

MAKERERE UNIVERSITY BUSINESS SCHOOL
FACULTY OF GRADUATE STUDIES AND RESEARCH
DEPARTMENT OF APPLIED COMPUTING AND INFROMATICS
PGD BUSINESS INTELLIGENCE AND DATA ANALYTICS
PGDBD 5107 Data analysis, Visualization and Decision Making
ACADEMIC YEAR 2025/26 MODULE III
MODULE III PROJECT

Project Title

Integrated Data Analytics & Decision-Making Dashboard for a Real-World Business Problem

Project Purpose

The capstone project requires students to apply the entire analytical workflow learned throughout the course i.e. data cleaning, EDA, visualization, predictive analysis, and dashboard design; to create an integrated Business Intelligence (BI) dashboard system.

Project Scenario

Students select one real-world dataset from any domain such as Sales, Finance, HR, Health, Operations, Education, or Public Sector Data. The dataset must support EDA, visualization, predictive modeling, Excel dashboards, Python dashboards, and reporting.

Project Requirements

Part 1: Assignment 1

A. Data Preparation (Excel)

- i. Cleaned dataset in Excel (missing values handled, outliers treated, standardized columns).
- ii. Data dictionary included.

B. Exploratory Data Analysis (Excel)

- i. Excel EDA using pivot tables, pivot charts, summary statistics.
- ii. Correlation and regression basics.
- iii. Insight summary identifying trends and anomalies.

C. Visualization & Dashboarding (Excel)

- i. Excel dashboard with at least 4 interactive charts, slicers, KPI cards, and a clear layout.
- ii. Responsive layout and professional styling.

D. Predictive & Prescriptive Analytics (Excel)

- i. Predictive model in Excel (regression, forecasting, or relevant model).

- ii. Forecast predictions integrated into dashboards.
- iii. Excel What-If analysis or scenario modeling.

E. Executive Insight Report (5–10 pages)

- i. Business problem statement and context.
- ii. Dataset description and cleaning summary.
- iii. Key EDA findings.
- iv. Dashboard screenshots and interpretations.
- v. Predictive model results.
- vi. Recommendations and limitations.

Assessment Breakdown

Component	Weight
Part 1: Assignment 1	
Data Preparation	10%
EDA & Insight Summary	10%
Excel Dashboard	10%
Predictive Analytics	10%
Executive Insight Report	10%

Time lines

- 1. 21st March 2026 submit Assignment 1

End