
Supply Chain Modelling and Design

Assessment 3: Case Study Analysis

Overview

For this assessment, you are required to work on multiple case studies that use different quantitative techniques that you have learnt in the subject to solve the case study problems. In the working industry, you will often face various issues and problems that need to be tackled. Therefore, this assessment aims to test whether you can choose the correct quantitative technique, implement and solve it consequently. To be successful in this assessment, please read through each of the four case studies presented to you, which are available on the assessment page under Assessment Task 3.

Please note some of the minor differences in the submission requirements for each case study you will be working on. Make sure you read the information provided in this brief.

Course learning outcomes

This assessment is relevant to the following course learning outcomes:

CLO1	Analyse and apply the theories and practices of logistics systems in logistics management
CLO2	Formulate and propose supply chain and logistics systems solutions to improve the management of logistics and supply management
CLO3	Implement mathematical models to solve problems in logistics in contemporary business environment

Case Study 1:

- Problem Formulation (Word) (12.5 pts)
 - Explanation of how the problem was formulated
 - Clearly defines decision variables and explains objective functions and their constraints correctly and clearly
- Problem-Solving (Excel) (7.5 pts)
 - Clear evidence of using an Excel spreadsheet to solve the model
 - Obtaining the correct answer
- Answer (Word) (5 pts)
 - The answers presented in the document are correct

Case Study 2:

- Problem Formulation (Word) (5 pts)
 - Explanation of how the problem was formulated
 - Clearly defines decision variables and explains objective functions and their constraints correctly and clearly.
- Problem-Solving (Excel) (3 pts)
 - Clear evidence of using an Excel spreadsheet to solve the model
 - Obtaining the correct answer
- Answer (Word) (2 pts)
 - The answers presented in the document are correct

Case Study 3 and 4:

- Calculations (Excel) (7.5 pts)
 - The correct quantitative technique was chosen to address the case study
 - Correct implementation, calculation and answers evident in the spreadsheet

Assessment details

You are required to work through and solve **four case studies** in this assessment. Each case study will require you to apply a different quantitative modelling technique that you have learnt in the subject. However, when working in the industry or for a client, you will not always be given the appropriate technique to solve a problem. Moreso, you need to use judgement to select the best method to solve a problem. For that reason, this assessment aims to test whether you can choose, implement and solve the case studies using the correct quantitative technique. The possible quantitative techniques that can be used to solve any case study across all the quantitative techniques you have learned in this course.

As Case Studies 1 and 2 require a Word document and Excel submission, we do not expect the same level of detail as you presented in Assessment Task 1 and 2. You are not expected to show an Excel step-by-step process of what you have done in your brief Word document. Instead, you are expected to clearly describe and explain the mathematical model and report your answers.

As Case Studies 3 and 4 require an Excel spreadsheet submission only, you are to identify the solution in your spreadsheet. It is recommended to write a concluding sentence somewhere (somewhere near your final answer/s) in your spreadsheet to summarise your solution.

The details of each case study are available on the assessment page under Assessment Task 3. Please read the submission format requirements below, as the requirements vary across the four case studies.

Length

To simulate a real-world experience, there is no word limit for this assessment task. You are expected to provide a quality response on the assessment task that addresses the case study question(s). You are also expected to follow the structure above and ensure that your submission is aligned with the assessment rubric.

Submission format

You will be submitting each case study at a separate submission point.

Specific submission requirements will vary across the four case studies. Therefore, please read through the information below carefully.

You must submit the following:

For Case Studies 1 and 2 (Word and Excel)

- 1) A single Word document (.docx)
 - The Word document is to explain your mathematical model, report your answers, and write recommendations for decision makers based on the solution.
 - You are not required to show an Excel step-by-step process in your word document.

2) A Microsoft Excel file (.xlsx)

- The Excel file demonstrates how you use Excel to identify your solution.
- You must ensure that the file is in a workable condition before submission.

For Case Studies 3 and 4 (Excel only)

1) An Excel file (.xlsx)

- The Excel file demonstrates how you use Excel to identify your solution.
- You must ensure that the file is in a workable condition before submission.

Referencing guidelines

Use [RMIT Harvard](#) referencing style for this assessment.

You must acknowledge all the sources of information you have used in your assessments.

Refer to the [RMIT Easy Cite](#) referencing tool to see examples and tips on how to reference in the appropriate style. You can also refer to the library referencing page for more tools such as EndNote, referencing tutorials and referencing guides for printing.

Academic integrity and plagiarism

Academic integrity is about honest presentation of your academic work. It means acknowledging the work of others while developing your own insights, knowledge and ideas.

You should take extreme care that you have:

- Acknowledged words, data, diagrams, models, frameworks and/or ideas of others you have quoted (i.e. directly copied), summarised, paraphrased, discussed or mentioned in your assessment through the appropriate referencing methods
- Provided a reference list of the publication details so your reader can locate the source if necessary. This includes material taken from Internet sites

If you do not acknowledge the sources of your material, you may be accused of plagiarism because you have passed off the work and ideas of another person without appropriate referencing, as if they were your own.

RMIT University treats plagiarism as a very serious offence constituting misconduct.

Plagiarism covers a variety of inappropriate behaviours, including:

- Failure to properly document a source
- Copyright material from the internet or databases
- Collusion between students

For further information on our policies and procedures, please refer to the University website.

Assessment declaration

When you submit work electronically, you agree to the [assessment declaration](#).



Assessment 3 Criteria: Case Study 1

Criteria	Ratings			Pts					
	Excellent	Good	Fair	Poor					
Problem Formulation (Word)	The document shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly and clearly.	The document shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly, but there are some unclear areas.	The document inadequately shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly.	The document does not, or hardly, show how the problem was formulated, define decision variables, and explain objective functions and their constraints correctly.	12.5 to > 9.37 pts	9.37 to > 6.24 pts	6.24 to > 3.12 pts	3.12 to > 0 pts	12.5
Problem-Solving (Excel)	The model implemented in the Excel spreadsheet and specified in Solver was correct. The right answer was obtained.	The model implemented in the Excel spreadsheet and specified in Solver was mostly correct.	The model implemented in the Excel spreadsheet and specified in Solver was partly correct.	The model implemented in the Excel spreadsheet and specified in Solver was mostly incorrect.	7.5 to > 5.62 pts	5.62 to > 3.74 pts	3.74 to > 1.87 pts	1.87 to > 0 pts	7.5
Answer (Word)	The answers presented in the document are correct.	The answers presented in the document are mostly correct.	The answers presented in the document are partly correct.	The answers presented in the document are mostly incorrect.	5.0 to > 3.74 pts	3.74 to > 2.49 pts	2.49 to > 1.24 pts	1.24 to > 0 pts	5
Total: 25									

Assessment 3 Criteria: Case Study 2

Criteria	Ratings	Pts	
	Excellent	Poor	
Problem Formulation (Word)	<p>The document shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly and clearly.</p> <p>The document shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly, but there are some unclear areas.</p> <p>The document inadequately shows how the problem was formulated, defines decision variables, and explains objective functions and their constraints correctly.</p> <p>The document does not, or hardly, show how the problem was formulated, define decision variables, and explain objective functions and their constraints correctly.</p>	<p>5.0 to > 3.74 pts</p> <p>3.74 to > 2.49 pts</p> <p>2.49 to > 1.24 pts</p> <p>1.24 to > 0 pts</p>	5
Problem-Solving (Excel)	<p>The model implemented in the Excel spreadsheet and specified in Solver was correct. The right answer was obtained.</p> <p>The model implemented in the Excel spreadsheet and specified in Solver was mostly correct.</p> <p>The model implemented in the Excel spreadsheet and specified in Solver was partly correct.</p> <p>The model implemented in the Excel spreadsheet and specified in Solver was mostly incorrect.</p>	<p>3.0 to > 2.24 pts</p> <p>2.24 to > 1.49 pts</p> <p>1.49 to > 0.74 pts</p> <p>0.74 to > 0 pts</p>	3
Answer (Word)	<p>The answers presented in the document are correct.</p> <p>The answers presented in the document are mostly correct.</p> <p>The answers presented in the document are partly correct.</p> <p>The answers presented in the document are mostly incorrect.</p>	<p>2.0 to > 1.49 pts</p> <p>1.49 to > 0.99 pts</p> <p>0.99 to > 0.49 pts</p> <p>0.49 to > 0 pts</p>	2
		Total: 10	

Assessment 3 Criteria: Case Studies 3 & 4

Criteria	Ratings	Pts
	Excellent	Poor
	Good	Fair
Calculation (Excel)	The calculation and answers in the spreadsheet are correct.	The calculation and answers in the spreadsheet are mostly incorrect.
	The calculation and answers in the spreadsheet are mostly correct.	The calculation and answers in the spreadsheet are partly correct.
	The calculation and answers in the spreadsheet are correct.	The calculation and answers in the spreadsheet are mostly correct.
	7.5 to > 5.62 pts	1.87 to > 0 pts
	5.62 to > 3.74 pts	3.74 to > 1.87 pts
	7.5	7.5
		Total: 7.5