger airlines. Cargo airlines typically carry perishable goods and other items that have high value and less volume including electronics and high-tech products, apparel, textile, footwear, medicine, mail, etc. Cargo airlines are usually part of a complicated intermodal supply chain that provides door-to-door pickup and delivery services. This supply chain includes customer, freight forwarders and consolidators, ground transportation, air flight, sorting, and distribution. Security checks are also a main concern within this supply chain. While cargo airlines share many characteristics of passenger airlines, there are several characteristics that are unique to cargo airlines. For example, cargo airlines suffer traffic imbalance as cargo usually travel in one-way direction. Unless there is cargo to be moved in the returning direction, aircraft might have to return empty. In addition, most cargo flights occur overnight such that the delivery of the cargo can happen during the business hours. Also, a cargo airline competes not only with other cargo airlines but also with other transportation modes including trucks, trains, and ships.

### **1.6.2 Passenger and Cargo Airlines**

These airlines carry both passengers and cargo. As such, when selecting the type of aircraft for a flight, both the passenger and cargo demands are considered to determine the required capacity and appropriate aircraft size.

## **1.7 Network Coverage**

### **1.7.1 Domestic**

Domestic airlines refer to airlines that serve only domestic flights with the boundaries of the country.

### **1.7.2 International**

International airlines are serving both domestic and international flights (or international flights only) (Doganis 2002; Heshmati and Kim 2016). An international flight is a flight where the departure and the arrival take place in different countries. Airports serving international flights are known as international airports.

