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Ontario Gateway

Mary Litton, Chief Operating Officer of Ontario Gateway, re-read the memo she had just dictated and sighed. She did not envy her Operations staff the task she had just assigned to them. Making sense of all the available data and quotes to choose the best aircraft insurance policy for the Ontario Gateway fleet of aircraft would not be an easy job. Furthermore, if the wrong policy was chosen, the company would have to live with the consequences until the policy expired in five years time. She hoped her staff would be able to make good sense of all the data in her memo and would turn the data into a sound (and defensible) insurance policy recommendation in time for the Board of Directors' meeting on December 11. At that time, she would have to put forward the recommended insurance policy to the rest of the Board, and be prepared to justify her choice with supporting data and analysis.

Background

Ontario Gateway Corporation was the brainchild of Ontario Airlines CEO, Robert McDermott. Mr. McDermott, a French-Canadian, had built Ontario Airlines from a small cargo-carrying enterprise serving Canada, into a respectable, but marginal passenger carrier serving North American air transportation hubs. In Spring of 1995, he approached the Chairman of Air Prix Corporation (a French passenger carrier serving selective parts of Europe) about a possible merger while attending a European Union Aviation Convention in Paris, France. After several months of consultation, a memorandum of understanding was reached that led to the merger of both firms and the creation of a new world class airline, Ontario Gateway.

The Global Airline Industry

The airline industry in North America had become extremely competitive since deregulation over a decade ago. Furthermore, competition in the European airline industry had been heating up as well, mostly as a result of market initiatives within the European Union. State-owned airlines were being considered for privatization, while the market itself was being deregulated under “open skies” initiatives that allowed all European Union (EU) based airlines to fly without restriction within the EU. The EU retained restrictions on non-EU airline firms, as did the US and Canada. Thus, EU based firms had a competitive advantage over non-EU firms within Europe, while North American firms likewise essentially competed only among themselves.

Ontario Airlines

Ontario Airlines drew little notice within North America until it began upgrading its fleet of largely older leased DC-8 and DC-9 aircraft in 1994. The first of 47 Boeing 757 aircraft was delivered in the Fall of that year, and the firm held an option to buy 28 more aircraft at the same price and financing terms over the next three years. This allowed Ontario Airlines to modernize virtually overnight, giving the firm a homogenous fleet of the most advanced passenger aircraft in the world.

Mr. McDermott was determined to make his firm the most efficient airline in North America. The firm aggressively priced its way into the major North American hubs, and created a highly-trained pool of pilots and service personnel dedicated only to the operation of the 757 fleet. Ontario Airlines tended to routinely fill their flights, helping the firm to cover costs on even the most aggressively priced routes.

Air Prix

Formed in 1992 to coincide with the opening of markets in the European Community, Air Prix was a “Southwest Airlines style” upstart airline in France. Although its major competitor was state-owned Air France, it managed to eke out positive earnings on routes between Paris, Lille, Lyons, and Marseilles by efficiently operating only in these profitable routes. Preparing for aggressive operations throughout Europe in the coming years, Air Prix negotiated in 1993 with both Airbus and Boeing to obtain preferable arrangements to acquire new aircraft. A deal was finally reached for the EU to finance the purchase of 39 Airbus A340 aircraft. By Spring of 1995, Air Prix was flying its fleet of A340s within France and parts of Europe, but was having difficulty competing with British Airways and other firms. Even though Air Prix enjoyed generous financing subsidies, it had trouble filling up the large A340s on a consistent basis.

The Merger Strategy

Air Prix and Ontario Airlines were very similar. Both firms were relatively small and had recently purchased new aircraft, and both firms were serving their respective continental markets. A merger would create a truly world class airline with the legal right to serve both the North American and EU markets. Furthermore, it could then exercise the option to buy more of the Boeing 757s and use them on the European routes, while shifting the A340s (which have more seating capacity and can fly longer distances) into trans-Atlantic service. The objective was to exploit operational economies of scope on a global basis.

Managing Risk

Partially because of the peculiarities of the financing terms for its fleets of aircraft, the newly formed Ontario Gateway Corporation was highly leveraged, requiring much of its cash flow to service its substantial debt obligations. The situation was further complicated by pre-existing loan agreements that restricted the firm's freedom to issue any further debt for a minimum of five years. If for any reason the firm were to face a cash flow problem, creditors could easily bring the firm into bankruptcy for failing to meet current debt obligations. Mr. McDermott felt that his firm faced several major risks over and above the normal business risks in the air transportation industry. These risks were exchange rate risk, political risk, and accident risk.

Exchange rate risk was analyzed in detail during the merger negotiations. Both firms intended to avoid the exchange-rate-driven bankruptcy that brought Sir Freddie Laker's Laker Airlines a decade earlier. Even after thorough analysis, it was found that Ontario Gateway's costs and revenues were fairly balanced in ECU (European Currency Unit) and U.S. dollar terms. McDermott had directed the Treasurer to implement a currency hedging strategy in the currency options markets, to ensure that exchange rate risk was minimized.

Political risk essentially entailed the exposure to potential government interference in both the North American and EU market operations. The firm's lawyers believed that they had firm legal grounds to ward off protectionist regulatory attacks in either markets. Nonetheless, Mr. McDermott took every opportunity to promote his airline in France and Europe as a Franco-French Canadian venture that supported Airbus and the concept of EU economic integration. Furthermore, he made sure that press coverage in the United States regularly reminded the public of the firm's close relationship with Boeing, and its furtherance of open skies under the NAFTA framework.

Accident risk was traditionally handled in both firms by insurance contracts that would separately cover legal liability for loss-of-life and the cost of damage to the aircraft. Damage cost includes replacement cost due to catastrophic failure and the cost of incidental damage which occurs during normal use of the aircraft. The firm was covered for loss-of-life liability claims by a standard policy that was competitively priced. Aircraft loss coverage (for damage cost) was another matter. The Airbus A340s were covered under a policy issued to Air Prix by Lloyds of London. The Boeing 757s were covered by an initial purchase insurance policy issued through the U.S. Export-Import Bank by the Reinsurance Corporation of Northern California (RCNC). Both the coverage of the Boeing 757s through RCNC and the Lloyds of London policy on the A340s will expire on March 1, 1997.

Thus on December 1, 1996, Mr. McDermott directed his Chief Operating Officer, Mary Litton, to obtain alternative insurance policy bids (see Enclosure 1) and make a recommendation regarding aircraft loss insurance coverage after March 1, 1997. Although Mr. McDermott was reasonably happy with the RCNC policy, he wanted to investigate the cost effectiveness of alternative insurance plans before he decided what to do after March 1, 1997. His specific guidance was as follows:

"I want the entire fleet covered on a cost-effective basis — no more Lloyds of London over-priced policies! But don't forget — we have got to maintain cash flow at its current level. This means we must be thoroughly covered for any loss of aircraft; if we lose a plane, we will need the cash to replace it quickly — otherwise we will be driven straight into bankruptcy court."

Mary returned to her office to contemplate her boss's guidance. She reached into the file containing the recently obtained aircraft insurance proposals from the RCNC, the Canadian Trust Company (CTC), and Hawthorne Insurance Corporation (HIC). Although the mechanics of the policies were very easy to understand, it was not easy to translate the numbers into a workable sense of the risk coverage that each proposal offered. She was determined to create an accurate picture of the costs and benefits of each of the policies in order to make an informed recommendation to the CEO.

Enclosure 1: Insurance Proposal Breakdown for Ontario Gateway

General Information:

Government statistics and industry publications indicate that the probability of aircraft loss due to a crash is relatively straightforward to estimate, as follows. Aircraft are at the greatest risk of crash during take-offs and landings and not during flight in mid-air (TWA Flight 800 notwithstanding), and so the likelihood of a crash of an aircraft is proportional to the number of take-offs and landings of the aircraft. The likelihood of a crash is usually expressed as the accident rate per given number flights of the aircraft. The OECD-based airline industry experiences a very low and virtually constant accident rate per flight. Current data shows an industry-wide accident rate of about one accident per 5 million flights.

Incidental aircraft damages (minor takeoff/landing damage, bird strikes, etc.) tend to be firm specific. Ontario's fleet characteristics are outlined in Enclosure 2. A baseline assumption of about 342 flying days per plane per year is an appropriate operational benchmark. The Executive Vice President for Maintenance and Services estimates an annual cost of incidental aircraft damages varying uniformly between \$1 million to \$5 million per year.

The term aircraft losses includes both replacement cost if a crash occurs and incidental damage cost.

Insurance Plans:

I. RCNC offers two plans:

RCNC1: This plan covers complete accident replacement cost and incidental damage cost of the aircraft fleet for an annual fee of 0.45% of fleet value, and carries a 10% deductible on all aircraft losses. However, there is a rebate clause, wherein RCNC will rebate to Ontario Gateway 20% of any cumulative profits (premiums minus claims) at the end of the 5-year term of the plan.


RCNC2: This plan calls for an annual fixed premium of 0.10% of the insured value of the fleet, plus an annual variable premium paid at the end of the year consisting of the lesser of:

- (i) 90% of all aircraft losses during the year, and
- (ii) 1.00% of the insured value of the fleet.

II. CTC: CTC has offered the following insurance plan. Ontario Gateway would pay \$13 million annually. CTC would then cover 90% of aircraft losses up to \$80 million of annual aircraft losses. Aircraft losses in excess of \$80 million would not be covered.

III. HIC: HIC developed this policy specifically for Ontario Gateway. For a premium of 0.165% of fleet value, this policy will pay for all fleet losses above \$24 million. This plan also has a rebate clause: HIC would rebate 3.5% of any cumulative profits to be paid at the end of the 5 year term of the plan.

Enclosure 2: Memo To Operations Staff from Mary Litton

TO: Operations Staff
FROM: Mary Litton 
DATE: December 4, 1996
SUBJECT: Insurance Proposal Analysis

We must choose an insurance policy to cover our fleet from aircraft losses for the five-year period beginning March 1, 1997. We have four viable policies to choose from at this time. You are to conduct a thorough analysis of the cost and benefit of each proposal, and recommend one of the policies to me by December 11, 1996.

As you know, this firm is currently trying to grow global operations under a highly leveraged capital structure. We need to maintain high revenue levels in order to continue meeting existing debt obligations. Hence, we cannot afford to take chances with respect to unanticipated negative cash flow. The insurance policy we choose must protect us from unanticipated losses of aircraft or extraordinary incidental damage cost, especially during the next year. Specifically, we must be insured so we do not incur a liability for more than \$37 million in aircraft losses and insurance costs combined in the next year (March 1, 1997 to February 28, 1998). This is the absolute maximum loss we can incur, so we should aim to minimize the chance of losses exceeding \$37 million. Contingent on this, our other major goal is to obtain this insurance coverage at lowest cost over the entire five-year period.

I look forward to your report.

Mary Litton
Chief Operating Officer

Enclosure 3: Ontario Gateway Aircraft Fleet

<u>Aircraft</u>	<u>Number</u>	<u>Replacement Cost (\$ million)¹</u>	<u>Flights per day</u>
Boeing 757			
Model 200	47	\$56.4 ²	6.00
Airbus A340 ³			
Model 200	15	\$78.9 ⁴	2.25
Model 300	24	\$88.5 ⁵	2.00
Total	86	\$5,958	

Enclosure 4: Modeling Aircraft Fleet Crashes

There are several ways to model the number of crashes in a given year, depending on specific assumptions. After exploring several alternatives, the staff decided to model crashes of the three aircraft model types separately. For example, for the Boeing 757 – Model 200, the number of crashes in a given year is modeled as a binomial random variable, with n equal to the number of planes of that type and p equal to the probability of an individual plane crashing in a year (i.e., p is the number of flights per plane per year times the accident rate per flight). In this model, if an individual plane crashes it is assumed that its replacement survives the rest of the year. Although this is not precisely true, it is an excellent approximation since the combined likelihood of a plane and its replacement crashing in the same year is extremely low. A similar binomial model is used for the Airbus A340 – Model 200 aircraft and the Airbus A340 – Model 300 aircraft.

¹ Ontario Gateway chooses to insure airplanes at the cost of new fully equipped airplanes.

² Source: UAL AMR 1995 Annual Reports: Case writer estimates.

³ Airbus A340 models differed by model based on flying range, number of seats, fuel capacity, and engine.

⁴ Source: Aviation Week & Space Technology, January 8, 1996: Case writer estimates.

⁵ Source: Aviation Week & Space Technology, January 8, 1996: Case writer estimates.

Enclosure 5: Case Assignment for Ontario Gateway

For this case, you can ignore the time value of money for five years.

1. Build a spreadsheet simulation model for this insurance decision. Make sure that you explain the formulas in the spreadsheet, including the distributions used for the assumption cells. To add clarity to your analysis, you may want to analyze the cost differences between the insurance plans that appear most viable.
2. Check the sensitivity of your analysis to the presumed probability of a crash. Because Ontario Gateway operates a newer fleet of aircraft with only two different types of aircraft, it may be reasonable to suppose that they are slightly safer than the industry as a whole. Change the probability of a crash to make Ontario Gateway 25% safer than the industry average, and see what effect this has on the output and the consequent insurance decision.
3. Based on your simulation results and analysis/judgment, prepare a concise but detailed decision recommendation, with supporting analysis. Your write-up should recommend and justify a specific course of action, in the context of the nature of the uncertainty and risk involved in the decisions under consideration.