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TACA

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ABSTRACT

The airline industry is energy intensive, has high fixed costs and its demand is very sensitive to the economic cycle. After the industry worldwide undergoes deregulation, starting with the United States in 1978, two distinct business models develop. Traditional carriers operate hub and spoke networks, offer onboard service and engage in price discrimination, whereas low cost carriers operate point to point, charge for all services and have simple tariffs. TACA begins operations in Central America in 1931 and, by 1943, has a footprint that extends from the United States to Argentina. In 1998–2001 TACA faces increased competition and a significant market downturn. In 2004 TACA CEO Roberto Kriete launches Centroamérica Fácil to stimulate air traffic in the airline's base countries.

1. Introduction

"As Central Americans, we are proud of TACA's effort to reactivate the region's economy and to stimulate better relationships between our communities. 'Centroamérica Fácil' [Central America Easy] responds to the users' needs; we are here to serve them." Mr. Roberto Kriete, CEO of the Grupo TACA airline, says these words in a speech in October 2004 at the launch of 'Centroamérica Fácil'.

As he leaves the presentation, Mr. Kriete ponders on the challenge TACA presents to Central American authorities. If you allow passengers to make it through Immigration faster, and establish reasonable airport fees, and if TACA reduces fares significantly, passenger traffic in Central America can increase substantially. He also reflects on whether TACA has the conditions to become a low cost carrier.

Air transportation is turning one hundred years old. History shows man's desire to fly. In 1903 Orville and Wilbur Wright build a machine that flies 120 ft in 12 s. After much testing and prototyping, in 1914 the first programmed flight takes place in Florida and, in 1915, the precursor of Boeing comes to be. During World War I, aircraft production increases substantially, and receives a further boost in 1925 when the US Post Service launches air mail. 1958 sees the launching of the first jet aircraft, the Boeing 707.

By 2003, global passenger traffic by air concentrates in North America with 40% of the total, and in Europe with 25%. The initial development of the airline industry is intimately linked to the public sector as a large buyer, and in some cases, as an operator. As the industry deregulates, airlines are forced to reconsider their business models. This process starts in the United States, but later spreads to Europe. By 2004, Latin American markets make substantial progress towards "open skies", but the economics of the industry are poor and airline executives need to think hard about their business models. This requires a careful understanding of the competitive dynamics and the regulatory conditions of the industry.

2. Regulation, competition and evolving business models

2.1. United States

In 1938 the Civil Aeronautics Board (CAB) begins operations in the United States to promote competition and to ensure that airlines offer quality service. The CAB's role is to regulate fares, prohibit price discrimination, and authorize routes and mergers between airlines in the hope that these policies improve the conditions of the airline industry, unprofitable since 1934. By the end of the 1970s, however, there remains very little competition and industry performance is terrible. Between 1950 and 1974 the CAB rejects all 80 applications from new airlines looking to set up service, and disallows all requests made by existing airlines wanting to enter rivals' routes. Airlines rarely reduce airfares, because doing so requires approval from the CAB, and the process is expensive and rarely successful (Breyer, 2004).

In 1978 the US Congress approves legislation to deregulate the industry, which phases out over four years all restrictions to limit new competitors, establish new routes and change fares. The expectation is that deregulation will force incumbent airlines to become more efficient, and that prices will drop as new airlines enter the market.

In the first decade after deregulation, major airlines focus on developing hub-and-spoke networks. Airlines offer direct flights only

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between cities that have a lot of traffic, while a central hub serves lower density city pairs. This should result in fuller flights from the spokes to the hub, as they carry passengers with several final destinations. The benefit for the airlines is not only operational; as airlines expand activities in hub airports, they use a large part of these airports' capacities, making it more difficult for rival airlines to offer flights to and from those hubs.

As the route structure becomes more complex after deregulation, airlines establish computer reservation systems (CRSs) and by 1992, 92% of all domestic flight reservations in the United States are made through the four largest CRSs. American Airlines' Sabre captures 43% of the reservations market, and United Airlines' Apollo has 27%. These proprietary systems also create a barrier for new competitors as they give the airline that owns them preferential display on reservation screens. CRSs also increase fare transparency to facilitate price coordination. If an airline cuts a fare, its rivals notice it almost instantly on the CRS, which allows them to match the reduction and prevent the price cutting airline from gaining any significant market share. Airlines also implement frequent flyer programs to encourage customer loyalty, and travel agent commission overrides (TACOs) to strengthen travel agency loyalty. A TACO is a nonlinear remuneration scheme in which the agency receives a 15% commission from an airline, instead of the usual 10%, if it books more than 80% of its flights with that airline.

Free from price regulation, airlines move to different forms of value pricing (American Airlines, 1987). Passengers on the same flight have varying reasons to fly which makes them respond differently to the price of tickets and to service levels. Large airlines, following the lead of American Airlines, develop sophisticated yield management systems, which allow them to "sell the right seat to the right client at the right price." (Belobaba, 1987). To segment demand airlines introduce fare classes with different levels of restrictions, such as minimum purchase and minimum stays.

Executives at American Airlines observe that 15% of their seats travel empty because passengers cancel at the last moment or do not show up at all. AA is able to increase its revenue substantially by overbooking, which means selling more seats than are available on a flight. The third element of yield management is to set limits on the number of seats available at each fare. When an airline sells a seat at a low fare, it loses the opportunity to sell that same seat for a higher fare. To maximize the expected revenue, the airline should only sell an additional low fare seat when the low fare is greater than the expected revenue of selling that seat for a higher fare (Belobaba, 1987).

All these measures lead to improvements in performance, but deregulation cannot repair a structural weakness in the industry. Aircraft represents important capital commitments which are made several years in advance, while industry demand is very sensitive to cyclical downturns. Starting in 1989, an economic recession and the Persian Gulf War lead to dramatic drops in leisure demand, and even business travelers cut back and become much more sensitive to prices. Between 1989 and 1992 airlines lose close to US $10 billion. As a result, TWA and Continental seek Chapter 11 protection, and Pan American ceases operations altogether. Eastern, an important player in Central and South America is forced to sell its routes to American Airlines in 1990, and American becomes TACA's main rival in flights to the United States.

Low cost carriers (LCCs) are able to weather this crisis much better than the major airlines and start growing very rapidly thereafter. LCCs, like Southwest, have significantly lower costs and they are able to capture market share through low and transparent fares. They concentrate on city pairs that have at least 100 passengers per day each way. As the LCC group expands, it starts operating longer flights. The number of miles per flight increases from 540 in 2000 to 643 in 2003 (Hansman, 2004).

Beginning in 2001, the airline industry experiences a brutal shock from the confluence of the September 11 attacks, the SARS scare, the war in Iraq and high fuel prices. Again, the LCCs are able to remain profitable and continue gaining market share at the expense of traditional airlines. Between 1999 and 2003 American Airlines loses more than 1.5% of its market share, while United and Delta lose 3.5% and 2.5%. Meanwhile, Southwest and JetBlue gain more than 2% in market share each (Belobaba, 2005). With less than 10% of the market in 2004, Southwest represents more than 50% of the United States airline industry's stock market capitalization.

Fig. 1 shows financial and operating indicators for the entire airline industry in the United States. Yield is the average price per mile flown. ASM is the number of times the airline moves one seat for a distance of 1 mile. When an Airbus 321, which has 169 seats, flies 300 miles, the airline counts $169 \times 300 = 50{,}700$ ASMs. Similarly, RPM is the number of times the airline moves one passenger 1 mile. If the Airbus 321 travels 300 miles with 135 passengers it counts $135 \times 300 = 40{,}500$ RPMs. For the above 300 mile flight the capacity utilization or load is simply $135/169 = 80\%$.

To find capacity utilization or load for the entire company or for a set of routes, airlines take the ratio of RPM to ASM. In 2003 there are 40 airlines serving 4100 airports. The average number of passengers on each plane for domestic flights is down to 90 in 2003 from 130 in 1990 (Hansman, 2004). This is due, in part, to regional airline development feeding the main airlines' hubs.

2.2. Europe

The first European countries to connect by air are France, Germany and Holland. KLM, the oldest airline that retains its original name, makes its maiden flight in 1920 from Amsterdam to London. As in the US, the airline industry is, at first, tightly regulated, but with a twist. Several national governments in Europe promote their airlines in order to protect them from competition and, in some cases, stimulate traffic to colonial territories.

Deregulation of the European airline industry starts in 1987, almost ten years after the United States. Reform makes it easier for airlines to introduce new fares and share capacity. In 1990, third and fourth freedoms (Fig. 2) are granted to the entire European Union (EU), and in 1997 they add the ninth freedom. Thereafter, any airline which establishes itself in one country can receive a license to operate in the rest of the EU.

Low cost carriers start operating later than in the United States. The first one, Ryanair, begins in 1987, 16 years after Southwest. Europe's conditions favor the rapid ramp up of LCCs. As 20% of the population (and 24% of the gross domestic product) is packed into 7% of the territory, there are many high density city pairs. Train and auto travel are an effective alternative to air travel, but they are relatively expensive, especially rail.

3. Traditional and LCCs in the United States

The US offers the best account of how competition unfolds between LCCs and traditional carriers, and clear evidence of the benefits of the LCC business model.

For all airlines, revenue from passengers makes up 75% of the total in the United States. The other 25% is distributed among cargo (15%), charges for excess baggage, penalties for date changes, etc.

In 2003 US airlines' main costs are labor and fuel. Table 1a shows the breakdown of cost per available seat mile (CASM) for several traditional airlines and LCCs (Southwest and JetBlue). Labor costs make up almost 40% of the large airlines' operating costs. The majority of airline employees support unions and these obtain attractive collective agreements, after months, or even years, of negotiation. American West negotiates its collective agreement with pilots between 2000 and 2004. Table 1b shows detailed operating data for several US airlines.

Fuel costs depend on the aircraft's capacity and age. The cost of fuel is the most volatile and unpredictable part of an airline's operating costs;

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