

Assignment 2

Financial Analysis & Decision Making

Due Date: 12 PM (Noon) on Monday 26 March 2018

Weighting: 15% of Course Grade

Context

Module 2 introduced concepts around financial analysis, cost estimation and decision making criteria. An informed financial analysis is often a crucial decision making tool for the distribution of capital.

Your consulting firm has been requested to undertake a financial analysis for Boeing Australia Limited to assist in their financial decision making for a potential investment in new manufacturing and testing facilities at either Amberley air base in Australia or their existing Satellite Development Centre in El Segundo, Ca. The facilities will drones for the growing commercial and defence surveillance markets among ASEAN nations which are currently supplied exclusively from the El Segundo centre.

Your Boeing client representative is:

Mr Paul Russnock
Vice President and General Manager
Satellite Systems
El Segundo Ca. 90245

The investment decision is being made in at the Boeing Board meeting scheduled for 20 June 2018 in Seattle and will be based on the expected competitiveness of the two options. That is which location can achieve the Boeing WACC at the lowest sales price.

Background Information

The Boeing Company is an American multinational corporation that designs, manufactures, and sells airplanes, rotorcraft, rockets, and satellites worldwide. Its largest presence outside the United States is in Australia where Boeing subsidiaries currently employ more than 3,000 Australians to design and supply a range of technologies, equipment and services for both defence and commercial aviation markets. Annual revenues for Boeing Australia are above 400 million AUD.

To service growing commercial and defence surveillance markets among ASEAN nations Boeing is considering replicating it's facility in El Segundo or establishing a new facility in Australia. The facilities will have a capacity of 1,000 units per annum.

Replicating the El Segundo facility has certain difficulties for Boeing. Firstly there has been growing opposition among the Californian public to military industries and to exporting military products to Asia. Secondly, skilled labour shortage have become critical with the cost of labour doubling since 2010.

The Investment Proposal (Summary)

General

Production Capacity: 1,000 units per annum.

Sales Projections:

Year	2021	2022	2023	2024 & beyond
Sales	400	600	800	1,000

The life of the asset is expected to be 25 years (i.e. ending 25 years after the asset becomes fully operational). Your recommendation should be tied to the net present value (NPV) and internal rate of return (IRR) assuming a Weighted Average Cost of Capital (WACC of 7% Real, After Tax).

Inflation is assumed to be constant at 2.5%.

All operational costs and the unit sales price should be assumed to escalate at CPI.

Capital costs should be assumed to escalate at 5% per annum.

US Federal Taxation rate is 25%.

California State taxation rate is 12%.

Australian taxation rate is 30%.

Exchange rates: 0.75 USD = 1 AUD
1 USD = 110 JPY

Assume an average Depreciation Life on Capital of 15 years.

Assume economic life of the project is 25 years from start-up.

Option 1 Expanding El Segundo:

Investment Capital Cost Estimate (Estimate Reference Date Q1 2018 and accuracy is $\pm 10\%$):

Item	Origin	Cost	Currency
Land	USA	282 M	USD
Machinery	USA	175 Million	USD
Specialised Tooling	USA	49 Million	USD
Simulation Platform	USA	28 Million	USD
Buildings incl. Fit-out	USA	90 Million	USD
Security Systems	USA	18.5 Million	USD
Recruitment & Training	USA	12 Million	USD
EPCM Services ¹	USA	34 Million	USD
IP Licences & Royalties	USA	25 Million	USD
Legal Services	USA	4 Million	USD
Insurances	USA	5 Million	USD

¹ Engineering Procurement and Project Management Services provided by Boeing Asset Delivery & technical Services group

Land will be acquired immediately after FID. Construction time is planned to commence in January 2019 and take 2 years with the capital spend profile being 30% in year 1 and 70% in year 2.

Production Cost Estimate (Estimate Reference Date Q1 2018):

Item	Origin	Unit	Cost	Currency
Materials	USA	Per item	210,000	USD
Labour	USA	Per annum	36.8 Million	USD
Packaging	USA	Per item	50,000	USD
Freight	USA	Per item	18,000	USD
Insurances (Facilities, Liability)	USA	Per annum	3 Million	USD
Insurance (Transit)	USA	Per Item	4,000	USD
Import Duties	USA	Per item	60,000	USD

Option 2 Development of a New Facility near Brisbane Australia:

Investment Capital Cost Estimate (Estimate Reference Date Q1 2018 and accuracy is $\pm 10\%$):

Item	Origin	Cost	Currency
Land	AU	N/A ²	AUD
Machinery	JPN	24,500 Million	JPY
Specialised Tooling	USA	185 Million	USD
Simulation Platform	USA	33 Million	USD
Buildings incl. Fit-out	AU	108.75 Million	AUD
Security Systems	AU	19.5 Million	AUD
Recruitment & Training	USA	4 Million	USD
Includes Personnel time	AU	17 Million	AUD
EPCM Services ¹	USA	24 Million	USD
	AU	7 Million	AUD
IP Licences & Royalties	USA	15 Million	USD
Legal Services	AU	5 Million	AUD
Insurances	AU	8 Million	AUD

¹ Engineering Procurement and Project Management Services provided by Boeing Asset Delivery & technical Services group

² 25 year (with an option to renew) Leased by agreement of Commonwealth Government and Queensland State Government (Fixed at \$5 M per annum)

Land will be acquired immediately after FID. Construction time is planned to commence in January 2019 and take 2 years with the capital spend profile being 30% in year 1 and 70% in year 2.

Production Cost Estimate (Estimate Reference Date Q1 2018):

Item	Origin	Unit	Cost	Currency
Land Lease	AU	Per annum	5 Million	AUD
Materials	AU	Per item	300,000	AUD
Labour	AU	Per annum	38 Million	AUD
Packaging	AU	Per item	100,000	AUD
Freight	AU	Per item	12,000	AUD
Insurances (Facilities, Liability)	AU	Per annum	4 Million	AUD
Insurance (Transit)	AU	Per Item	43,000	AUD
Import Duties	AU	Per item	60,000	USD

Task

Your consulting firm must develop a Financial Assessment. This Financial Assessment must:

- include a Cover Letter addressed to the Client or project manager;
- contain an Executive Summary (1 page);
- provide a brief introduction to the two proposals (1 page);
- include a methodology outlining your approach to the Financial Assessment process (1 page);
- include a brief description of your estimation of the costs of each proposal (2 pages);
- include a Conclusion making clear the recommendation given the two options (1 page);
and
- include a Microsoft Excel financial spreadsheet(s) to support your recommendations.

The Financial Assessment should have a maximum length of 6 pages, not including the cover pages or the Table of Contents.

What Is Being Assessed

This task is assessing your ability to **write a professional report**, to **think critically** about the financial analysis of major projects and to **broaden your knowledge base** to consider business decisions.

Your Financial Assessment should be **robust**, making **assumptions** for all major elements and justifying decisions for your methodology and output.

Clear presentation is important in the Financial Assessment. While an analysis may be perfect, if it is not communicated well it cannot be used for full effect in decision making. **Do not confuse the brevity of the assessment with the amount of thought required.**

Spelling, punctuation, grammar and formatting errors will be heavily penalised.

Further Guidance

Further guidance is provided below:

- Keep paragraphs short, and ensure that each sentence has a point and reads easily.
- Create a logical Excel workbook with units and assumptions communicated clearly and consistently.
- Consider investment risk and uncertainty in your analysis.
- Any academic referencing method is acceptable, but it must be applied consistently.
- Read the Assignment 2 Grading Matrix carefully.

Submission

You must submit your Financial as one ZIP file through Turn-It-In by 12pm (Noon) on Monday 26 March 2018, including one PDF and one XLSX file. Your file naming convention must follow *X-Y.Assignment2.zip*. For example, Tutorial session B Team 2 would name their submission file *B-1.Assignment2.zip*.

Assignment 2 Grading Matrix

		Element Grade						Score
		0%	20%	40%	60%	80%	100%	
	Quality of Presentation 3 Points	No attempt to address the task.	Report does not cover the basic issues. Report does not adopt consistent formatting, or has more than nine spelling, grammar, punctuation or formatting errors. Writing is not relevant. No use of charts, tables or dot points to display information. Report has no Cover Letter.	Report covers only some of the basic issues. Report does not adopt consistent formatting, or has more than nine spelling, grammar, punctuation or formatting errors. Writing is not relevant. Very minimal use of charts, tables or dot points to display information. Report has no Cover Letter.	Report has a logical Table of Contents covering only the basic issues. Report adopts mostly consistent formatting with less than ten spelling, grammar, punctuation or formatting errors. Writing is generally relevant but not concise. Adequate use of charts, tables and dot points to display information.	Report has a logical Table of Contents covering all relevant issues. Report adopts clear and consistent formatting with less than three spelling, grammar, punctuation or formatting errors. Writing is concise and relevant. Good use of charts, tables and dot points to display information.	Report has a comprehensive and logical Table of Contents covering all relevant issues. Report adopts clear and consistent formatting with zero spelling, grammar, punctuation or formatting errors. Writing is elegant, concise and relevant. Excellent use of charts, tables and dot points to display information.	
	Methodology 2 Points	No attempt to address the task.	Methodology is inadequate, showing no understanding of contextual factors. Information is incorrect.	Methodology is poor, showing a weak understanding of contextual factors. Information is partially correct, but with many flaws in assumptions and application.	Methodology is adequate, showing a basic understanding of contextual factors. Information is partially correct, but with some flaws in assumptions and application.	Methodology covers all major issues, showing a good understanding of contextual factors and project pressures. Information is correct and exact to the necessary detail.	Methodology is comprehensive, showing deep understanding of contextual factors and project pressures. Information is correct and exact to the necessary detail and used effectively to emphasise key points.	
	Financial Analysis 7 Points	No attempt to address the task.	Incorrect application of information on capital requirements. No research to support assumptions for either case, or unreasonable assumptions used. Economic factors incorrectly applied or ignored entirely. Outcomes (NPV, IRR, decision) incomplete or wildly incorrect.	Partially correct application of information on capital requirements. Research partly supports assumptions for one or both cases, but is not comprehensive or is incorrect. Economic factors incorrectly applied or ignored entirely. Outcomes (NPV, IRR, decision) wildly incorrect but with some justification.	Correct application of information on capital requirements. Research mostly supports assumptions for both cases. Financial analysis mostly applied correctly, with minor errors in formulas. Outcomes (NPV, IRR, decision) reasonable or believable, supporting a clear decision.	Correct application of information on capital requirements. Research supports all assumptions for both cases, where adopted values are reasonable and realistic. Financial analysis applied correctly, with no errors in formulas. Outcomes (NPV, IRR, decision) reasonable, supporting a clear decision with clear justification.	Correct application of information on capital requirements, with critique on level of realism. Research supports all assumptions for both cases, where adopted values are reasonable and realistic. Financial analysis applied correctly, with no errors in formulas. Sensitivity analysis applied correctly. Outcomes (NPV, IRR, decision) reasonable, supporting a clear decision with clear justification. Notes on next steps included with key points of risk identified.	
	Synthesis 3 Points	No attempt to address the task.	Conclusions are not at all tied to outcomes of the financial analysis. Demonstrates no understanding of the issues and requirements of the reader.	Conclusions vaguely relate to the financial analysis, but provide no depth on nuances of analysis. Demonstrates a flawed understanding of the issues and requirements of the reader.	Conclusions relate to the financial analysis with simple insights drawn. Demonstrates an adequate understanding of the issues and requirements of the reader.	Conclusions relate well to the financial analysis, with nuances and major risks addressed. Demonstrates a good understanding of the issues and requirements of the reader.	Conclusions are entirely aligned to the financial analysis. Nuances and major risks are addressed. Sensitivity analysis is included to assess potential scenario movements. Demonstrates a deep understanding of the issues and requirements of the reader.	
Total (Out of 15 Points)								

Assignment 6 Grading Summary

Workshop: _____

Team Identifier: _____

Score: _____ out of 15

Comments (if any): _____

Moderation (if any): _____

Tutor: _____

Date Marked: _____