Business Intelligence

Project Handout 1st Assignment

Spring Semester 2022

This handout details the rules for the 1st Delivery of the Business Intelligence practical project.

Project Intermediate Delivery Deadline: April 15th

Project Group: 3 to 4 students

Project Summary

This project is meant to reinforce the conceptual knowledge that you'll be acquiring throughout the course, asking you to apply core concepts of business intelligence tools and methodologies to deliver an end-to-end Self Service BI solution to support strategic, tactical, and operational business decisions for the case study of a major technology retail company.

During this first delivery of the practical project, each group is expected to develop a proper Dimensional Model that will be the basis to support the different level of business decision makers. Additionally, you will have to write a .pdf report to describe, in detailed fashion, the work your group carried out.

Group Rules

The project should be done in a group of between three (3) to four (4) students; we consider this the ideal size for group work, and do not allow other sizes.

Should you constitute groups of size other than 3-4 members, you will be subjected to the following penalties:

> ➢ For each member in excess or below the stated size (3 to 4 members): penalty of **1.5 points** (out of 20 total points) in final project grade.

For example: should you choose to constitute a group of 6 members, your final project grade will be penalized in 3.0 points (out of a possible maximum grade of 20 points).

The only allowed exceptions that will be made regarding group size will be for situations beyond the control of the group members (for example, one of the students dropping out of the course) and will be evaluated on a case-by-case basis.

You are allowed to have group members from different BI classes.

Source Data

Each group will follow the same use case as the foundation for this project. In addition to the shared datasets, feel free to add your own data sources, such as relational databases, excel files, flat files, online datasets, etc. if you think that will increase the value of the project.

The source data contains the following features (some of these will become clear as the course progresses, and you become familiar with business intelligence terms):

- Some sort of transactional records that can represent quantifiable facts, to be used in your future dimensional model; In terms of BI, transactional means data that is used to count, sum, or otherwise keep track of quantities of something that the organization deeply cares about.

- The quantifiable data that will make up the facts of your multidimensional solution represents several years of transactional history.

- Enough attributes (characteristics) so that you can extract at least 4 (four) dimensions from the source data, according to the dimensions criteria for the project. The characteristics that you will be setting up as dimensions of your model should provide you with the ability to set up different hierarchies in the different dimensions.

- The submitted solution, to be run by your teacher and BI4ALL Team, should address the defined requirements in the **Project Scope** (Project_Scope_BI_20222.pdf).

Project Deliverables and Solution Requirements:

Intermediate Delivery – 9 points (out of 20):

Your group must deliver the following elements:

1. An intermediate **.pdf report,** containing the description of the following points:

   i. Introduction and **Presentation of Business/Organization** (making use of statistical data and descriptive aspects).

   ii. Identification of **Business Needs and Problem** (including the context behind the informational problem that the DW/BI system is going to solve).

   iii. Description of the source data and discovery process.

   iv. Description of the **data modelling methodology** followed (Kimball, Moody and Kortink, etc.)

   v. Description of the developed Dimensional Model.

   vi. Description of the most important **data engineering applied steps** in Power BI.

2. A **Power BI (.pbix file),** containing:

   i. All data sources integrated in **a single Dimensional Model** (following key data modelling best practices).

   ii. The dimensional model (star schema is recommended) must feature:
      a. At least **4 dimensions**, one of which must be a **Date dimension**.
      b. At least **one Fact table**, featuring at least **3 transactional columns (business metrics)**.

   iii. The Date dimension should be developed integrally inside Power BI.

   iv. During the data engineering work, you should use at least **1 parameter**.

Final Notice:

- **failure to deliver on time will incur a 1 point penalty for each late day** (for example, 4 late days will accrue a 4.0 point penalty).
- **Failure to comply with the delivery guide** (no proper naming of objects, duplicated or unclear files, improper folder configuration, etc.) will meet with a **0.5 point penalty**.

Questions and Clarifications

Should it be necessary, don't hesitate to seek help from your Lab teacher, or post a question on the Moodle project forum.

Good luck with your project!