OLLSCOIL NA GAILLIMHE
UNIVERSITY OF GALWAY

Statistical Techniques for Business Analytics
MS5105
Group Assignment 2022-2023

Objective	The objective of this assignment is to access your understanding with respect to all learning outcomes of the module.
Lecturer	**Name** **Office** **Ext** **E-mail** Dr Umair ul Hassan 369 umair.ulhassan@universityofgalway.ie
Marks Awarded	This assignment carries **50%** of the overall marks for the module. Guidelines for grading this assignment are posted on Blackboard along with this file.
Submission Process	You should submit your completed assignment through Blackboard's Assignment tool. Any member of a group can submit on behalf of the whole group. If you are unable to submit your assignment via Blackboard, please email it to your lecturer whilst also copying business@universityofgalway.ie in the same email and clearly state the issue that you have faced while uploading to Blackboard.
Submission Deadline	**18th November 2022 at 5:00pm Irish time:** • Signed Group Charter **30th November 2022 at 5:00pm Irish time:** • Group Report • Output File • Individual Contribution and Peer Evaluation Form (one for each student) To avoid technical issues, it is strongly advised that you **upload your submission well in advance of the deadline**. You may submit at any time on any day prior to the deadline. You will have multiple attempts to submit, and last submitted version will be corrected.
Late or No Submission	Blackboard will record late submissions. Except in extenuating circumstances, late submissions will carry a penalty of 2% per hour late, or part thereof, up to 24 hrs after the due date, after which time any submissions will not be marked. Non submission of assignment will carry a mark of zero in determination of overall marks for this sitting. There is no opportunity to resubmit continuous assessment before the next offering of the module, should student(s) fail to submit by specified deadlines.
Deliverables	**Group charter:** Each group must submit a **group charter**, signed by all members, in an Microsoft DOCX or Adobe PDF file by above mentioned deadline**.** The charter should follow the associated template available on Blackboard. The naming of your file should be as follows: "*GROUPNAME_Charter.docx*" e.g., Group1_Charter.docx.

	Inform the lecturer through email about issues of non-participation or contribution by a group member **as early as possible for resolution**. Affected students will do the assignment individually if the problem persists. However, it is advised that group members should exercise mutual understanding and contribute to the assignment appropriately. **Individual contribution & peer evaluation:** Each student must submit, by the assignment deadline, a separate **individual reflection** of project contribution and peer evaluation using the provided template. This reflection should include a percentage estimation of every member's contribution. This file should name as "*GROUPNAME_YOURNAME_ contribution.docx*" or "*GROUPNAME_YOURNAME_ contribution.pdf*". **Group assignment:** Upload 2 documents via Blackboard when you submit: your **report** as "*GROUPNAME_ report.docx*" or "*GROUPNAME_ report.pdf*" file, and the **SPSS output** exported to PDF format, as "*GROUPNAME_output.pdf*" file. The report should be structured as follows: • Maximum of 10 pages including graphics, tables, charts, or other. • Top of first page: Provide details of all groups members including full name (as registered), student ID number, and module code (MS5105). Insert the following declaration on page 1: "*In submitting this work we confirm that it is entirely our own. We acknowledge that we may be invited to an online or in-person interview if there is any concern in relation to the integrity of our submission, and we are aware that any breach will be subject to the University's Procedures for dealing with breaches of Exam Regulations. We are aware of what the plagiarism policy of the University of Galway entails.*" • There is no need to leave the rest of page 1 blank. • Page margins: 2cm all margins. • Page numbers: Bottom right corner of all pages. • Font: Sans-serif font such as Arial or Calibri. • Text body: Size 11, fully justified and single line spacing. • Headings 1: Size 16, left-justified. These headings would be good for the questions that you ask. • Headings 2: Size 14, left-justified. • References (if any, likely not): Harvard format. • The report should be nicely formatted. The output file does not need to be nicely formatted.
Academic Integrity	Each module instructor reserves the right to follow up with a student by interview if there is any concern in relation to the integrity of the assignment. For any assignments not submitted via Turnitin, we reserve the right to check it using Turnitin where required.
Plagiarism	Plagiarism is the use of another person's ideas or work without appropriate acknowledgement or credit. Plagiarism may be intentional or unintentional.

	Intentional plagiarism is the clear intent to pass off another person's work or ideas as your own for your own gain. Unintentional plagiarism may occur if you do not understand the appropriate way to acknowledge the source of your ideas and information. If you are unsure of the acceptable methods of acknowledgment you should refer to the University of Galway Code of Practice for Dealing with Plagiarism, consult with your lecturer or the library staff. Proven plagiarism is a very serious matter which may result in severe disciplinary action and/or exclusion from the University. Ensure all assignment submissions include a signed plagiarism statement.
Referencing & Citation	Correct referencing and citation avoids plagiarism. There are varying referencing styles available but the most popular is the Harvard Referencing Style. Details on how to reference journal articles, books, electronic information and various other supports is available from the NUI, Galway Library at the following link: http://libguides.library.nuigalway.ie/c.php?g=543943&p=4591416
Blackboard Ally	Blackboard Ally supports you to access more user-friendly file formats. Please contact the lecturer if you experience any accessibility issues for this module material. Should you have a visual impairment and require the document in another format, please contact the lecturer to explore alternative format options.
Special Requirements	If you are registered with the Disability Support Service (DSS), you will find recommended accommodations listed on your Learning and Educational Needs Summary (LENS) report. If the alternative assessment offered for this module does not fully meet the recommendations in your LENS report, please email your lecturer as well as whilst also copying business@universityofgalway.ie, stating clearly how you feel the recommendations are not being met. Please ensure you attach a copy of your LENS report to this email.

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Address the following analytical problems by using appropriate descriptive and inferential statistical techniques on their associated datasets.

Problem 1 (rottenapple.sav)
RottenApple Inc. is experimenting which of two background colours for computer text is easier to read, as determined by the speed with which a task described by the text is performed. The study randomly assigned 35 employees to one of two versions of a computer program that presented text describing which of several icons the user should click on. The program measured how long it took until the correct icon is clicked. This measurement is called "reaction time" and is measured in milliseconds (ms). The two versions of the program differed in the background colour for the text (yellow or cyan).

Problem 2 (sales.sav)
In a small retail business there are three clothing stores. Each store sell three types of products: budget items, mid-range, and high fashion. The business manager has decided to investigate if sales of these types differ by store. To do this, the manager retrieved a list of sales at all three stores and created a dataset also recording which store sold which item.

Problem 3 (holidays.sav)
A company wants to investigate the differences between number of annual holidays taken by its employees of three departments. For this purpose, an HR manager takes random sample of 40 employees from each department. The manager creates a dataset by extracting, from HR records, the number of annual holidays during last year for each employee in the sample.

Problem 4 (starcraft.sav)
Starcraft is one the most popular real-time strategy game. During one of its tournament, the results of games played by 100 randomly selected players were recorded. The dataset contains the army and strategy used by each player along with the percentage of wins. We are interested in finding out which combinations of army and strategy are the most effective.

Problem (crimes.sav)
Crime statistic were recorded for a random set of communities in a large city. The data includes the number of violent and non-violent crimes in a month. The city administrators are interested in understanding whether number of residents and average value of houses in a community influence both types of crimes; and what is the relationship between violent and non-violent crimes.

Guidelines
- Show us you understand. Each analysis should be clearly described, with a clear "why".

- Tables or graphs should be clear and readable.

- Show us you've understood the learning material and can move beyond. Analyses should demonstrate the broad analytic toolset encountered.

- Describe everything using your own words.

- Marks will be out of 100, even though the assignment carries 50% of the final mark. Marks will be available through Blackboard's grade centre as soon as I can.

- You don't have to use SPSS; you can use alternative software (please specify and include equivalent output).

- This in-term assignment is a group assignment. You have 3 weeks to complete and submit it. You will be able to submit a few times: I will mark the latest on-time submission.

- Follow the structuring requirements for the report as mentioned above. Poorly structured reports would lead to penalties in marks.

- This document is available on blackboard in PDF format. Should you have a visual disability and require the document in another format, please contact the lecturer.