

## CASE 8:



# E-COMMERCE IN THE AIRLINE INDUSTRY

Firm Style	Interview Round
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**Case Question:** The year is 1999, in the middle of the .Com-boom. An airline was approached by a group of entrepreneurs. The entrepreneurs offered the airline to invest \$100MM in their software company for 20% equity, and also be the first customer for the software they develop. The software is an e-market place where airlines and spare parts suppliers could meet to improve the purchasing capabilities of the airlines and to reduce the purchasing costs. Aircraft parts are obviously a hugely important part of the airline business, as airlines struggle to keep planes in the air as much as possible, minimize downtime and control costs. What should the airline do?

## Clarifying Questions & Answers

*Provide the following answers only if the interviewee asks the corresponding questions.*

Question	Answer
How does the airline currently purchase spare parts?	The airline currently has a legacy system. The system is not that suitable to what's actually happening and therefore there is a lot of extra phone calls and process work happening.
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## Clarifying Questions & Answers

*Provide the following answers only if the interviewee asks the corresponding questions.*

Question	Answer
How much does a purchasing transaction cost to an airline? <b>(supply this number rather easily, even if you are not asked directly)</b>	\$50 per transaction
How many transactions does each airline perform per year?	500,000 for each of the airlines in the states
How many airlines are there in the states?	20
How much will a transaction cost us in the new system? (try to supply only one of the numbers and see if the interviewee asks for the other)	\$6 payment for the software company \$9 internal cost (labor, systems, etc.)
Any other cost a customer needs to pay to join?	\$20MM licensing fee
What is the cost structure for the software company?	No variable costs. \$10MM a year to pay for corporate expenses.
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## Clarifying Questions & Answers

*Provide the following answers only if the interviewee asks the corresponding questions.*

Question	Answer
Will the E-Market allow us an increased bargaining power?	The aircraft industry in general, and the spare parts industry specifically, are highly regulated. To become an approved FAA supplier costs money and therefore the barrier for entry are significant. The result is that each part has one or two suppliers at the most and hence the bargaining power will not improve with the E-Market.

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## Framework / Structure

This is an investment assessment case. The analysis may include, but is not limited to, the following areas:

- Investment framework. Market and competitors.
- Company – availability of capital but also fit.
- Current situation – how is the airline currently managing the spare parts sourcing.

## Strong Plan

The candidate has de-coupled effectively both issues requiring decoupling – One analysis is to be done from the perspective of an investor (who is the customer here) and from the perspective of a customer. This is actually THE most important issue here – decoupling the problems effectively. The candidate also asked questions about the current situation and what advantages will the system provide, and also talked about the market and competitors.

## Weak Plan

The candidate is thinking about the problem as one problem. It seems that he will perform cash flow analysis for customer and investment together and doesn't seem to realize the "first customer" is not the same as "customer". In addition, candidate didn't talk about the current situation or the market at all.

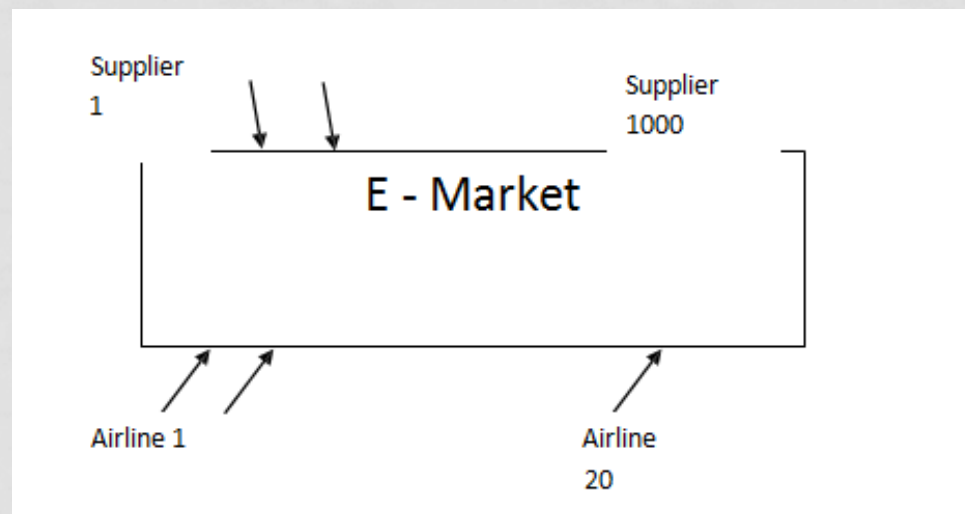
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## Exhibit

### Exhibit 1

Interviewee: Could you tell me more about the E-Market?

Interviewer: (draw the following picture on a piece of paper and talk a little bit about it)



### Expected Insight:

- For the customer to get value out of the system, many suppliers need to be connected to the system.
- Do the suppliers need to pay anything to use the system?

Tell the candidate for this analysis assume suppliers pay nothing.

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## Calculations

The numbers are provided in the answers to questions. There are two calculations here:

1. Calculating the cash flow for investment

- Best in class answer will utilize the cash flow framework (drawing years from 0 to 10 and writing beneath the cash flow every year).
- –100MM for year 0 (provided in the initial question)
- Calculating the resulting cash flow
  - Revenues every year - \$6 (payment per transaction) \* 500,000 (transactions a year) \* 20 (airlines) = \$60MM a year.
  - – 10MM a year (fixed costs for software company – case fact)
  - = \$50MM.
  - We only own 20% of that number = \$10MM, the resulting cash flow.



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- The interviewee should now say “so what” and talk about one or both of:
  - There will be \$10MM annual return for \$100MM investment. Without discounting, we know it is a 10 years till breakeven. In the software industry that's unacceptable
  - \$10MM till perpetuity. Discount rate for the software industry is high. Let's assume 20%.  $\$10\text{MM}/20\% = \$50\text{MM}$ .
  - So what? Meaning that the moment you investment the \$100MM it is worth \$50MM. this is a bad investment.
  - A interviewee can be confused and try and use the airline discount rate (which is extremely low). This is obviously a mistake as discount rate is directly correlated to risk.

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## 2. Calculating the cash flow for customer

- \$-20MM investment (licensing fee).
- Revenue stream (cost savings)
  - \$50 transactions will only cost \$15 ( $=\$9+\$6$ ).
  - Savings of \$35 per transaction
  - 500,000 transactions.
  - $\$35 \times 500,000 = \$17.5\text{MM}$  savings a year.
- So what?
  - The investment in the software for the customer could be extremely good investment as it is returned in less than a year and a half.
  - However, first customer can be something else all together as there are risks than can decrease the returns:
    - Not all suppliers will join right away or at all.
    - The software will have bugs in the first few months /years.
    - The software company can go bankrupt, taking our licensing fee away and never give any returns.



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## Recommendation

- The recommendation should include the following:
  - The answer – Candidate suggests that investment in the company is not a good option as it takes 10 years to recoup investment (without discount rate). Being a customer looks good, though not necessarily first customer.
  - The number(s) – NA
  - Risks or considerations –
    - Joining as a first customer will be considered if the client will be compensated for the risks.
    - After few airlines will join the system, and the software proven itself, the client should definitely join as it will save costs.
- Next steps – NA

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## Questions to Further Challenge the Interviewee

The following question tests creativity further:

- Let's assume there is another feature in the software that allows airlines to view other airlines' inventory by location and part. So, for example, if I'm southwest and I have a plane down in NYC. I contact the supplier and get an answer that I'll have the part in three days. I can look into American Airlines inventory and see if they have the part in NYC. If they do, I can buy it from them at cost and ask the supplier to send the part their way. Is it a good feature?
- A full answer (push interviewee till he reaches all conclusions or gives up):
  - The feature is great for the industry, as the entire industry will be able to reduce downtime and share the value in its companies' bottom line and with the customers.
  - However, the risk is that the feature actually encourages the airlines to carry no inventory (why should I carry inventory when everyone shares the benefits?)
  - A solution to mitigate the risks through the system is to create a system of checks and balances and create a part exchange account for every airline. So every time an airline takes a part from another airline then the airline's part exchange account is reduced by the part cost. Every time an airline provides a part to another, its parts exchange account is increased by the part cost. If we cap the part exchange account to say minimum of -\$5MM, then we solved the problem.
  - This will actually encourage better inventory management throughout the industry as airlines will not want to stay away of this program as it provide huge cost benefits.