THE CONTINUING BATTLE BETWEEN BOEING AND AIRBUS:
ANALYSES AND LESSONS

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ABSTRACT

Boeing and Airbus today compete head to head in the global commercial airplane market. Boeing was founded in the U.S. in 1916. Airbus began in Europe in 1970. Airbus delivered more commercial airplanes than Boeing for the first time in 2003, and then repeated that in 2004 and 2005. This paper provides a concise report on the tight competition between Boeing and Airbus, and offers an opportunity to learn some valuable lessons.

Keywords: Boeing, Airbus, EADS, duopoly, competitiveness

INTRODUCTION

The Boeing Company and Airbus S.A.S. compete fiercely with each other in the large (over-125-seat) commercial aircraft market. Because they sell big-ticket items to relatively few customers, they have to be customer-friendly. As a matter of fact, their customers can usually play one company against the other and obtain innovative, high-quality and technologically advanced airplanes at very advantageous prices.

Founded in 1916 and merged with McDonnell Douglas Corp. in 1997, Boeing has three business units today: Boeing Commercial Airplanes, Boeing Integrated Defense Systems and Boeing Capital Corp. The company’s primary commercial products are Boeing 737, 747, 767, 777, 787 and business jet airplanes. Boeing’s total revenue for 2005 was 54.8 billion U.S. dollars. It currently has about 153, 800 employees around the world, and is America’s largest exporter (Boeing Company, 2006).

Airbus began in 1970 as a consortium of French, German, British and Spanish aircraft manufacturers. It was established to compete with Boeing, McDonnell Douglas, and Lockheed. Presently, Airbus is a division of European Aeronautic Defense and Space (EADS) Company. Airbus’ main commercial products are A300, A310, A318, A319, A320, A321, A330, A340, A350, A380 and corporate jet airplanes. EADS’ total revenue for 2005 was 34.2 billion euros (or 41.0 billion U.S. dollars). EADS currently employs about 113,000 people throughout the world (EADS Company, 2006).

Airbus delivered more commercial airplanes than Boeing for the first time in 2003, and then repeated that in 2004 and 2005. The situation significantly changed in 2006. The September 29, 2006 issue of Business Week Online reported (Matlack, 2006):

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Airbus has fallen behind archrival Boeing not only on aircraft orders, but, even more worrisome for the Europeans, on the urgent task of improving efficiency and reining in costs. Only five years ago, it was Boeing that looked flabby, with a workforce nearly twice as big as Airbus'. But starting in 2001, Boeing slimmed down dramatically, laying off one-third of its commercial-aircraft employees. The U.S. company also decided to outsource an unprecedented 40% of the work on its newest plane, the 787 Dreamliner, to Japanese manufacturers.

The objectives of this paper are twofold: (1) to provide an analysis of the continuing rivalry between Boeing and Airbus; and (2) to discuss the important lessons that can be learned from this duopoly. The contents of the paper should be of high interest to aviation business executives, government officials, and business and economics scholars.

THE BOEING-AIRBUS RIVALRY

Boeing and Airbus compete intensely for commercial aircraft orders year after year. As shown in Table 1, in every year between 1999 and 2005, except the year of 2000, Airbus won more aircraft orders than Boeing. However, in the first three quarters of 2006, Boeing led in aircraft orders by a huge margin—Boeing received 736 orders while Airbus booked orders for only 226.

Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Boeing</th>
<th>Airbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>391</td>
<td>476</td>
</tr>
<tr>
<td>2000</td>
<td>611</td>
<td>520</td>
</tr>
<tr>
<td>2001</td>
<td>329</td>
<td>375</td>
</tr>
<tr>
<td>2002</td>
<td>251</td>
<td>300</td>
</tr>
<tr>
<td>2003</td>
<td>250</td>
<td>284</td>
</tr>
<tr>
<td>2004</td>
<td>277</td>
<td>370</td>
</tr>
<tr>
<td>2005</td>
<td>1,029</td>
<td>1,111</td>
</tr>
<tr>
<td>2006*</td>
<td>736</td>
<td>226</td>
</tr>
</tbody>
</table>

*through September 30, 2006
Source: SpeedNews, Inc.

Table 2 shows the commercial aircraft deliveries of Boeing, Airbus, and McDonnell Douglas since 1995. Airbus has steadily increased its airplane deliveries to its customers—from 124 airplanes in 1995 to 378 airplanes in 2005. In contrast, the airplane deliveries by Boeing totaled 207 in 1995, increased to 573 in 1999, and then declined to 290 in 2005. During the first nine months of 2006, Airbus and Boeing delivered 320 and 295 airplanes, respectively. McDonnell Douglas delivered its last two commercial airplanes in 2001.

Both Boeing and the U.S. government have continually complained that Airbus has unfair competitive advantages because of its receipt of billions of dollars of European government subsidies. These subsidies have allowed Airbus to sell its airplanes at unreasonably low prices and to write off its research and development costs. Airbus has argued that its success has been based on superior products and better strategies, and that Boeing has received illegal subsidies from the U.S. military and NASA research contracts and tax breaks from such U.S. states as Washington, Kansas and Illinois. The June 29, 2006 issue of The Washington Times reported (Sparshott, 2006): “The Boeing Co. is anticipating that archrival Airbus soon will seek hundreds of millions of dollars in new aid from European governments despite a pending case at the World Trade Organization challenging such subsidies.”
Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Boeing</th>
<th>Airbus</th>
<th>McDonnell Douglas</th>
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<tbody>
<tr>
<td>1995</td>
<td>207</td>
<td>124</td>
<td>49</td>
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<tr>
<td>1996</td>
<td>219</td>
<td>126</td>
<td>52</td>
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<tr>
<td>1997</td>
<td>321</td>
<td>182</td>
<td>54</td>
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<tr>
<td>1998</td>
<td>509</td>
<td>229</td>
<td>54</td>
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<td>1999</td>
<td>573</td>
<td>294</td>
<td>47</td>
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<tr>
<td>2000</td>
<td>482</td>
<td>311</td>
<td>9</td>
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<tr>
<td>2001</td>
<td>525</td>
<td>325</td>
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<td>2002</td>
<td>381</td>
<td>303</td>
<td>0</td>
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<tr>
<td>2003</td>
<td>281</td>
<td>305</td>
<td>0</td>
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<tr>
<td>2004</td>
<td>285</td>
<td>320</td>
<td>0</td>
</tr>
<tr>
<td>2005</td>
<td>290</td>
<td>378</td>
<td>0</td>
</tr>
<tr>
<td>2006*</td>
<td>295</td>
<td>320</td>
<td>0</td>
</tr>
</tbody>
</table>

*through September 30, 2006
Source: SpeedNews, Inc.

In late 2000, Airbus decided to launch an A380 superjumbo jet program. With four engines, twin aisles and two full-length decks, the A380 superjumbo jet can be configured to carry from 550 up to 800 passengers. The A380 jet is designed to compete with Boeing 747, which can have up to 413 seats. After a series of production delays in 2006, the A380 is now expected to enter into airline service in the second half of 2007. The A380 delay has created a windfall opportunity for Boeing to sell a larger version of its 747 (Gillespie, 2006). The following quote provides some insight into the A380 delay problem (Matlack, 2006):

... [A380] has now fallen at least a year behind schedules because of assembly-line glitches. Recent reports in the French press and by the Bloomberg news service have highlighted a key reason for these problems: Airbus upgraded design software at its assembly plant in Toulouse more quickly than at some of its other factories. The result was that components from certain factories sometimes didn’t exactly match the computer-generated design model that guides final assembly in Toulouse... If the reports are true, they describe a stunning oversight that goes a long way toward explaining the A380 delays. Production of the megaplane bogged down because thick bundles of electrical wiring, delivered to Toulouse from a factory in Hamburg, were shorter than called for in the Toulouse factory’s computer model. Assembly-line workers had to pull the bundles apart and rethread them through the aircraft cabin. EADS has already acknowledged that the delays will shave $2.5 billion off its bottom line over the next few years—and many analysts think that figure will rise by at least another $1 billion.

LESSONS TO BE LEARNED

Individuals and organizations have air transportation needs and wants. Commercial airplanes are purchased by organizations and individuals to satisfy such needs and wants. In today’s globalized market, the justification for the existence of a business lies in its capability to satisfy the needs and wants of some individuals and organizations in the world at a profit. When a business can attract and hold enough solvent customers, it becomes successful. Below are some important lessons drawn from the continuing Boeing-Airbus battle.

**Competition between the two producers in a duopoly can be fierce.** A duopoly is a market situation in which only two producers (or sellers) exist. The decisions and actions of one producer affect, and are
affected by, the decisions and actions of the other producer. This is why a producer in a duopolistic market must always pay close attention to the actions and reactions of its competitor. When the two producers in a duopoly compete aggressively, there will be relatively high innovation, high production and low prices. One risk associated with a duopoly is that the two producers may collude in order to reduce their risks for investment and new product development.

**Competitive and successful companies are customer-oriented.** Both Boeing and Airbus carefully research customer needs and strive to satisfy these needs. The airplane purchasing decision criteria of airlines include load and range factors, passenger-carrying capacity, passenger comfort, meeting the International Civil Aviation Organization’s extended-range twin-engine operations (ETOPS) requirements, maintenance and crew training requirements, delivery schedule, cost per passenger-mile, price and the down payment requirement, financing options, warranty terms, and walk-away options (Matlack et al., 2001).

Airbus has been quite competitive and successful in recent years. At its website, Airbus states: “Airbus’ mission is to meet the needs of airlines and operators by producing the most modern and comprehensive aircraft family on the market, complemented by the highest standard of product support. . . . Airbus develops a clear empathy with its customers, encouraging a two-way flow of views, ideas and technical feedback on its aircraft in service around the world (Airbus S.A.S., 2006).”

**In a mature industry, companies should avoid cutthroat price competition and should emphasize non-price competition.** A price war hurts the profits of all the companies in a well-established industry. Thus, generally speaking, competing on non-price factors is preferable in this situation. The primary non-price competition factors are new product platforms, innovative product designs, products with unique features or styles, improved product quality, quicker deliveries, faster repair and maintenance services, better instructions, and longer warranty terms (Cateora & Graham, 2007).

**Deliver all what you have promised.** Do not promise what you cannot deliver, because it will only lead to disappointment and distrust of your company. The Airbus A380 superjumbo jet has an average price tag of 244 million euros (306 million U.S. dollars); so far Airbus has received 159 firm orders for it. Delays to the Airbus A380 jet have displeased some of its buyers, including Singapore Airlines Ltd., Australia’s Qantas Airways Ltd., and Emirates Airline (Wong, 2006). Airbus has agreed to pay 22 million U.S. dollars to India’s Kingfisher Airlines for postponing deliveries of five A380 planes (AFP, 2006).

**For complex industrial products such as airplanes, the revenues from associated services can be substantial.** When companies sell capital equipment or sophisticated industrial products to customers, associated services (i.e., customer training, maintenance contracts, spare and replacement parts, repairs, and overhauls) can generate a steady stream of revenue and profit for the sellers for many years to come. Thus, manufacturers of capital equipment and technical products should carefully design and implement their before-, during- and after-sale service packages.

**CONCLUSION**

To succeed in today’s complex and competitive business world, each company must be a good learning organization. A good learning organization not only learns continuously but also learns how to learn better and faster. A good learning organization learns from its own experiences as well as from other organizations’ successes and failures. This paper provides a concise report on the tight competition between Boeing and Airbus, and offers an opportunity to learn a few valuable lessons. At present, Boeing and Airbus appear about equally competitive. Both companies must understand their customers’ needs and buying behavior, anticipate how customers’ needs will evolve over time, keep a close eye on the competition, be innovative in creating customer value, and strive to deliver total customer satisfaction. The company that can consistently and efficiently do all of these will be the winner in the end.
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