

Business Intelligence - EBUS3030

Assignment 2

Assignment Outcomes

This assignment requires multiple outputs to be created to exhibit your understanding of business intelligence/data analysis through an example ‘real world’ question that is comparable to what you may be asked of you as you become an IT professional.

Key outcomes to be delivered are: Data Modelling/ETL to get the data in a usable format, Output of your analysis, Report summarising your findings and a presentation to the class of your work. The presentation is expected to concentrate more on your findings/recommendations as if it were a situation where you are presenting the response to the CEO.

Assignment Question

The CEO of ‘BIA Inc’ had been speaking to the Sales Executive and had heard about some recent work you had completed and thought you might be able to assist them with a problem they have.

“I’ve heard that you helped the Sales Exec recently with understanding more about our Newcastle site. I would now like your help to get a handle on the whole business. As you are aware, the Newcastle office is just 1 of 10 sites we have across the country. Unfortunately, sales in some items have dropped across the country in recent years and we are currently running at a loss.

We need to consider consolidating our company offices. We need to reduce costs for the longevity of the company as a whole. I need you to get some numbers together around the performance of our 10 offices, so that I can factor this information into any decision regarding which office (or offices) we might consider closing.

I would like a summary of recent numbers and some trend analysis as well please. It would be great if you could also project sales for the next 12 months for each office as well. It would be helpful if you could indicate the 3 most popular and 3 least popular items in each of our stores, as well as the worst performing items for the company as a whole.

As you can imagine, this is a very sensitive topic so, as part of your response I want you to provide the justification as to which office we may close. Our decision will upset some people and I want to make sure we have all the background information on hand. If you can provide a Ranking of offices based on your analysis that would be wonderful.

.... I believe you started to bring together a data store of this information from the Newcastle Office, can you expand that and load all of the sales information for all offices and complete your analysis.

Assignment Deliverables

Using the data file provided in Excel and notes about the data (*Assignment 2 – data.xlsx*), you are required to complete the following elements as part of the assignment.

- Data Model/Data Load Process
 - Provide an overview of the data model & ETL process completed to get the data ready for analysis
 - Ensure you record any assumptions you have made as part of this component and your reasoning behind the assumption.
- Analysis including any predictive work undertaken
 - Provide the SQL and raw output of your base analysis
 - Provide workings of the predictive work you completed for the trending & prediction on future sales.
 - Ensure you record any assumptions you have made as part of this component and your reasoning behind the assumption (this includes answers to any relevant questions put to management (your lecturer) during workshops.

- Executive Summary & Presentation in response to business question.
 - Provide an Executive report and Dashboard
 - Your Executive report should include a short Executive brief/summary that presents a clear concise response back to the CEO question about possible downsizing of operations including evidence/justification.
 - A dashboard should allow quick comparisons between the sites to be undertaken as well as contain at least one element of 'predictive' analysis
 - Present the material as if it is to be consumed in a formal boardroom meeting
 - All members of the team need to participate in a (15 – 20 minute) presentation to be given as part of the lab in Week 11.
 - Please be aware that any of the company Executive may ask questions as you present your findings.

NB: As part of your response, you should also specifically include any assumptions/external information you have made/used throughout the process as well as any quality processes/checking you have completed or limitations you discovered.

Breakup of assignment Marks (total course mark for assignment = Assignment Part B submission (28% + Presentation Two (7%) = 35%).

Assignment Component	Percentage Allocation
Data Model/ETL	10%
Core Analysis	50%
Executive Summary/Evidence	25%
Dashboard	15%
	100%

Key Documents Required & Format

You are required to upload all files in a single zip file (including any presentation items for the team delivery within the lab) via blackboard to the Assignment Two drop folder by 12 noon, Thursday 25th October. You will also be required to submit a paper copy of your report at the beginning of the presentation workshop (make sure this is printed well before the workshop and has a group Assessment Cover sheet signed by ALL team members).

NB: Only 1 load per team only but it should contain all of the deliverable items.

Your data model should include a printout of an ER diagram using the notation described in lectures. It should also include a printout of your SQL schema showing Primary and foreign keys, as well as all attributes.

Your presentation is worth 7% of the course mark. It should simulate presenting the report to management. You should time your presentation to be between 12-15 minutes with 5-10 minutes for questions. Your presentation should include a demonstration of your dashboard, results and recommendations from your analysis. Your presentation marks will contain components for organisation, comprehension of presented results, and timing.