Assessment Two: Data Visualization

Assignment Info

This is a **group** assignment of two (2) to three (3) students and has **four (4) parts**: you are required to produce a **Report**, **Data visualization**, **Video presentation** and **Peer assessment** based on the data sets given.

To work on the assignment, students will be investigating data sets that they have chosen and apply the concepts and techniques to effectively visualize interesting trends and patterns within the dataset.

Module lecturer will provide further instructions on where to obtain the dataset. **Dataset chosen by students must be approved by module lecturer and it must not be the same with other groups.**

At the end of the assignment, the students will be able to:

- Identify data trends and patterns using effective methods and tools
- Utilize data visualization to support data analysis and communicate results

Requirements:

Part One: Report

The report should include the following contents:

1. Structure of report:
   - Cover page
   - Table of content

Due Date:
26ᵗʰ October 2021

Deliverables received after 4 p.m. will results to 10% deduction of marks per working day.

Weightage:
*This assignment will contribute up to **35%** towards final weightage.*

Facilitator:
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Resource:
- *Lecture slides, lecture notes and tutorials.*
- *RapidMiner*

- Introduction/ background study

- Objectives/ purpose

- Data set

- Visualization and findings

- Benefits of data visualization

- Challenges/ recommendation

- Conclusion

- References

The above report structure is not fixed and only acts as an example of how your report structure should be (feel free to follow your own preference and needs).

2. Introduction – background study on the sector or organization the chosen dataset belongs to, description of data context.

3. Objectives - purpose or expected outcome of this report and how it can address a specific issue or hypothesis.

4. Data set description.

5. Data visualization clarification and findings. [This is PART 2 of the assignment]

6. Explanation on the benefits of data visualization.

7. Explain in details any constraints / challenges during the process of visualizing and finding patterns within the data.

8. Conclusions.

9. References.

10. Appendices.

11. Presentation including spelling, grammar, professionalism in documentation, ideas well documented and organization will also be marked.

12. Your report must be a word processing document including **cover page**, **table of content**, **references** and **appendices**.

13. Use a **12-POINT FONT**, the font should be either **ARIAL** or **TIMES NEW ROMAN** and **single** or **1.5 spaces**, and **PAGINATE**.

14. Report must be properly bounded.

15. Submissions **WITHOUT** identity cannot be credited.

16. Assessment must be submitted by the due date and time shown. Late assessment will be penalized to **10% deduction** of the total possible marks for the assessment for one working day

that the assignment is late. Where the assessment is submitted more than one week late, a mark of **zero** shall be awarded.

17. It is the student responsibility to ensure no aspect of their work is plagiarized or the result of other unfair means.

18. Part **ONE** will worth **30%** of the overall assignment.

Part Two: Data visualization

Your data visualization and data story should highlight the following:

1. Students are to graphically convey interesting aspects of the data on **Rapid Miner studio**.
2. Visualize data using basic charts: bar chart, box plot, pie chart, scatter plot or line chart.
3. **Decide when to use each type of charts, and evaluate main concerns on each.** *[The students should know the advantages and disadvantages of using the chosen chart for the visualization].*
4. Investigate what the charts reveals.
5. Find and investigate the **possible causes and/or impacts from the visualization (charts)**.
6. Students are expected to go through the dataset and do analysis on it. Your visualization in this report should consist at least **five (5) to eight (8) possible story and analysis**.
7. Part **TWO** will worth **55%** of the overall assignment.

Part Three: Video presentation

Requirements for Video

1. Introduce the industry and dataset chosen and why the group decided to choose it.
2. The group should be able to **cover all the main points** of the report in the video.
3. Presenter should be able to **explain** and **justify** the points from their findings and visualization.
4. **All group members** must be included in the video (voice only).
5. Video length is a **maximum of 20 minutes**.
6. HD videos are not recommended as it will increase the video size.
7. You can save the video in **MP4 format** or other suitable format.
8. Part **THREE** will worth **10%** of the overall assignment.

Part Four: Peer assessment

1. Students are to complete peer assessment form from the LMS and submit individually to the assignment link during the submission date.

2. Part **FOUR** will worth **5%** of the overall assignment.

Plagiarism

Do take note of this serious matter. Your proposal report should be formatted according to APA Referencing Guide only. Any plagiarized work by default will result in failure to comply of '0' or 'Fail'.

Submission

a. The report and peer assessment should be submitted **by 4 pm, Tuesday, 26th October 2021**, to module facilitator via **PBLMS online submission**.

b. Document should be renamed according to the format:

DAS_AS2_StudentID01_StudentID02_StudentID03.pdf

Example: DAS_AS2_19FTT123_19FTT124_19FTT125.pdf

c. **No hardcopy submission is required for this assignment.**

d. Students are advised to check on the document before submission. **A penalty of up to 30% marks deduction for submission of corrupted files.**

e. Cover page: Consist of student Full Name, Student ID Code, Programme, Submission Date and any relevant necessary information.

Grading Criteria

The assignment has a weightage of **35%** and the following aspects will be evaluated in the assignment:

Task	Weightage (100%)	Guide to score full marks
Part One: Report (30%)		
Total marks: 30 marks		
Introduction	3 marks	• A brief summary on research made online and offline with regards to data visualization. • Background study • Introduction on the description of data context and its purpose. • Shows an in-depth understanding on what the expected reader will understand

		throughout the whole report
Report structure	2 marks	Proper document formatting – cover page, font and report professionalism.
Reasoning of the report	3 marks	• Evidence of critical thinking. • Relevant justifications. • Understanding of assignment requirements.
Objectives	3 marks	• The purpose of communicating analytics results to the audience. • Expected outcome of this report and how it can address a specific issue or hypothesis.
Data set description	3 marks	• Describe the dataset being use. • Explain why the dataset is selected.
Benefits	4 marks	Explain the benefits of data visualization for readers, decision making etc. [Minimum six (6) benefits]
Challenges and recommendation	4 marks	• Explain any constraints / challenges during the process of visualizing and finding patterns within the data. • Provide recommendation based on the findings.
Conclusion	3 marks	• Must conclude the summary of what the report is all about. • Reviewing the evaluation of the report. [minimum three (3) points]
Quality of content and information	3 marks	• The contents include a clear statement of the purpose of the report. • Accurate contents and information. • A rich variety of supporting information in the report contributes to the understanding of the data visualization.
References	1 mark	References well-presented according to APA standard and styles.
Appendices	1 mark	Any extra information, images, graphics, graphs/charts to be inserted here.

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Part Two: Data Visualization (55%)		
Total marks: 55 marks		
Rapid Miner studio	2 marks	Evidence of using Rapid Miner
Pattern	8 marks	• Presentation of interesting pattern in the dataset. • Present of inter-relationships among data variables.
Data visualization explanation	20 marks	• Present of summary table and visualization which was most interesting or insightful. • Explanation of what each data reveals, communicate or trends. • Comments or feedback of findings.
Chart used	9 marks	• Effective use of charts • Visualize data using basic charts: bar chart, box plot, pie chart, scatter plot or line chart
Chart evaluation	8 marks	Evaluation of each type of charts being used, and evaluate main concerns on each.
Analysis and visual exploration	8 marks	Visualization consists of a possible story and analysis of at least five (5) to eight (8).

Part Three: Video Presentation (10%)		
10 marks		
Presentation professionalism	2 marks	Visualizations and report must be well presented, and covered all the main points from part 1 and 2 within the video with proper explanations and justification.
Coverage of contents	3 marks	
Credibility of information	2 marks	
Structure of presentation	2 marks	
Duration	1 mark	

Part Four: Self Reflection (5%)		
Total marks: 50 marks		
Peer assessment	50 marks	Completed peer assessment form given by module lecturer during the submission date

- END OF BRIEF -

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