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The Boeing Commercial Airplanes Group: Decision 2001

Introduction

Background

The Boeing Company was founded in 1916 as a response to the military needs of the US air power during WWI. It started a producer of military aircraft but, however, its major successes are due to commercial aircraft. At the time of the case, Boeing was one of the biggest companies in the US and also one of the biggest employers in the area of Seattle, Washington.

When Boeing launched the B-707, the first successful long range commercial jet, it was the beginning of a virtual monopoly inside this market. Another competitors, like Lockheed Martin or McDonnell Douglas never could catch up with the capacity of Boeing. The competitive advantage of the company was its flexibility to provide state of the art products with remarkable innovations and speed. The domination of Boeing in the aircraft industry was almost complete until the entrance of the consortium made by 4 European countries.

Key issues

Boeing is a company with multiple lines of business. From commercial and military aircraft to satellite communications, the basket of products the company offers is wide and complex.

However, most of these businesses are concentrated around the design and production of articles related to the space and air transportation.

Boeing is aggressively innovating in production issues: it generated the first airplane designed completely by computer and new ways of improving the production line. However, these

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innovations have not been good enough to catch up with the quality and new features that Airbus is offering to the market at that moment.

The acquisition of McDonnell Douglas offered a new opportunity to reinforce its dominance in the market and increase market share. However, it also introduced more products to the line and, thus, more complexity to the basket.

Boeing has suffered of multiple problems recently, that have affected its performance: for example, the innovations on the production line failed, provoking multiple delays to the delivery of products. The Asian crisis provoked that some clients stop requesting airplanes from Boeing, plus some regulatory problems required changes from airplanes all ready functioning. The Europe's Joint Aviation Authority and the National Safety Board required expensive changes from past models in order to reassure the safety of Boeing's products. The Federal Aviation Administration also found multiple problems in the company's design and manufacturing systems, and it was expected that Boeing would have to pay considerable amount of money for fines.

To add to this, there are internal problems with Boeing's workforce that is opposing to the changes in several parts of the company that are threatening some job positions like the engineers. The external pressure was damaging the internal coherence of the company.

Objectives of the firm

The main objectives of Boeing are several although highly correlated:

- To stop the reduction of market share due to the competition with Airbus
- Based on the current situation, decide if it would be logical to produce the B-747X, a massive jumbo that it would allow to transport more than 600 passengers

The general environment

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The U.S aerospace industry generated \$153 billion in sales during 2001. U.S aerospace sales are forecasted to decline 3% in 2002.

The defense industry, except for the missiles and electronics sector, is at the maturity stage as is the commercial aircraft sector. The rocket launch and satellite industries are showing some signs of maturity. After tremendous growth, business has started to slow down, due to launch overcapacity, excess inventories and a decrease in demand.

Intra-industry analysis

Porter's Five Forces Model

1. Threat of New Entrants (Low)

Commercial aircraft:

The Commercial aircraft manufacturing sector is capital intensive and highly cyclical.

Commercial airframe manufacturers tend to be in the business for the long-haul. Years of investment are required before any profits can be seen. Launch investment costs typically fall into three categories: 40% development, 20% tooling, and 40% for work-in process and overhead costs. Manufacturers try to book as many launch orders as possible to break even, but more often than not, it does not happen. Manufacturers have to sell 400 units to recuperate launch costs and it takes 12 to 14 years with a 25% gross margin.

The defense industry:

The development of new weaponry, fighter jets, and ships could take between 15 to 22 years.

The demand for new equipment depends on the militaries' long term needs, budget constraints and the current geopolitical climate. It's a very unpredictable sector and capital intensive.

The space industry:

The satellite manufacturing sector is capital intensive and requires sizeable up front costs for the research and development of new satellites; with the fast pace of technology new satellite systems are prone to premature obsolescence. The rocket launch industry is very competitive and risky; 15% of all commercial satellite launches fail.

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Maintenance, repair and overhaul (MRO):

This sector is known for its high margins, return on equity and a consistent stream of income.

This is a sector where new entrants could come into play since profit margins are ample.

Other stakeholders

The French government allegedly offered the Indian government assistance in securing loans at the World Bank, expediting the delivery of French fighter jets and technical assistance in cleaning up the Ganges River. All of this to clinch the sale of Airbus jets to Indian Airlines.

Boeing complained that Airbus received unfair subsidies from European governments for research and development of new aircraft. In 1988, over a billion dollars worth of commercial loans for the A300 and A310 were forgiven by the German government.

In 1992, a pact between Boeing and Airbus, limiting subsidized government investments in Airbus to 33% of total R&D costs, was signed.

Boeing has had its share of problems with governmental entities: In September 2000, Boeing agreed to design and install a rudder control system on all of its B-737 aircraft upon insistence of NTSB. Boeing could face millions of dollars in fines and penalties for faulty design and manufacturing systems found in an audit conducted by the FAA.

2. Rivalry among existing firms (high)

Commercial aircraft:

Boeing and Airbus, the world's only makers of large commercial aircraft, are in a bitter battle to claim each others share of the market. As of 2000, Boeing's share was 55% and Airbus's 46%.

Airbus uses aggressive price tactics and offers maintenance and spare parts packages. Boeing maintains that it will not discount as steeply as Airbus.

For over 30 years, Boeing has dominated the long-range large-volume share of the market with their 747. The possible introduction of Airbus' A3XX aircraft would put additional pricing pressures on Boeing. Boeing's ability to subsidize price discounts on its narrow body jets is due

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to the high profitability of their 747. If Boeing's long-range large-volume market share is diminished, it will severely affect its ability to offer discounts to counter those offered by Airbus.

Bargaining power of buyers (high)

Commercial aircraft:

Commercial airlines usually buy big jets under long-term fixed priced contracts. There are stiff penalties for the jet manufacturers if they do not deliver on time. Long term contracts favor the buyer; this allows for the transfer of the financial risk from the buyer to the seller.

This is a buyers market, the airlines know it, and they put additional pressures on manufacturers to reduce prices.

Other industry analysis techniques

Concentration ratio & Segments

Commercial aircraft (High):

This segment of the industry, generated revenues of \$52.2 billion in 2001, manufactures commercial jets that accommodate a hundred or more seats. As of 2000, Boeing has a market share of 54% and Airbus 45%.

Business and regional aircraft (High):

This segment of the industry, \$18 billion in revenues in 2001, manufactures jets that accommodate less than a 100 seats. There are 15 competitors, foreign and domestic, but five dominate the sector. Canada's Bombardier has 36% of the global and regional market followed by General Dynamic with 18%, Textron Inc 17%, Embraer 14% and Raytheon 10%.

Maintenance, repair and overhaul (MRO) (High):

This sector primarily consists of the repair and overhaul operations of: Singapore Airlines, Lufthansa, General Electric's jet engine division, Pratt & Whitney, Honeywell, Rolls Royce, Goodrich, Boeing and several other small operations; generated \$39.5 billion in 2001

Jet Engines (High):

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The \$23.9 billion jet engine manufacturing industry consists of three players: General Electric, Pratt & Whitney and U.K.-based Rolls Royce.

The defense industry (High):

The world's largest defense contractors include: Lockheed Martin, Boeing, BAE systems, Raytheon, Northrop Grumman, General Dynamics and EADS. The sector generated \$153 billion in revenues in 2000.

The space industry (High):

The satellite manufacturing business is dominated by six firms: Boeing's Satellite Systems division, Lockheed Martin's Space Systems segment, Alcatel, Atrium, Loral Space & Communications and Orbital Sciences Corp; generated \$12.4 billion in 2001. The rocket launch sector generated \$5 billion in 2001. The major players are: Arianespace, Boeing, Krunichev, Lockheed Martin, Starsem, Great Wall Industries, Orbital Sciences and Yuzhnoe.

Identification of key opportunities and threats

Threats

Weak demand for jets:

Airlines are the main purchasers of new jets. Current conditions: high fixed costs, cutthroat pricing and large capital expenditures have made airlines more prudent when it comes to purchasing new jets.

The airline industry remains very competitive. Competitive pressures and fare reductions have combined to cause a long-term downward trend in passenger revenue yields worldwide. Europe's market liberalization has increased the amount of low fare carriers entering the market. These factors result in continuous price pressure for jet manufacturers.

Commonalities enhance the value proposition of Airbus's aircraft:

Airbus's ability to gain market share, aside from discounting, is the shared characteristics among their family of aircrafts. As an example, Airbus's 320, 330, 340 families have virtually identical flight decks, systems and handling characteristics. This is a very attractive feature for airlines; it

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reduces the training necessary for pilots to transition from one type of aircraft to another, flight crews are reduced, lower maintenance and spare parts cost.

Weakening of the economy

Demand for new aircraft is driven by traffic growth and fleet replacement. If the economy weakens, traffic growth would be stifled reducing the amount of future jet purchases.

Opportunities

Growth prospects for U.S defense Industry

The U.S Department of Defense represents nearly 50% of the world's defense budget and is the biggest client for missiles and fighter jets. The U.S military, along with militaries worldwide, are focusing on ways to transform their forces and the way they operate.

Favorable air traffic growth:

Air traffic growth is important, airlines plan for their jet purchases based on air traffic forecasts.

Economic growth drives air traffic, the more robust the economy the higher the air traffic. Global air traffic projections expect a 5% growth.

Slow Growth for MRO (Maintenance, Repair and Overhaul):

The long term forecasts for the \$39.5 sector are based on the expansion of the global commercial fleet; the older the fleet the more maintenance required. AVITAS predicts that the global commercial fleet will grow at a 3% CAGR (compound annual growth rate) over the next 20 years. This means that new purchases will be greater than those planes retiring causing the average age of the world's commercial fleet to decrease.—this means less time in the hangar.

Fuel Efficiency

Fuel is the airline industry's second largest expense, exceeded only by labor. As a result, airlines are in need of fuel efficient aircraft to help reduce their operational costs in these days that competition is so stiff.

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	External Factors	Weight	Rating	Weighted Score	Comments
Threats	Weak demand for jets due to economy	0.20	4.8	0.96	Prudence from airlines
	Airbus threat to 747-400	0.15	2.5	0.38	Better functionalities
	Regulatory / Inspections	0.20	4.0	0.80	Asian crisis: is there more?
	Growth prospects for U.S defense industry	0.10	3.0	0.30	Possibility for cross subsidies
Opportunities	Favorable air traffic growth	0.15	2.8	0.42	Expecting a 5% growth
	Slow Growth for MRO (Maintenance, Repair and Overhaul):	0.10	1.5	0.15	Potential future clients
	New Tech. Demands	0.10	4.8	0.48	Fuel efficiency, etc
	Total	1.00		3.48	

Internal Analysis

Resources - Tangible Resources:

1. Financial Resources: Due to the type of business Boeing belongs to, they needed to invest heavily in research and development, having to come up front with the resources to cover capital costs and profits will only come later on, as production levels built up. Therefore, it was very important for Boeing to have a good mix of product development and mature products that will bring cash into the company and support R&D operations.

Measures of financial condition:

A) Current ratio: Boeing's current ratio which is the one that helps assessing a company's ability to service its short-term financial obligations has been declining in the last three years of operations:

A higher current ratio means that a company is better able to service its short-term obligations.

The current ratio is calculated by dividing current assets (assets that can be readily converted into cash or used up in the course of a firm's operating cycle, typically a year) by current liabilities (short-term debt, accounts payable, and other short-term obligations).

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B) Debt-to-capital-ratio: This ratio helps assess a company's financial strength and flexibility. It is calculated on the level of the company's debt relative to its total capital. A high debt-to-capital ratio would indicate that a company is highly leveraged, and it is generally more vulnerable to economic downturns. This ratio is calculated by dividing the long-term debt (including lease obligations) by total long-term debt and equity.

Boeing's long-term debt increased 26.5% from 1999 to 2000 and their long-term debt and equity increased only 6.6%. Clearly, Boeing has increased its level of long-term debt, thus reducing its future borrowing capacity.

Internal funds: Boeing's ability to generate internal funds became harder when the company was reporting a loss due to the fact that they had a backlog of airplane orders, forcing airlines at the time to delay their plans of expansion. Then, when the Asian crisis came into place in 1997, Asian airlines were delaying or canceling orders, affecting in a stronger way Boeing's ability to generate internal funds.

2. Organizational Resources: Developing a new airplane required an average investment of \$6 million and sometimes, when Boeing launched a new airplane, some critics argued that Boeing's development costs and organizational resources were being wasted because they were cannibalizing sales of other airplanes that were already generating large profits.

3 Physical Resources: Boeing had numerous plants all over the US territory, in Seattle, Everett, Renton, Auburn, Frederickson and Spokane Washington, and in Portland, Oregon, but when it acquired McDonnell Douglas, Boeing managed to increase its manufacturing capabilities to a level that their suppliers were not ready to handle. The end result of this overcapacity was that Boeing ran into the problem of shortage of thousands of parts, due to the fact that Boeing's part suppliers could not deliver parts on time and Boeing had to stop their production line.

4 Technological Resources: Boeing has a group of very good engineers that developed highly technical, safe and reliable commercial aircrafts that made possible shorter flying time with

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higher volume of passengers for both, pleasure and business. Boeing is also a leader in technology innovation. They were the first company to design a plane completely by computer and used state-of-the-art technology.

Resources - Intangible Resources

1. Human Resources: Engineers were very committed to the company and its culture. For example, in 2000, engineers protested because they felt that no new designs were being developed and management kept emphasizing cutting costs in order to increase productivity. As a result, engineers felt that the company was changing its culture away from an engineering driven company and they felt they have become reluctant.

Top management skills complement each other very well specially when Boeing acquires McDonnell Douglas. One top executive was specialized on hands-on in operational activities and the other one in strategic events. Also, employees were promoted within the company. For example, one of Boeing's CEOs, Philip Condit, was promoted within the company to assume a leadership position.

2 Innovation Resources: Boeing was the creator of the world's first successful long-range, commercial jet transport. This reputation helped them create name recognition but sometimes when they developed a new type of aircraft, some other aircraft from their product line had to be dropped.

3 Reputation Resources: Regarding reputation with customers, Boeing's airplanes were very well accepted by the world's airlines, but when production disruption started, it affected airline's capability to expand their flying routes into new cities and their relationship with customers weakened.

Regarding reputation with suppliers, there was poor planning between Boeing's increased production line and suppliers not having enough capability to manufacture the required level of

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parts. This disconnect brought in consequence production disruption in Boeing's manufacturing plants.

Capabilities - Primary Activities:

1. Inbound Logistics: Regarding material handling, warehousing and inventory control, Boeing faced a big problem. For example, the implementation of DCAC/MRM was a chaotic process because with the amount of orders received, Boeing was short thousand of parts at a time and they started missing deliveries.

2. Operations: Regarding machinery, assembly and equipment maintenance, when Boeing was trying to increase production and catching up with delayed orders, the Asian crisis from 1997 came into place and the major Asian airlines were delaying or canceling orders, Also, in 2002, the Federal Aviation Administration announced that Boeing had very deep-rooted systemic problems with the design and manufacturing of their aircrafts. After this announcement, Boeing needed to fix those deficiencies in order to comply with federal regulations. As a result, Boeing had to add 370 new positions in its inspection system in order to correct manufacturing deficiencies.

3. Outbound Logistics: Regarding collecting, storing and distribution of the final product to customers, Boeing's major challenge was having all the needed parts in order to ensemble their airplanes.

4. Marketing and Sales: Sales were done directly to airlines and it was their main goal to increase market share. Airbus was Boeing's biggest competitor in the airline industry and they were always trying to get the biggest market share they could, trying to manufacture and deliver airplanes to customers when they needed, with the latest technology available.

5. Service: Boeing's aircraft needed more maintenance than Airbus airplanes due to their larger number of mechanical parts. Airbus, with their innovative features had less number of mechanical parts, reducing in this way maintenance time, having a better aircraft handling, and reducing airframe weight.

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Even though Boeing was the first aircraft company to design an airplane completely from a computer program, the downside of this technology innovation was the cost of implementing the computer-design program, which ended up costing 50% more than the traditional hard-copy blueprint approach.

Capabilities - Support Activities:

1. Procurement Activities: Regarding activities related to the purchase of inputs needed to produce airplanes, Boeing started having problems when the manufacturers of part suppliers were not able to deliver on time the amount of parts needed to meet demand. One of the facts that contributed to this higher demand was the market trend for airline companies to upgrade their planes and Boeing's acquisition of McDonnell Douglas. This acquisition complemented both companies' expertise very well. The McDonnell Douglas helped Boeing in the defense market products and Boeing helped them in the commercial airline sector.

2. Technological Development: Thanks to Boeing's excellent group of engineers, they were the first company to design a plane completely by computer and it was also the first one to use state-of-the-art fly-by-wire controls instead of mechanical linkages to move the airplanes control surfaces. Besides having in house a very good group of engineers, Boeing supported the theory of sharing the risk of development cost with the major subcontractors, taking into account the airline executive's input when designing new airplanes.

3. Human Resources Management: When Boeing acquired McDonnell Douglas, its Chairman and CEO became Boeing's Vice Chair and Chief Operating Officer who was a hands on operational specialist and complemented very well with Boeing's CEO who paid more attention to strategic events. Also, one of the Chairman and CEO from Boeing, Philip Condit was promoted within the company, having insight expertise and knowledge of the company.

4. Firm Infrastructure: Boeing's infrastructure and controls were getting weaker and Boeing was having problems with the design of some of its airplanes. There were not enough tight

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controls in the quality control team and in 1999, the National Transportation Safety Board asked Boeing to implement an extensive and expensive modification to its B-737, which was the world's most popular jet aircraft.

In 2000 when the Federal Aviation Administration conducted an audit of Boeing's aircraft and manufacturing facilities, it found very deep-rooted systemic problems that needed to be corrected in order to comply with federal regulations.

Also, Boeing did not have a close relationship with some aviation authorities. For example, the Europe's Joint Aviation Authority issued some new aviation regulations, which forced the re-design of over-the-wing emergency exits and Boeing, had to stop the production of their B-737-700s until this the problem was solved. This issue could have been prevented if Boeing had a regulations team, which were up to date on new regulations coming up, and had a close relationship with Europe's Joint Aviation Authority and similar aviation authorities where Boeing conducts business.

Capabilities – Core Competencies:

Valuable Capabilities: Boeing tried to create value to its customers by offering them a good price thanks to their believe that cost could be reduced as much as 25% thanks to using a new production system called DCAC/MRM.

Based on the concept of having a basic airplane design, Boeing managed to adjust this basic design in order to provide to customers new types of airplanes and provide to them more room in airplanes, a more quiet, safer, and more reliable and faster flying experience. Also, Boeing had the capability of supporting their customer's financing needs.

Rare Capabilities: Airbus industries, which are formed by private French, German and British companies also possessed some of the same valuable capabilities as Boeing did. Airbus has also some of the world's best aircraft technology and they were also always trying to be ahead of new

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innovative designs in order to take away some of Boeing's market share of the commercial aircraft market.

Cost to initiate Capabilities:

1. *Historical:* Some of the unique skills that Boeing has which reflected its path through history are the fact that the company was created in 1915 in response to the military's growing interest in the air power. Boeing's greatest claim of fame was creating commercial aircrafts by having the technology and creating the world's first successful long-range commercial jet transport.

2. *Ambiguous cause:* Some of the causes and uses of Boeing's competence, which are unclear to Airbus, are their long history of building safe, technologically innovative commercial airplanes and having a very committed group of engineers that focus on designing good airplanes.

3. *Social complexity:* There was a close relationship between Boeing and its major subcontractors when developing a new airplane.

The relationship between employees and the company is tight thanks to the engineering culture that Boeing has been able to foster.

Non-substitutable capabilities: Some of the capabilities that are difficult to identify which are challenging to find in a substitute are Boeing's name and reputation. Boeing had a long history of building airplanes and their reputation grew over the years of being the leader in commercial airplanes.

Competitive Advantage – Cost leadership: Boeing's efforts to increase their market share, and thinking that thanks to a new production system that they created which was supposed to cut cost as much as 25%, Boeing began discounting prices to customers. This price cut strategy combined with the fact that the airline industry was trying to upgrade their fleets of aircrafts, Boeing received a large quantity of new orders to manufacture airplanes, and the only problem that Boeing faced was that their suppliers of parts could not keep up with this new large demand. Boeing was always trying to produce airplanes at a lower relative cost than its competitor, Airbus. Boeing was always trying to discount prices even if it meant dropping product margins.

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Sometimes this cost leadership strategy was not supported entirely by Boeing's engineers. They perceived that Harry Stonecipher, Boeing's Vice Chair and COO emphasized cutting costs in order to improve profitability placing engineering innovation on a second place.

Identification of key strengths of the firm:

Corporate Culture: Committed employees.

Marketing: Dominant market share, and direct sales support and tax benefits.

Finance: Technology leverage, by subsidizing smaller less profitable airplanes with bigger and more profitable ones.

Research and Development: Technology innovation, product diversification, and customer satisfaction.

Operations and Logistics: Location of manufacturing facilities, Human Resources Management, and skilled labor force.

Identification of key weaknesses of the firm:

Marketing: Damaging brand name reputation and Cost leadership strategy.

Finance: Decreased ability to service short-term obligations and increased long-term debt.

Research and Development: High cost of technology innovation, not having an integrated family of products, poor product development planning, and high maintenance cost for airplanes.

Operations and Logistics: Poor manufacturing efficiency and product safety, poor implementation of improvements in manufacturing process, and excess of personnel/employee per aircraft

Human Resources Management: Labor problems when trying to improve manufacturing processes and emphasis on cutting cost.

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Strengths	Internal factors	Weight	Rating	Weighted Score	Comments
	Customer experience	0.03	3.0	0.09	Not a focus
	Industry knowledge	0.10	4.0	0.04	Knowledge is the strength
	Customer expectations to be met	0.04	2.5	0.10	Over-ambitious
	High cost technology	0.05	3.5	0.17	High cost is the biggest
	Customer loyalty	0.04	2.5	0.10	Should be a goal
	Product design	0.07	4.5	0.31	Not a focus
	Customer experience to be met	0.03	2.0	0.06	Not a focus
	High cost technology	0.02	1.0	0.02	Should be a goal
	Customer loyalty	0.07	3.5	0.24	Not a focus

Weaknesses	Internal factors	Weight	Rating	Weighted Score	Comments
	Customer loyalty	0.04	4.0	0.16	Not a problem
	High cost technology	0.05	2.8	0.14	Not a focus
	Customer experience to be met	0.04	2.5	0.10	Financial problems
	Product design	0.03	2.0	0.06	Financial problems
	High cost technology	0.07	3.5	0.24	Not a focus
	Customer loyalty	0.06	4.2	0.25	Not a focus

Weaknesses	Internal Factors	Weight	Rating	Weighted Score	Comments
	Product design	0.08	5	0.40	Not user friendly
	High cost technology innovation	0.03	1.5	0.04	Increase price
	Not integration of products	0.06	4.5	0.27	High training cost
	Lack of skills of implementation improvements	0.04	2.5	0.10	Personnel skills
	Labor problems/ excess personnel	0.05	2.8	0.14	Inflexibility
	Total	1.00		3.42	

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SWOT

Table 1.3: Final SWOT Table

	Future	
	Opportunities	Threats
	<p>A. Growth prospects for U.S defense Industry</p> <p>B. Favorable air traffic growth</p> <p>C. Slow Growth for MRO (Maintenance, Repair and Overhaul)</p> <p>D. New Tech. Demands</p>	<p>a. Weak demand for jets due to economy</p> <p>b. Airbus threat to 747-400</p> <p>c. Regulatory / Inspections</p>
<p>Strengths:</p> <ol style="list-style-type: none"> 1. Committed Employees 2. Direct sales support and tax benefits 3. Product diversification 4. Technology Innovation 5. Customer satisfaction 6. Incumbent 7. Financing capabilities to customers 8. Location manufacturing facilities 9. Skilled labor force 	<p>Comparative Advantage</p> <p>- 1A: Development of new products (speed? Safest?)</p> <p>- 2B – 3B: Drop of prices: price war?</p> <p>- 2C: Exploit niche markets</p> <p>- A4: More links between LOBs: defense and aircraft</p> <p>- 6C: Develop new markets: MRO</p> <p>- D1: Urgent development of new technologies</p>	<p>Mobilize</p> <p>-1a: Directly attack Airbus market share</p> <p>-1b-5b: Start improvements in 747-400</p> <p>- 6c: Reduce workforce and debt</p> <p>- 4d: Lobbying with regulatory and buyers</p>
<p>Weaknesses:</p> <ol style="list-style-type: none"> i. Current brand name reputation ii. Decreased ability to service short- term obligations iii. Cost leadership strategy iv. Increased long-term debt v. High maintenance cost vi. Manufactory efficiency vii. Product design 	<p>Invest/Desinvest/Hold</p> <p>- iA: Invest heavily in improvements in production process</p> <p>- iiiC: PR campaign to improve image</p> <p>- ivB: Start a lobby group in Europe</p> <p>-vA-viA: Reduce the number of products in the basket</p> <p>-xA: Desinvest in other</p>	<p>Damage Control</p> <p>- ia: Manufactory efficiency</p> <p>- iiic: Increased long-term debt</p> <p>- ivd: High maintenance cost</p> <p>- va: Current brand name reputation</p> <p>- viib: Cost leadership strategy</p> <p>- vii: Decreased ability to service short- term obligations</p>

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viii. High cost technology innovation ix. Not integration of products x. Lack of skills of implementation improvements xi. Labor problems/ excess personnel	units (“connexion by Boeing”)	
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Comparative Advantage

There is the urgent necessity of improving the current situation of the company, leveraging the opportunities right now on the market. Considering the high technology used on the Satellite and Military lines of businesses, the possibility of new products (new materials, new designs, and so on) on the Commercial Aircraft SBU it could be probable. Another option is the exploitation of a new market, that is the Maintenance unit. If the economic crisis is getting worse, obviously some airlines would like to prolong the life to their fleet. Thus, the revenues of MRO (maintenance, repair and overhaul) could increase dramatically. Another strategy, due to the large financial capabilities of Boeing, can be to trigger a price war, pushing Airbus to the limit of their financial capabilities. Or, using the more wide basket of products that Boeing currently posses, initiate a niche strategy for each of the specific airplanes included.

Mobilize

Airbus threat can be devastating if Boeing does not take measures immediately. Why not attack directly to the core business of the competitor? The market share of the A300 series (airplanes with passengers between 100-400 and between 1000 to 8000 miles) can be reduced by:

1. Reducing prices of the current Boeing models of that segment
2. Making technological improvements to those models

Internally, Boeing has to improve the skills of their workforce and reduce the amount of debt currently has. This can be made by selling business units not directly related to the core business or that can be transformed in joint ventures (in order to gain capital and reduce the amount of money invested in that unit).

Another option is, considering the considerable influence and contacts over the years, reinforce Boeing’s position from a regulatory and buyers’ perspective. This reinforce, with lobbying and with Public Relations (PR) initiatives, can solve some of the problems with federal agencies and push some airlines to drop Airbus boughts.

Invest/Desinvest/Hold

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The internal production problems Boeing is confronting, require a strong quality initiative from the Executive team. A program like Six Sigma could be good solution in order to improve the efficiency and effectiveness of the plants. However, a potential result from this quality program could be the reduction of the number of products in the basket of the company in order to gain competitiveness.

It is also necessary to establish an extremely aggressive PR campaigns so the image of the company in front of the public opinion improves. This initiative can also have a secondary objective that is to build to a lobby group in Europe so the public opinion the countries that are fondering Airbus push for a decrease of the amount of subsidies the company is receiving. Finally, another possibility is to start a strong way of disinvestments in LOB where the perspectives of growth or relation are little ('conexion with Boeing" for example)

Damage Control

An aggressive plan for improving the competitiveness of the company will include lay offs and/or close or relocations of certain plants.

- **ia**: Manufactory efficiency
- **iiic**: Increased long-term debt
- **ivd**: High maintenance cost
- **va**: Current brand name reputation
- **viib**: Cost leadership strategy
- **vii**: Decreased ability to service short- term obligations