ANL201

End-of-Course Assessment - July Semester 2024

Data Visualisation for Business

INSTRUCTIONS TO STUDENTS:

1. This End-of-Course Assessment paper comprises **5** pages (including the cover page).

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

3. Late submission will be subjected to the marks deduction scheme. Please refer to the Student Handbook for details.

IMPORTANT NOTE

ECA Submission Deadline: Friday, 01 November 2024 12:00 pm

ECA Submission Guidelines

Please follow the submission instructions stated below:

A - What Must Be Submitted

You are required to submit the following ONE (1) items for marking and grading:

- *A Report*

Please verify your submissions after you have submitted the above ONE (1) item.

B - Submission Deadline

- *The ONE (1) items of Report is to be submitted **by 12 noon** on the submission deadline.*

- *You are allowed multiple submissions till the cut-off date for each of the ONE (1) items.*

- *Late submission of the ONE (1) item **will be subjected to mark-deduction scheme** by the University. Please refer to Section 5.2 Para 2.4 of the Student Handbook.*

C - How the (1) Item Should Be Submitted

- *The Report: submit online to Canvas via TurnItIn (for plagiarism detection)*

- *Avoid using a public WiFi connection for submitting large video files. If you are using public wireless (WiFi) connection (e.g. SG Wireless at public areas), you might encounter a break in the connection when sending large files.*

D - Additional guidelines on file formatting are given as follows:

1. **Report**	- *Please ensure that your Microsoft Word document is generated by Microsoft Word 2016 or higher.* - *The report must be saved in **.docx** format.*

E - Please be Aware of the Following:

Submission in hardcopy or any other means not given in the above guidelines will not be accepted. You do not need to submit any other forms or cover sheets (e.g. form ET3) with your ECA.

You are reminded that electronic transmission is not immediate. The network traffic may be particularly heavy on the date of submission deadline and connections to the system cannot be guaranteed. Hence, you are advised to submit your work early. **Canvas will allow you to submit your work late but your work will be subjected to the mark-deduction scheme.** *You should therefore not jeopardise your course result by submitting your ECA at the last minute.*

It is your responsibility to check and ensure that your files are successfully submitted to Canvas.

F - Plagiarism and Collusion

Plagiarism and collusion are forms of cheating and are not acceptable in any form in a student's work, including this ECA. Plagiarism and collusion are taking work done by others or work done together with others respectively and passing it off as your own. You can avoid plagiarism by giving appropriate references when you use other people's ideas, words or pictures (including diagrams). Refer to the APA Manual if you need reminding about quoting and referencing. You can avoid collusion by ensuring that your submission is based on your own individual effort.

The electronic submission of your ECA will be screened by plagiarism detection software. For more information about plagiarism and collusion, you should refer to the Student Handbook (Section 5.2.1.3). You are reminded that SUSS takes a tough stance against plagiarism or collusion. Serious cases will normally result in the student being referred to SUSS's Student Disciplinary Group. For other cases, significant mark penalties or expulsion from the course will be imposed.

G - Use of Generative AI Tools (Allowed)

The use of generative AI tools is allowed for this assignment.

- *You are expected to provide proper attribution if you use generative AI tools while completing the assignment, including appropriate and discipline-specific citation, a table detailing the name of the AI tool used, the approach to using the tool (e.g. what prompts were used), the full output provided by the tool, and which part of the output was adapted for the assignment;*

- *To take note of section 3, paragraph 3.2 and section 5.2, paragraph 2A.1 (Viva Voce) of the Student Handbook;*

- *The University has the right to exercise the viva voce option to determine the authorship of a student's submission should there be reasonable grounds to suspect that the submission may not be fully the student's own work.*

- *For more details on academic integrity and guidance on responsible use of generative AI tools in assignments, please refer to the TLC website for more details;*

- *The University will continue to review the use of generative AI tools based on feedback and in light of developments in AI and related technologies.*

(Full marks: 100)

Section A (100 marks)
Answer all questions in this section.

Please refer to the Canvas Learning Management System for information about the dataset to be used in this end-of-course assignment (ECA).

Question 1

For the given dataset, create a table that identifies the data type (nominal, ordinal, interval, or ratio) for each variable and justifies the classification. The table should also include the relevant summary statistics for each variable based on its data type: number of observations, mean, median, mode, minimum, maximum and standard deviation. Present your answer in a tabular format.

(20 marks)

Question 2

Inspect the data for quality issues and prepare it using appropriate treatment methods. Explain the identified data quality issues and the treatment methods applied, including relevant screenshots. (Maximum word count: 250 words)

(30 marks)

Question 3

For the treated dataset, create four charts to visualise and explain the key patterns found in the data. Ensure that each of the following chart types or features is used at least once:

• Reference line
• Parameters

Include screenshots of the charts in your report. (Maximum word count: 300 words).

(25 marks)

Question 4

Using the charts created in Question 3, develop a business performance dashboard. Explain how your dashboard adheres to the Dashboard Design Principles. Include a screenshot of your dashboard in the report. Set up *two (2)* relevant Actions (of different types) for advanced dashboard navigation, enabling users to perform some of the following tasks: filtering, highlighting, drilling down or navigating to an external HTTP link. Provide screenshots of the Action settings. (Maximum word count: 300 words)

(25 marks)

----- END OF ECA PAPER -----