

ANL203
Analytics for Decision-Making

Tutor-Marked Assignment

January 2022 Presentation

TUTOR-MARKED ASSIGNMENT (TMA)

This assignment is worth 18% of the final mark for ANL203 Analytics for Decision-Making.

The cut-off date for this assignment is 17 February 2022, 2355hrs.

Note to Students:

You are to include the following particulars in your submission: Course Code, Title of the TMA, SUSS PI No., Your Name, and Submission Date.

This is an individual assignment.

Up to 25 marks of penalties will be imposed for inappropriate or poor paraphrasing. For serious cases, they will be investigated by the examination department. More information on effective paraphrasing strategies can be found on <https://academicguides.waldenu.edu/writingcenter/evidence/paraphrase/effective>.

Question 1

You are to analyse a dataset *AirTicket.xlsx* to answer the following questions. The provided dataset contains several records of one-way airline tickets sold over a quarter. Each record represents one air ticket. It is possible to have a single ticket that allows multiple passengers to fly, e.g., corporations or travel agencies made the purchase. Download the dataset “AirTicket.xlsx” from Canvas.

Variables Dictionary

- ID: Unique record identifier
- ORIGIN: Origin Airport Code
- DEST: Destination Airport Code
- TICKET_CARRIER: Ticketing Carrier Code for On-line Itineraries
- OPERATING_CARRIER: Operating Carrier Code for On-line Itineraries
- PASSENGERS: Number of Passengers
- MARKET_FARE: Market Fare (\$)
- MARKET_DISTANCE: Market Distance (miles)
- DISTANCE_GROUP: Distance Group, in 500 Mile Intervals

- (a) Identify **one (1)** business problem that can be addressed by analysing the data. Your description should provide a clear understanding of what data fields are of interest and how the data fields can be used to address the business problem. (Up to 150 words for part (a))

(15 marks)

- (b) Create a summary of the dataset in tabular format. It should identify the data type of each data field, explain the meaning of the measurements in the data, and calculate the key attributes and summary measures. (Up to 200 words for part (b))
(15 marks)
- (c) Prepare the provided raw data in a form suitable for analysis by fixing the data issues and errors and performing necessary data transformation. Illustrate any necessary data preparation with example(s). (Up to 200 words for part (b))
(20 marks)
- (d) Employ **two (2)** graphical charts to present the key features of the data variables or to explore the relationship among variables. You may use any software tool (such as Excel, Power BI, etc.) to produce the proposed graphical chart. Use pivot table(s) to find the average revenue *per passenger* for each DISTANCE_GROUP. The pivot table(s) should be produced using Excel. Provide a screenshot of each produced chart/pivot table. Use up to 350 words to explain how the charts and the pivot table(s) are produced and discuss why the charts and the pivot table(s) are recommended.
(30 marks)

The word limit does not apply to visuals or screenshots of data preparation example(s), charts and pivot table. 20 marks will be allocated to the professional presentation and writing of your TMA report, e.g., covering the following aspects,

- Organisation
- Communication of ideas
- Citation and reference
- Grammar

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