***Graphical user interface

Description automatically generated with medium confidenceDIPLOMA IN DATA ANALYTICS CO-OP***

**Data Design**

**Final Group Project**

**Instructions**

* This is a group assignment worth 35% of the final grade. You will be working in the groups to which you have been assigned on Canvas.
* You are required to upload the following deliverable on Canvas:
  + Under Project Submission:
    - Final Report – One Word File [worth 20% of the final grade]
    - One Excel File (xlsx) and One Power BI file (pbix) [worth 10% of the final grade]
  + Under Project Reflection:
    - Individual Reflection and Peer Evaluation - One Word file [worth 5% of the final grade]
* Read each section carefully and provide answers.
* You MUST use this word file to structure your final report. Use the Individual Reflection and Peer Evaluation template to submit the individual portion of the assignment.
* This is a business report; Therefore, the report must be professionally presented. The enclosed report section has the following specification:
  + Line space: 1.5.
  + Margins: Moderate setting (top/bottom: 2.54cm and left/right: 1.91cm).
  + Font: Times New Roman
* Due date: October 16, 2022.
* Toronto School of Management (TSoM) requires students to maintain high standards of academic integrity. Students are responsible for conducting themselves honestly and ethically in all aspects of their academic career and for becoming familiar with this policy and abiding by all aspects of it. To support academic honesty at TSoM, all work submitted by students may be reviewed for authenticity. In submitting their own work to TSoM, students consent to their submissions undergoing such a review and being retained in a database for comparison with other work submitted by fellow students.

**PROJECT REQUIREMENTS**

**Goal:** Demonstrate proficiency in Data Design, Data Project Management, and Excel and Power BI.

1. Your goal is to analyze a ***real-world or simulated case*** to achieve a series of objectives laid by your group members by executing a data-driven project.
   1. You are required to design a Power BI Solution with multiple Power BI pages (FINAL PRODUCT) for the organization that you choose to work with.
   2. The case you pick/design must be complex enough to act as a source to discuss ALL the topics of the business report prescribed below.
   3. The dataset must carry multiple entities/tables (at least 6), multiple attributes/columns in each entity/table, and at least 6,000 observations/rows (in total).
2. You are required to upload the raw data file (excel file) and fila Power BI report file (pbix). However, this report may carry references to the data tables, calculations in Power BI, and Power BI Visuals.

**TASK 1: Business Report [20% of the final score | Marks out of 100 | 10 Marks for Report Quality]:**

1. Executive Summary ***[350 Words: 5 Marks]***
   1. Summarize the structure, content, and conclusions of the report.
   2. DO NOT include any references.
2. Table of Content
3. List of Figures
4. List of Tables
5. Introduction ***[400 Words: 5 Marks]***
   1. Briefly introduce the case, key concepts involved, and report structure.
6. Business Case and Objectives ***[500 Words: 10 Marks]***
   1. Briefly describe the background of the case study.
   2. Include some background information about the organization.
   3. Who are the business stakeholders (if simulated, use your imagination and assumptions) who shall be utilizing your final product?
   4. Clearly state at least FIVE business objectives of undertaking this project.
7. Data Understanding and Objectives ***[500 Words: 10 Marks]***
   1. What are your data sources?
   2. What is your final integrated data design? You MUST include an ***Entity Relationship Diagram*** and briefly explain it.
   3. Clearly state ALL the analytical objectives of the project. These may later be converted into the functional requirements of the final product.
8. Project Plan
   1. Project Management Methodology ***[300 Words: 5 Marks]***.
   2. Project/Product Scope – Functional Requirements of the Final Product. You MUST aim to design at least four Power BI pages and 20 Power BI data visualizations (excluding graphics and text boxes). ***[500 Words: 10 Marks]***
   3. Project Schedule. ***[250 Words: 5 Marks]***
   4. Budget (you may use assumptions, i.e., what if you were to be paid?). ***[250 Words: 5 Marks]***
   5. Product Quality - Non-functional Requirements of the Final Product. ***[300 Words: 5 Marks]***
   6. Deployment – what are your deployment goals and how are you going to achieve them? ***[300 Words: 5 Marks]***
9. Data and Final Product Features (Final Product Documentation) ***[1,000 Words: 20 Marks]***
   1. Briefly explain how the dataset has been integrated into the final product.
   2. You may convert the functional requirements to product features and explain them using user scenarios and screenshots of the final product (Power BI report).
10. Recommendations and Future Work ***[500 Words: 5 Marks]***
    1. Provide the organization with at least 5 recommendations. These can be related to improving your product or launching other data-driven projects.
    2. Explain the measures the organization may have to take to implement those recommendations.
11. References
    1. Please follow the standard Microsoft APA referencing style.

**TASK 2: Prepare and upload the Excel Data File and Power BI Report File (Final Product Package).** **[10% of the final score | 50 points]:**

1. ***[10 Marks]*** The excel data file must be structured well. The tables must be properly named in separate sheets and the entire workbook must demonstrate your quality of work.
2. ***[10 Marks]*** Power BI data model must match your ERD.
3. ***[30 Marks]*** Each feature explained in your final report must be there in the final Power BI product and all the product features must be discussed in the final report. The final product must demonstrate high quality with proper use of measures, calculated columns, DAX functions, relevant visuals, and filter mechanisms.

**TASK 3: Individual Reflection and Peer Review. [5% of the final score | 25 points]:**

1. Each student on your team must write their independent reflection on the project. Your reflection article ***should be no more than 2 pages*** (excluding the peer evaluation) and must be uploaded separately. Your task:
   1. ***[8 Marks]*** Choose a topic from the module that you found interesting and explain it.
   2. ***[7 Marks]*** Explain how well the chosen topic was applied in the project.
   3. ***[5 Marks]*** Explain the strengths the team demonstrated when executing the project.
   4. ***[5 Marks]*** Discuss the areas to improve when working in this group.
2. Complete and include the peer evaluation.

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***DIPLOMA IN DATA ANALYTICS CO-OP***

**Data Design**

**Final Group Project**

**Project Name: <Project Name>**

**Group Name: <Group Name>**

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**Marking Rubric**

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| --- | --- | --- | --- | --- | --- |
| Question | 0-10% | 20-50% | 50-75% | 75-100% | Final Marks |
| PROJECT REPORT | | | | | |
| Section | The answer does not meet the question’s requirements. Invalid or incorrect answer. | A poorly written answer that demonstrates the lack of understanding of the subject matter. The section addresses some of the topic’s objectives. The answer has major grammatical errors. | A good piece of writing that answers the question well. The answer addresses most of the underlying subject matters of the question. The section addresses most of the topic’s objectives. The answer has limited grammatical errors. | An exceptional answer that covers all the underlying subject matters of the question. The answer exerts critical thinking and includes examples. The section addresses all of the topic’s objectives. The answer has no grammatical errors. | **Marks** |
| Executive Summary | 0-1 | 2 | 3 | 4-5 |  |
| Introduction | 0-1 | 2 | 3 | 4-5 |  |
| Business Case | 0-1 | 2-5 | 6-8 | 9-10 |  |
| Data Understanding | 0-1 | 2-5 | 6-8 | 9-10 |  |
| PM Methodology | 0-1 | 2 | 3 | 4-5 |  |
| Project/Product Scope | 0-1 | 2 | 3 | 4-5 |  |
| Project Schedule | 0-1 | 2-5 | 6-8 | 9-10 |  |
| Budge | 0-1 | 2 | 3 | 4-5 |  |
| Product Quality | 0-1 | 2 | 3 | 4-5 |  |
| Deployment | 0-1 | 2 | 3 | 4-5 |  |
| Product Features | 0-2 | 3-10 | 11-15 | 16-20 |  |
| Recommendations and Future Work | 0-1 | 2 | 3 | 4-5 |  |
| Report Format/ Quality | 0-2: Poor quality | 3-4: Structure is maintained | 6-7: Structure is maintained. Accurate referencing. Page numbers. | 8-10: Structure is maintained. Accurate referencing. Page numbers. High-quality presentation. |  |
| Total (Out of 100) | | | | |  |
|  | | | | | |
| Product Package | | | | | **Marks** |
| Excel Data | 0-3: Invalid Response. | 3-5: A poor dataset - Less than 3 entities and less than 400 rows. Poor quality workbook. | 5-8: A good dataset. Less than 6 entities or less than 1000 rows. Good naming standards and workbook structure. | 8-10: A High-quality dataset. At least 6 entities, multiple attributes/columns in each entity/table, and at least 1,000 rows. Tables and sheets are properly named and structured. No calculations in Excel. |  |
| Power BI Data Model | 0-3: Invalid Response. | 3-5: A poor quality data model with poor use of calculated tables. ERD and the model have many dissimilarities. | 5-8: Good-quality data model with good use of entities and calculated tables. The model reflects the ERD to a greater extent. | 8-10: High-quality data model with the optimum use of entities and calculated tables. The model matches the ERD. |  |
| Power BI Report Solution | 0-6: Invalid Response. | 6-15: Poor quality solution that is substantially drifted from the project objectives and requirements. | 15-22: Most of the features explained in the final report are evident in the solution and vice-versa. A good solution with acceptable use of Power BI features and tools. Include less than 4 pages and 20 data visualizations. | 22-30: All the features explained in the final report are evident in the Power BI solution and vice-versa. A high-quality solution with proper use of measures, calculated columns, DAX functions, relevant visuals, and filter mechanisms. Include at least 4 pages and 20 data visualizations. |  |
| Total (Out of 100) | | | | |  |

<Your Report Starts Here>