ANL201

End-of-Course Assessment – January Semester 2021

Data Visualisation for Business

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INSTRUCTIONS TO STUDENTS:

1. This End-of-Course Assessment paper comprises **EIGHT (8)** 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.

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IMPORTANT NOTE

ECA Submission Deadline: 18 March 2021, 12 noon

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ECA Submission Guidelines

Please follow the submission instructions stated below:

A - What Must Be Submitted

You are required to submit the following TWO (2) items for marking and grading:

- *A Report (you **should submit this item first** as it carries the highest weightage).*

- *The Tableau workbook (.twbx file)*

Please verify your submissions after you have submitted the above TWO (2) items.

B - Submission Deadline

- *The TWO (2) items of Report and Tableau workbook are to be submitted **by 12 noon** on the submission deadline.*

- *You are allowed multiple submissions till the cut-off date for each of the TWO (2) items.*

- *Late submission of any of the TWO (2) items **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 (2) Items Should Be Submitted

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

- *The Tableau workbook:*
  - *Save as .twbx file*
  - *Submit online to Canvas*

- *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 2007 or higher.* *• The report must be saved in **.docx** format.*

2. Tableau workbook	*• The workbook must be saved in .twbx 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.

Tableau Workbook Evaluation Criteria

Effective Communication of Information ☐ **/6**

- Layout, text elements, colour blends, graphical enhancements are effectively used to communicate information.

Clarity and Coherence ☐ **/5**

- Proper flow - title page, introduction, body, results, recommendations / discussion points, conclusion/summary; quick to understand, free from grammatical errors

Integrity ☐ **/5**

- Information presented is not distorted or misleading.

Creativity ☐ **/4**

- Ability to use creative elements to stimulate viewer's engagement and enhance understanding and clarity of difficult concepts.

TOTAL

☐ **/20**

Question 1

Imagine you are the CEO of a retail enterprise that has relied heavily on brick-and-mortar stores for your business presence. In the post COVID-19 world, you have been tasked with the job of transforming the business, which will include, but not limited to, creating a stronger e-commerce presence to deal with the demands of a changing business landscape. As such, you will be preparing materials which you will present to your board of directors on how the business will adapt and exploit opportunities in a post COVID-19 world. You are to make use of real-world datasets for the creation of the materials. Appendix 1 will provide a non-exhaustive list of some websites where you may find relevant datasets.

(a)   Describe your strategy for transforming the business and outline *three (3)* strategic themes the enterprise will embark on over the course of the next three years.

(4 marks)

(b)   For each of the strategic themes listed in part (a), discuss *two (2)* strategic objectives related to each theme. Based on the Balanced Scorecard Perspectives, map each objective to the perspectives, and give your reasons.

(6 marks)

(c)   For each of the strategic objectives listed in part (b), choose *one (1)* Business Performance Measure, and then state a chart that can be used for visualising the measure. Briefly explain how the Business Performance Measures can be derived from your datasets.

(6 marks)

(d)   For each chart that you have described in part (c), you are to use at least *one (1)* of the following techniques:

   o   Trend line
   o   Reference Line
   o   Parameter
   o   Forecast

Each of the aforementioned items must be used at least once. Provide screenshots of the charts in your report.

(18 marks)

(e)   Using the charts created in part (d), develop a dashboard based on the Business Performance Measures described in part (c). You may create more charts if needed to make the dashboard more comprehensive and provide a holistic view of insights from the data.

Illustrate how your dashboard has followed the Dashboard Design Principles. Provide screenshot of your dashboard in the report.

(8 marks)

(f)   Apply *two (2)* relevant Actions for advanced dashboard navigation so that users will be able to perform some of the following actions: filtering, highlighting, drilling down or navigating to an external HTTP link. You should develop *two (2)* different types of Actions. Provide screenshots of the Action settings.

(10 marks)

(g)   Show a storyboard with at least *three (3)* story points. The story points need to provide insight from the data, as well as highlight the strategic themes from part (a) and strategic objectives from part (b). You may create more dashboards to give a more holistic view of the insights from the data set.

Provide screenshots of the storyboard used in your report.

(16 marks)

(h)   Explain the insights your storyboard captured from the data. Analyse how the storyboard communicates more effectively than using just a dashboard.

(12 marks)

SECTION B (Total 20 marks)

Save your Tableau workbook in a single Tableau workbook file in .twbx format and submit to Canvas.

(20 marks)

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

Appendix 1 Websites to look for datasets

- World Bank: https://data.worldbank.org/
- International Monetary Fund: https://data.imf.org/
- Centers for Disease Control and Prevention: https://www.cdc.gov/datastatistics/
- World Health Organisation: https://www.who.int/data/gho
- US Government Data: https://www.data.gov/
- Canada Government Data: https://open.canada.ca/en/open-data
- Singapore Government Data: https://data.gov.sg/