

Assessment Brief Form

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| Module Title: | Data Management |
| Module Code: | CI330 |
| Author(s)/Marker(s) of Assignment | Jennie Harding |

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| Assignment No: | 1 |
| Assignment Title: | Individual Coursework |
| Percentage contribution to module mark: | 40% |
| Weighting of component assessments within this assignment: | 100% |
| Module Learning Outcome/s Covered: (Refer to module syllabus) | LO4 exploit enterprise data to gather business intelligence |

Assignment Brief and Assessment Criteria:

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| Assignment Brief | To explore the role of Data Mining in a large organisation |
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| Date of issue: | w/b 04/11/2019 |
| Deadline for submission: | 11/03/2020 before 1500h (Brighton) HAND IN METHOD Electronically through TurnItIn ^[3] |
| Method of submission: | e-submission through TurnItIn |
| Date feedback will be provided | 09/04/2020 |

1. A copy of your coursework submission may be made as part of the University of Brighton's and School of Computing, Engineering & Mathematics procedures which aim to monitor and improve quality of teaching. You should refer to your student handbook for details.
2. All work submitted must be your own (or your team's for an assignment which has been specified as a group submission) and all sources which do not fall into that category must be correctly attributed. The markers may submit the whole set of submissions to the JISC Plagiarism Detection Service.
3. Note - Students are allowed to submit work within two weeks of the published deadline or the last working day immediately prior to the feedback date if this is shorter than two weeks – late work is capped at the pass mark.

COURSEWORK TASKS

You will use the databases AdventureWorks and AdventureWorksDW_ci330 for this assignment (Microsoft SQL Server running on cssql server)

You must adopt the role of a Business Intelligence Analyst and write a report for the AdventureWorks organisation.

Deliverables

On or before the deadline you must submit a **single document in PDF format** through the TurnItIn system on Student Central. There is a 1200 word limit. It should not contain your name as we will be undertaking anonymous marking. The document should be a formal, report covering the following elements.

Tasks

Consider the diagram in *Figure 1: The Crisp-DM Model*, examine the ERD (Entity-Relationship Diagram) for the *AdventureWorks* database (Microsoft, 2005) and review the *AdventureWorks_DW_ci330* database (MS SQL Server, hosted on the *cssql* server).

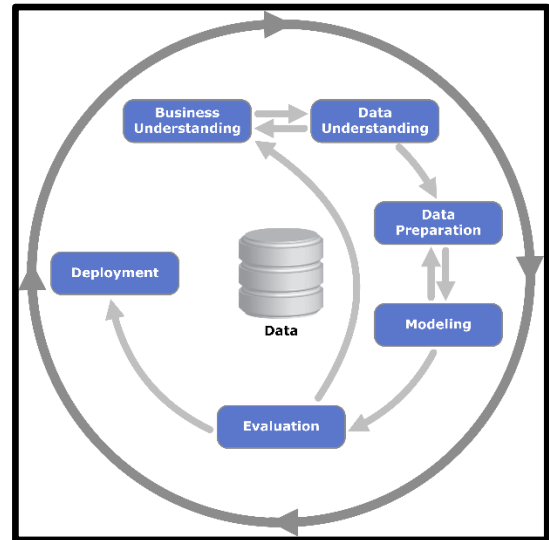


Figure 1: The Crisp-DM Model (IBM, 2012)

Your report should document the following tasks:

Business Understanding: Select a *functional area* of the business, and pick a business objective to investigate. State this clearly.

Data Understanding and Preparation: In a table, state the source of the information from the *AdventureWorks* operational database (or elsewhere) and indicate how the data would need to be transformed for its inclusion in the data warehouse.

Data Modelling: There are two sub-tasks here:

- Design a *star schema* that is suitable for your investigation, identifying facts and dimensions. You may use dimensions already available in the *AdventureWorks_DW_ci330* database, or create your own.
- Undertake a *data mining* activity to investigate your business objective. (NOTE: you should store this until after the marks are returned, as you may be asked to evidence it further*.)

Evaluation: State how the outcomes of your research could be used to improve the performance of the business, with practical examples.

**only after marking is completed, to confirm any queries about the data mining activity*

REFERENCES

IBM, 2012, *CRISP-DM Help Overview*, [online], available at:

https://www.ibm.com/support/knowledgecenter/en/SS3RA7_15.0.0/com.ibm.spss.crispdm.help/crisp_overview.htm

Microsoft, 2015, *AdventureWorksOLTPSchema*, [online], available at:

<https://www.microsoft.com/en-gb/download/details.aspx?id=10331>

END OF TASKS

SUMMARY MARKING CRITERIA*

| | <i>Factors contributing to a higher grade</i> | <i>Minimum for a pass grade</i> |
|---|--|---|
| Legal and Ethical Issues | There is a discussion of legal and ethical issues related to data mining, completely relevant to the case study. This work is at professional standard. | There is a brief discussion of legal and ethical issues related to data mining - general rather than relevant to the case study |
| Business Intelligence (40%) | The ways that the business could gain business advantage from the data are discussed in a clear and concise way. The practical element is distinct from the classroom exercises. It would be possible to use this report to help make informed decision about the adoption of data mining for this business. | Some relevant material is included that could be of benefit. The practical element is largely based on the classroom exercises. There are some minor issues with any THREE of the following, or major issues with TWO -analysis is fully justified with reference to case study -selection of appropriate algorithms -consideration of legal / ethical issues -how information could be used -possible uses for information discovered |
| Star schema for design of the data warehouse (20%) | The fact table contains a relevant and useful fact or facts for analysis purposes. ALL dimensions are correctly designed and relevant to the case study. Foreign keys are correctly placed. The diagram is clearly presented and easy to read. | Issues with any TWO of the following: -Star schema is formally incorrect (e.g. placement of keys) OR -issues with facts OR -usefulness of fact selected |
| Report Presentation | The report is well structured, clearly presented and an appropriate length. The analysis is fully justified with reference to appropriate literature and to the case study. It is at a professional standard. | There are minor issues with <i>all</i> of the following, or major issues with <i>two</i> : -length of report -literature referencing -application to the case study |

**full criteria can be found on the StudentCentral assessment page*