

Assessment Details

Assessment Element: Individual Report

Due Date: 11pm, 5th May 2024

Individual 4000 words (excluding figures and tables) report in a report format containing data analysis with tables and graphs as required to answer an Operations problem involving case data. Tables and Figures will not be included in the word count.

Electronic submission via the NOW drop box together with a Turnitin report.

Assessment structure: the assignment should explicitly address each question in turn. Use theories and the results of your data analysis to suggest appropriate solutions to the issues faced by the case companies. The suggested solutions will reflect your skills of decision-making using data (both qualitative and quantitative).

All referencing should use the Harvard format ([See Library referencing guide](#) [\[https://www.ntu.ac.uk/m/library/referencing-made-easy\]](https://www.ntu.ac.uk/m/library/referencing-made-easy)).

Feel free to contact your tutors if you require further advice or clarification.

Assessment questions

Create a business report using the [Case company data set](#) [\[.../Assessment%20Data%20Set.xlsx?ou=968039\]](#) provided. In your business report, critically evaluate and analyse the business operation of the case company and provide appropriate recommendations to inform their future decision-making. Your evaluation, analysis and recommendation must be supported by data analysis and underpinned by appropriate theories.

Your discussion should at least include the following components:

1. Descriptive analysis on the part of data sets identified as appropriate and relevant to your selected aspect(s) of business operation (such as planning, inventory, marketing, technology, sales and others). (MLO: a, e, g).

In your responses demonstrate the following elements where applicable:

- (a) data cleaning,
- (b) data visualisation appropriate for different data types
- (c) descriptive statistics
- (d) defining and testing hypotheses

2. Predictive: Provide at least two forecast models for the demand and provide a judgement and comparisons on their precisions. (MLO: b, c, d, f). In your responses demonstrate the following elements where applicable:

- (a) Regression model(s) by determination of Independent and dependent variables

- (b) proposing demand forecast models and assessing them (Assumptions, precision)

3. Prescriptive: Based on your data analysis from (1) and (2) above, support the decision-making process of the company by suggesting viable ways to improve relevant business operations. Provide an optimisation model to minimise the inventory costs of the raw materials (including fixed logistics cost per transport and stocking). Your recommendation should be supported by both management-related theory and data analysis. (MLO: a, b, c, d, h). Your responses can include the following:


- Identification of the objective and limitations of the business problem
- Formulating the problem in a mathematical programming form
- Providing a solution to the defined problem.

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Suggested structure for the report:

- Introduction: Briefly explain the industry, involved business functions, and role of data in business decisions [500~700 words]
- Descriptive Analysis [1000 words]
- Predictive Analysis [1000 words]
- Prescriptive Analysis [1000 words]
- Conclusion: summarise the impact of your analysis, and how this business can benefit from your analysis (quantitative & qualitative) [500-700 words]

*The suggested word count above for each section is only an estimated number and you can have more or less than that.

Please also refer to [the Feedback Form/Marking Grade](#)  [\[./content/enforced/892132-BUSI49152_29530_SEM-202223-04/BUSI49152%20Feedback%20Form_180122.pdf?ou=892132&ou=968039\]](#).

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