

**IS453 Financial Analytics**

**Group Assignment**

**1. Overview**

Your group has been hired as a data analytics consultant to help a start-up Fintech lender develop a credit scorecard that it can use to evaluate credit applicants. They have purchased a sample set of customer credit data. You have been tasked with identifying a customer segment that the Fintech company would be well suited to lend to and the relevant subset of data that can be used for credit analysis. You will then go on to develop and deliver a credit scorecard and present the results to the management team in both the form of an oral presentation and report.

Objectives:

1. Identify a business opportunity and explain how credit analysis data analytics can help exploit a market opportunity and support a profitable business proposition
2. Get the audience to understand and have confidence in your data analysis approach
3. Propose the next steps for rolling out and testing the scorecard that you develop and highlight any potential risk and pitfalls and how they can be mitigated

The dataset you will use is in eLearn Week 10 content: “IS453 Group Assignment - Data.zip”.

All project work must be original and no use of AI tools (e.g. ChatGPT) is allowed.

**4. Project Tasks/Deliverables**

**Group Formation**

Form a group of around five students by the end of Week 10. This is a group project and each member will get the same overall score. Those students without a group at the end of Week 10 will be assigned to a group.

**Checkpoint (0% of overall class grade)**

Each group will prepare a few slides to share the planned business context and dataset with the professor during class in Week 11. As part of the proposal, groups need to provide details about the data that they will use for analysis. The proposal should also outline the steps planned for performing the analysis and the schedule for completing those steps.

**Final Presentation (10% of overall class grade)**

Students will give a 15 minute presentation followed by 5 minute Q&A during the last class (Week 13). The presentation content should include the following (but not limited to):

* Identification of the business opportunity and how the dataset relates to that
* Explanation of data preparation, feature extraction, and feature selection steps
* Explanation of the approach used for grouping and screening and scorecard construction
* Walkthrough of the scorecard and show examples of how it calculates scores and credit decisions for new application data
* Results of scorecard evaluation and tuning
* Consider potential issues or concerns with the scorecard how they can be addressed

Each group will be assessed on their presentation based on the following criteria:

* Explanation of the relevant concepts involved (20%)
* Explanation of methodology and identification of assumptions (20%)
* Convincing explanation of scorecard effectiveness (20%)
* Use of slides and diagrams to communicate key information (20%)
* Oral presentation (not script reading) and handling of Q&A (20%)

Submission of the slides and your python notebooks will be required before the start of class on presentation day. Submission of the slides will be via eLearn folder in the folder “Group Assignment - Presentation” in PowerPoint format. Name the file “GX – Group Y Presentation.pptx”, where X is your section number and Y is your group number. Ensure the group number and section are included on the title slide and do NOT submit a zip file. Submission of the python code will be via eLearn folder in the folder “Group Assignment - Code”. Name the file “GX – Group Y Code.zip”, where X is your section number and Y is your group number.

**Final Report (10% of overall class grade)**

The report should be well written and be no more than 5 pages in length. Key figures should be included in an appendix (not counted in the page limit). The report will cover the what was presented, but provide explanation in more depth. Beyond covering what is in the presentation, the final report should also include:

* Details about the analytic techniques used and specific insights provided by them
* Limitations of the analysis approach and opportunities for further improvement
* Challenges encountered and lessons learned from the analysis
* The credit scorecard as an appendix

Grading of the final report will be based on:

1. Explanation of the analytics techniques used (30%)
2. Depth and completeness (30%)
3. Clarity and logical flow of the report (20%)
4. Writing skill (20%)

Submission of the report will be required by 6pm on the Friday of Week 14 in MS Word format only. Submissions will be via eLearn in the folder “Group Assignment - Proposal”. Name the file “GX – Group Y Proposal.docx”, where X is your section number and Y is your group number. Ensure the group number and section are included on the cover page of the report and do NOT submit a zip file.

**4. Key Dates**

Group formation (5 persons): Week 10, 14 Mar   
Propose context and dataset: Week 11, 21 Mar  
Project presentations and code: Week 13, 4 Apr  
Project report due: End of Week 14 (14 Apr, 6pm)

**Appendix: Frequent Asked Questions (FAQs)**

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| Do I need to use all credit scoring approach that I have learnt in the course? | Yes. If you want, you can supplement it also use other methods as well, but the core approach should be based on what was covered in class. |
| Must we keep to time limits during presentation? | Yes, you need to keep to time allocated, we will flag to you 1 minute before and you need to wrap up everything within the last 1 minute. |
| Am I restricted to the use of any technology or tool used in the case- study? | You should use python and python packages to perform the analysis. |
| Does the final version have to exactly match what was explained in Week 11, or can there be some variation? | No. You can still deviate along the way, but it is best to consult the professor regarding any major shifts. You should not make major last minutes changes. |