Coursework 2 Individual Report

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| Coursework 2 Individual Report | |
| **Module code** | CST3340 |
| **Module title** | Business Intelligence |
| **Submission date, time** | Midnight on Friday 13th December 2024 via the online submission link on MyLearning. |
| **Feedback type & date** | Formative Feedback during lab session in week 12.  Online summative feedback will be available on MyLearning. |
| **Word count** | MAX 2500 words |
| **Assignment type** | *R*eport based on analysis of a dataset of your choice.  **This is an individual report.** |
| **Assignment structure and format** | **You are required to analyse a large data set of your choice, which has been agreed with your module tutor:**  Your project may use any combination of data analysis techniques, data-mining algorithms and software that has been covered in the module. You may also apply them to any aspect(s) of the dataset for knowledge discovery.  You should cover the areas indicated below and your findings should be presented in the form of a report of **2500 word**.  Please see below the aspects that you should consider:   * Introduction (10 marks)   + Brief overview of your dataset   + Discussion of any cleaning undertaken on the dataset. * Data Analysis and Visualisation (35 marks)   + Initial analysis of the data using visualisation techniques within Tableau (use diagrams/graphs to highlight important patterns/findings).   + Discussion and interpretation of result.   + Discussion of overall trends and patterns observed. * Selection of Data Mining Algorithm and Data Pre-processing   (10 marks)   * + Select one data mining algorithm suitable for further analysis of your data.   + Clearly justify your choice, with reference to the visualisation analysis carried out.   + Identify and resolve any anomalies in the data (i.e. missing values, outliers etc.).   + Carry out any appropriate pre-processing/transformations to the data set. * Data Mining (25 marks)   + Use the chosen data mining algorithm for further analysis of your pre-processed data set.   + Clearly discuss the implementation of the data mining algorithm.   + Discuss and interpret the results. * Data Ethics (10 marks)   + A discussion of data ethical issues related to the analysis and use of business data. * Conclusion (10 marks)   + A discussion of the overall visualisation results (e.g. What were the important findings? Summary of overall trends and patterns).   + A discussion of the data mining results (e.g. How well did the model fit your data?).   + A discussion of the business intelligence that can be obtained from these results. * References: A list of references using Harvard Referencing. See <http://www.citethemrightonline.com>. * Presentation: Clearly presented with limited spelling and grammatical errors. |
| **Assessed learning outcome (s)** | **Learning outcomes:**  **Knowledge**  On successful completion of this module, the student will be able to:   1. Critically evaluate different business intelligence concepts and techniques to recommend an appropriate approach for incorporating business intelligence in the business decision making process. 2. Critically evaluate current business intelligence tools suitable for data analysis and mining in a range of business application areas 3. Demonstrate knowledge and understanding of the professional, legal, social, and ethical issues related to the use of business intelligence technologies.   **Skills**  On successful completion of this module, the student will be able to:   1. Identify relevant data intelligence techniques for addressing a variety of business decision problems. 2. Apply contemporary business intelligence tools for information retrieval, data presentation, data visualisation and pattern recognition. 3. Professionally present results from the business decision making process, verbally and in writing. |
| **Module weighting %** | This coursework is worth 40% of the final grade for this module. This assessment mark will be given as a percentage. |
| **Key reading and learning resources** | Lecture slides and lab exercises.  Coursework books.  Further reading suggested during lectures. |

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| Coursework 2 Individual Report marking criteria rubric. | | | | | |
| **Criteria** | **1-4 First** | **5-8 Upper Second** | **9-12 Lower Second** | **13-16 Third** | **17-20 Refer** |
|  | **70%+** | **60%-69%** | **50%-59%** | **40%-49%** | **Less than 40%** |
| **Introduction (10%):**  A clear rationale for the chosen dataset and cleaning carried out. | Outstanding discussion and justification of chosen dataset and cleaning carried out. | Thorough discussion and justification of chosen dataset and cleaning carried out. | Evidence of some discussion and justification of chosen dataset and cleaning carried out. | Adequate discussion and justification of chosen dataset and cleaning carried out. | Discussion and justification of chosen dataset and cleaning carried out is inadequate. |
| **Discussion: Data Analysis and Visualisation (35%)**  Relevant and informative, applying depth of knowledge and understanding. | Excellent and well-informed understanding of techniques and concepts involved. | Good understanding of techniques and concepts involved. | Demonstrates satisfactory knowledge and  understanding of techniques and concepts. | Adequate content; limited depth of knowledge and understanding shown. | Inadequate content; limited depth of knowledge and understanding shown. |
| **Discussion: Selection of Data Mining Algorithm and Data Pre-processing (10%)**  Relevant and informative, applying depth of knowledge and understanding. | Excellent and well-informed understanding of theories and concepts involved. | Good understanding of theories and concepts involved. | Demonstrates satisfactory knowledge and  understanding theories and concepts. | Adequate content; limited depth of knowledge and understanding shown. | Inadequate content; limited depth of knowledge and understanding shown. |
| **Discussion:**  **Data Mining (25%)**  Relevant and informative, applying depth of knowledge and understanding. | Excellent and well-informed understanding of theories and concepts involved. | Good understanding of theories and concepts involved. | Demonstrates satisfactory knowledge and  understanding theories and concepts. | Adequate content; limited depth of knowledge and understanding shown. | Inadequate content; limited depth of knowledge and understanding shown. |
| **Discussion:**  **Data Ethics (10%)**  Relevant and informative, applying depth of knowledge and understanding. | Excellent and well-informed understanding of theories and concepts involved. | Good understanding of theories and concepts involved. | Demonstrates satisfactory knowledge and  understanding theories and concepts. | Adequate content; limited depth of knowledge and understanding shown. | Inadequate content; limited depth of knowledge and understanding shown. |
| **Conclusion (10%):**  Clear conclusions from the literature and topics discussed in the work. | Tightly structured, logical and draws coherent conclusions to the topics covered. | Undertakes a systematic analysis of the issues and draws coherent conclusions to the topics covered. | Clear conclusions to the topics covered. | Adequate conclusions to the topics covered. | Inadequate conclusions to the topics covered. |
| **References: for all above sections.**  Reference to sources including directions for further study. | Broad and relevant readings examined and used selectively in the work. | Good range of appropriate references used during the review. | Conventional references and readings used within the review. | Adequate but limited use of references during review. | Review relies on no or one reference; evidence of unexamined personal opinion. |
| **Presentation: for all above sections.**  Clearly presented with limited spelling and grammatical errors. | Very well expressed and understanding of content with limited spelling or grammatical errors. | Very well expressed; good understanding of content with some spelling and/ or grammatical errors. | Well expressed; understanding of content with many spelling and/ or grammatical errors. | Simple expression of information; little understanding of content; several spelling and grammatical errors. | Inaccurate expression of information: lacks understanding of content; many spelling and grammatical errors. |

The following table details the support you will be receiving for this assignment and the feedback opportunities you will have.

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| Support and draft feedback sessions for Coursework 2 Individual Report |
| **Coursework briefing**  An assessment briefing will take place during the labs in week 12*.* |
| **Draft feedback opportunities**  Formative Feedback will be given on student’s draft reports during the lab sessions in Week 23. |
| **Additional support**  *LET general workshops* |