16.71J/1.232J/15.054J/ESD217J THE AIRLINE INDUSTRY FALL 2010

GROUP PROJECT: NEW ENTRANT AIRLINE BUSINESS PLAN

The objective of this group project is to prepare a business plan for a new entrant airline to operate in the current US airline industry competitive environment, with a planned start-up in second quarter 2011. Based on the industry analysis that you have performed in the individual assignments to date, as well as additional information from course lectures, readings and outside sources, each team will develop a comprehensive new airline proposal that includes specific details concerning the required fleet, route network, schedule frequency, products and pricing, human resources, safety/security, airport constraints, and overall marketing strategy, as explained further below. Estimates of passenger traffic, load factors, aircraft utilization, average fares, revenues, costs and profitability should also be developed for this initial phase of operations.

Data Provided to You

You are encouraged to use any and all of the data that have been provided to you during the term, including the traffic and financial data for US Major airlines available on the Airline Data Project web site. In addition, the following data files are available on the class Stellar site:

- Top 1000 US O-D Market Data for 2nd Quarter 2010 (TOP 1000 O-D Markets 2010 Q2.XLS)
- Schedule Frequency for Top 5000 Domestic Non-stop Routes May 2010 (TOP 5000 Route Frequency May 2010.XLS)
- Aircraft Operating Cost Data 2009 (Aircraft Operating Costs 2009.PDF)

You should use these data for your numerical analysis of market characteristics, demand estimates, fare projections, competitor evaluations, operating costs and profit projections. You may use information from handouts and other sources for more general information about existing competitors, the nature of low-cost operations, expected trends in the industry, and strategic considerations.

All estimates and calculations, including total market demand, market shares, revenues, operating costs and profit, should be summarized for the planned start of operations of the new airline in 2nd quarter 2011 (91 days).

Recommended Approach and Guidelines

This project is intended to be open-ended, to allow you to demonstrate your own approach to analysis and your understanding of the most important issues to be considered by the management of the new airline. Provided below are suggestions of the major items that should be included in such a business plan.

Fleet Composition: The new airline plans to begin operations with a maximum of five (5) aircraft in its first phase of operations (2nd quarter 2007). Your business plan should identify the specific aircraft type(s) to be acquired by the new airline, with operational and economic justification of the choice.

how will they be financed?

must it serve those?

Route Network: In its first phase, the new airline must serve a subset of the Top 1000 US domestic O-D markets included in the data provided to you, either on a point-to-point or connecting hub basis. Your plan should provide a detailed description of this initial route network and the non-stop flights to be operated.

Frequency/Schedules: Given your choice of aircraft (number and type) and route network, your plan should specify the frequency of daily service on each chosen route, by aircraft type. It is not a requirement to generate a complete schedule of aircraft rotations (although you are welcome to prepare one, if you wish). However, your frequency plan should summarize the number of flights per day on each route in your network, and this frequency plan should then be used as the basis for calculating operational metrics such as number of departures per day, total aircraft utilization (block-hours per day), total ASMs generated (per day and for the entire first quarter of operations).

Fleet

Product/Marketing: Your plan should describe fully the service quality that your airline will offer (e.g., "full service", "premium service", "no-frills", "low-frills", or something in between), with specific details as to the product(s) and their characteristics:

- Single-class or multiple cabins (first, business, economy)?
- Passenger processing and amenities (seat selection, airport check-in, lounges, frequent flyer program)?
- On-board services (meals, entertainment, internet)?

Pricing: In light of your product/marketing decisions, what is the new airline's overall pricing strategy, relative to existing competitors? To what extent will differential pricing be employed? Advance purchase and/or other fare restrictions? What are the implications of your pricing strategy in the markets you have selected, in terms of demand stimulation and competitor response?

O-D Market Analysis: For each of the O-D markets that you have chosen to enter, estimate the overall impact of new entry on total market demand measured in PDEW (if any, given potentially lower average fares). It would be most reasonable to assume that existing carriers will match the fares to be offered by the new entrant, initially at least. Once you determine the total PDEW after entry, estimate the new airline's market share in each chosen market, based on your planned frequency of service. Assume that both the new entrant and its competitors provide daily service on all flights.

Passenger Traffic and Revenues: Given your estimates of market shares by O-D market, estimate the new airline's average load factors by route and for the proposed network. Calculate the number of passengers, RPMs and total revenues for the entire first quarter of operations.

Revenue + Cost Estimate

Human Resource/Labor Relations Strategy: Given your evaluation of labor relations at US airlines in Assignment #3 and the class discussions of Southwest and JetBlue, describe the major components of your new airline's human resource approach.

Safety and Security Considerations: Again, based on your analysis of safety and security policies in Assignment #4, provide a brief overview of the principal elements of your new airline's approach to safety and security.

Airport Infrastructure Issues and Constraints: To what extent does your new airline's proposed operating plan involve airports that are heavily congested and/or slot constrained? How will the

Overall + Presentation

-- estimates of new carrier's market shares in each market
-- total quarterly passengers and revenues
-- total quarterly operating profit (contribution to system overhead)
-- quarterly operating statistics (departures, block-hours, passengers carried, average load factors).

There should also be some discussion of the various other strategic considerations and operational issues described above, given the presence of established competitors. Please limit your report to a maximum length of 30 pages (slides), including tables and figures.

Grading

This group project represents 20% of your total grade – 10% for the presentation and 10% for the final report. Within each group, each member is expected to contribute fully to the workload. To ensure that this does in fact occur, each group member will be given the chance to anonymously assess each of the other group member's relative contributions to the overall work product, and this evaluation of relative contribution will be taken into account in assigning individual grades.

how to divide up the work?

airline's operations be affected by infrastructure constraints, and how susceptible might it be to irregular operations stemming from weather and other delays?

Operating Costs: Use the cost data provided to you in lectures, data files, and the operating cost chapter (along with the Aircraft Operating Costs for 2009) to generate and justify your best estimates of the operating costs for your new airline, under the following cost categories (as was done in Assignment 2 for the BOS-MIA route):

- Aircraft Operating Costs per block hour
- Passenger Service costs per RPM
- Traffic Servicing costs per passenger enplaned
- Aircraft Servicing costs per aircraft departure
- Promotion and Sales costs (% of passenger revenue)
- General and Administrative costs per ASM

Your estimates should be justified on the basis of your choice of aircraft, route network, aircraft utilization, service quality decisions, and human resource strategy, among other factors. Use these cost estimates to determine total operating expenses for the quarter.

Estimate of Operating Profit: Based on the above revenue and cost estimates, what is the expected operating profit (loss) for your new airline in its first quarter of operations? How will this performance change in subsequent quarters, and why? What are the assumptions that can affect your profitability conclusions most?

Overall Assessment and Strategic Considerations: What are the most critical obstacles to the success of the new entrant in your chosen subset of markets? What other strategic considerations are important? What are the likely responses of the existing competitors?

DELIVERABLES

Presentation and Report (DUE FRIDAY, DECEMBER 10)

Each group will make a 20-minute presentation (maximum) in class, describing your findings, assessment and recommendations, on December 6 or 8. Your presentation should be in PowerPoint format, with tables and graphs included as appropriate (approx. 20 slides).

Both your presentation and report should be geared toward upper management at the new entrant airline, describing both the results of your analysis and your recommendations with respect to entry by the new carrier into these markets.

not much time – a lot of parts

Your team's final report is due no later than Friday, December 10 and should explicitly describe your proposal and evaluation of the new carrier's start-up of service. It can be an extended version of your Powerpoint presentation slides, but it should respond to any comments provided during the presentation and it should include an appendix with all relevant supporting calculations and specific recommendations with respect to the following:

-- choice of aircraft type and number of aircraft to be acquired
-- complete description of route network and frequency plan
-- recommended pricing strategy and average fares in each market
-- estimated total PDEW O-D market demands, given price recommendations

16.71J The Airline Industry

Team Projects Fall 2010

Team 1
Philip Wolfe
Alexandre Jacquillat
QianNan Jiang
Francisco Alonso
Juan Rebollo

Team 2
Jennifer Novak
Lauren Rusckowski
Felipe Bustos
Matt Fitzgerald
Swapnil Rajiwade

Team 3
Daniel McCue
Michael Zieve
Roman Campa
JaeBeom Lee
Stephen Steiner

Team 4
Andreea Uta
Imbert Fung - MBA
Payal Patel
Philip Cho - dp
Michael Plasmeier

Team 5
Pierre-Olivier Lepage
Alyona Michel
Gerasimos Skaltsas
Kamala Shetty

16.75 Team Project Tips 4/5

Focus on Endementals
- rational use of models

Not all flashy marketing
- minority share of project

Not graded based on how much $ you make
Will get marginal proposition at best
Layer marketing on top

Will be disadvantage at first
If price advantage, brand advantage can do

Elasticy of fares
↑ inital logic you should build on
Could also do low-cost commodity

How many markets does JetBlue have higher fare
absolutly lowest fare not a given assumption
here marketing is only a modifier
(have readings for Mon)

QSI is just S curve w/ connection + 1 stop

(2)

Biz market Sharper S

Leasure less of an S

price or marketing advantage

Share Gap = RPM share - ASM share

offer the flights and you will get share

↳ market share = capacity share
(subject to S curve)

Marketing people want ⊕ share gap

+1 - 5 percentage pts

↑

at most

really strong argument

Southwest has -

- sucess w/ freq
- narrowed
- part since 1 size fits all aircraft

Legacy carriers focus on top 10% of flyers that make 40% of revenue

Will you focus on certain segments

1 segment dangerous → no premium airline

(3)

Once get past size can't ~~get~~ rely on leisure alone

Easier to develop leasure airlines

Can start w/ low cost + move up

Of # are higher than today in fuel

need to scale down

look at the cost # of LCCs not system wide or NLC

can make different assumptions

need sanity in #

Of markets in excel file

both directions

don't let # fool you

Other = small regional carriers

or people who connect

only those w/ > 5% of market share

avg Haul = avg dist that ~~airlines~~ fly

Can assume some growth | people

large # = that they connect

(4)

Its the combined to all ~~markets~~ airports in market

Logic: find underserved markets at fares higher than should be

No data on demand

is demand ~~for~~ at that price

Look for ones w/o an LCC

- could compete againts LCC

Think about their freq will be

No time series

- so can't estimate elasticity
- keep it simple

Southwest rule is -2

- mostly in leasure

No closed form solution to this

---

each person look at it

need to build network

---

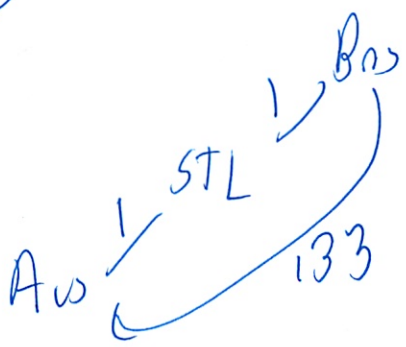
route freq is leg based for 1 month

hub airline ~~most~~ more complicated

don't need to look at capacity share

could do 1 stop.

(5)



1	non-stop
133	1-stop
103	connection

Project First Meeting

11/8

MBAs - rest are MBAs

How to divide up work?
- identify rates O-D
- Then its all the paperwork

3 hub cities in a triangle

Short haul - max freq

long haul - don't get much freq
so no more than 3

What type of model

Pricing difficult

OD - new wrong answers

- will cb prelim

Michael

- Revenue
- Cost Est
- Profit Est

Backup

Marketing

Pricing

OD Market

Pilot Meeting

11/22

Hawaii - too hard to get in

Dallas - Atlanta - Chicago

- room to make headway in freq share
- higher yields
- 3 each way, 6 total
- Chicago - Dallas total 3 each way
  - too much competition
  - least profitable
- Make sure have a schedule
- 32 block hrs / day
  - 12, 12, 6
- big flaw to have inbalanced network
- strength to have lot of freq
- top of head dallas better than dulles
  - easier to build plan
- big challenge to go against NLCs
  - ~~big~~ acknolodge

(2)

Good argument to make

Try S-curve

$\frac{6}{30}$ linear

S: $\frac{6^{1.5}}{8^{1.5}+8^{1.5}+8^{1.5}+6^{1.5}}$

Prob is not too much ~~worse~~ worse than linear
- b/c ~~#~~ evenly split

Look at who else in freq file
- could all be regional carriers

Lots of people 1 stop on Southwest
LUV → Midway 1 stop

Impossible for us to determine # of ~~LUV~~ connecting flights

Who is Compass + Mesa counted with?
- in one of the data sets

Or delta flying much bigger airplanes?

) freq, O-D tickets) 2 diff dataset

↳ Delta is dominant players at of Atlanta

(3)

Hard to predict data:
- hard w/ multiple airport cities
- just explain it
- reasonable, defensable analysis

- argument non-stop over 1 stop
- don't need to use curve
- just some "creative" analysis

Or just aggregate market/freq share
- argue why yields are higher

any decent size airports complex

Smallish aircraft

Stimulating demand?
- through price, not freq

↑ too many flights can be less so domestically will ↑ tiny market a bit

same broadbrush arguments
- at the limit fares drop by half - double market
- won't happen - 1.5 not unreasonable

Could argue overpriced: 20-25-30% fare cut 30-40-50% ↑ demand

(4)

Something Jet Blue + SWA - "normal" airline

Spirit - harder to get avg fare

Can have a little fun

- what about your service

? must be in econ analysis

Pax service .008 → .001 → .012 → .015

.008 LCC avg

.015 legacy Carrier

Everyone wants to be Virgin America

- hard to get econ work

Monty ~~0~~ → too certain ?

Airline Project Meeting

12/1

- Cool
- free wifi but only if member of freq flyer club
  - dry reasonable back in

- handwaving -

In costs - do we care about cost of planes

Use old regional ~~seat~~ - cheap

- airlines dumping
- then why are we adding?

Pricing

- elasticity of demand
- first seat $1
  - door buster

---

like consulting

- lots of handwaving

---

timetable + the triangle

y in excel file

(2)

- Jet Blue employement environment
  - iron - union
  - fun
  - temp

- fun branding

but all biz market

- young prof hip

Not like Virgin

Medium service like JetBlue

Terminal

- BS
- wifi + power in terminal by our gates
- Special furniture

Ticketing

- helps profitability
- No code share for now
- New airline - direct is hard

Power outlet on plane
↳ cost estimate

(3)

Marketing cost to find your site

Website do both

Can't just do discount on own site

Do GDS

Free drink if book on their website

No add ons

-per seat pricing

Prj

people will know

-but more transparent

Checked bags

-need to do for TSA

-but will do ~5 bags

-don't go crazy w/ ~~free~~ no bags

~~(~~ - free 1st bag + carry on

(4)

Is where we buy plane importer ?

- no

Tech - screens at gate
- good mobile website - current plane position

Pricing
- slightly undercutting market
- maximizes OD total revenue
- Phillip picked

- complicated price split
- rules to the max

- No seat map
- Pick seat online no charge
- ~~Only use our website~~
- ~~LA~~ New - Check in online - can pick a seat

All coach ?
- 80% load factor
- different lot
- just economy plus
- 4 premium seats

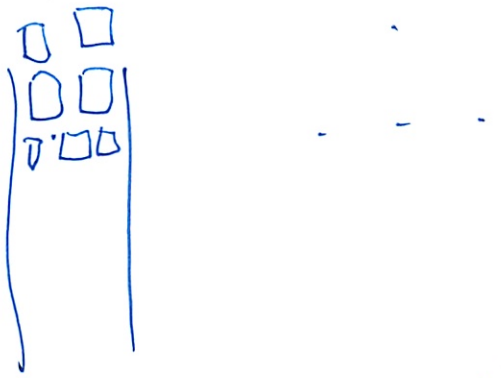
~~Keep it coach~~

free drinks
- unlimited

1 flight attendant

(5)

1 flight attendant



lose 5 seats - ok low load factor

So 4/5

~~4~~ 1 econ

~~1~~ 4 biz

Maintance

- all 3 points
- Swap
- MOW

- 1 hr turn times
- buffer

Airline Project Tutorial

12/3

(10 min late)

Connecting fares usually higher on American
- Revenue Management
- Blocking off to protect Chicago hub

Don't need to allocate profit
- millage pro-rating

Local
- carriers < 5%

All reported samples
- ignore "others"

Load factor
- what is reasonably achievable

91 days in 2nd qu
- 80-85% system
- no more than 85% on system
- rates can be higher
- up to 95%

RM + fares
- will skew RM
- but avg fares already reflect it

(2)

for planning purposes ok

Baseline avg fare = 180 – AA 220 -prem - biz, first
SW 150

Can interpolate data

Say its no lot class
└ but if jet blue 218 - can't argue that

Elasticity component

Can argue will use RM to fill up plan
- don't dig self into hole
- slope slippery
- like circle
- have high E_D
- so set low price
- but then overfull
- then price back up
- now back w/ industry
- industry will match

~~Don't go to wall st saying will create do~~

No fees included in fares
reasonable
people don't really buy

Cargo biz very limited – in textbook + lecture

(3)

Then add cargo costs

Could have tiny net cargo program

; Cost to loyalty program

- reported costs already include

~~Pax Basics~~

-

Lots of flights dropping movies → too much $ -maintance

Don't consider power costs

Getting general ownership cost

- keep costs per block hr
- estimate, can adjust
  - typical ## - not min #
  - will be some very low #
    - airlines in bankruptcy
    - strictly what they paid
  - everyone paying less than they should
  - in no way high #
  - perhaps if biz model is old plane

Crew cost

Don't have data to model utilization vs crew costs

So pick a # - can pick a lower #

(4)

Can't say will use planes more efficenty w/ longer block hrs and ~~discount~~ an example of someone who already has high block hours

Don't cram more people in than Spirit
- Boeing's # is higher

Schedule + Ops

- Can make a schedule
- 12-14 Block Hours/day
- B.6 is max
- maintance, Pinezones, turnarounds

We don't need to really account for maintance

Also QSI connection opportunities

Building sub-hub

Capitalizing

- Not a VC prospectus
- Can say something about
- we like to raise ___ million in capital
- acknowledge most failed on lack of $
- How many months on hand

at least 3 months - perhaps 6 - above startup costs

(5) Total Op Ex

$200 - 250,000 /day

20 + million/qr

$ 100 million/year aircraft

- $2,500 /hr aircraft
- 100 people
- 1000 miles

Per Day good way to normalize everything

Downfalls Past Projects

- big danger → going over the cliff
  - no reasonableness
- inconsistency
  - lowest cost, low frills
  - but biz travelers at high fairs!

No detailed modeling

- focus on story
- routes - why, how
- support logic

(6)

- segments
- data backs up
  - give example
    - 5% growth
    - 1.7% €
    - etc

Lot of stuff in 20 min

2 deliverables

- 20 min presentation
  - summarize + explain
- report is extended version of presentation
  - w/ supporting appendecies
  - extended PPT
    - w/ more detail
    - Concerns that were raised

- next Friday

My Section

12/4

High time to work on my section

Pax traffic + revenues + op costs + estimate op profit

- Phillie kinda did already?

I need to do op cost
- he did a quick op cost
- just fill in

Basically I am just filling in PPT

Now I get why large aircraft would not work
- all based on freq share
- low price elasticity
- bigger aircraft double op cost

not all that bad
- about knowing what to do + using property

Do need to expand FOC

So Boring
- like 15.501

Finished 2:15AM

Got really sloppy w/ PPT — need to be more careful to make it cleaner

Airline Report

12/4

- getting started is always the problem
- Was only took 25 min
- Now I am in the mood and don't want to do other things
- Now other tech section