

## Assessment 2: Team Report



Week 8: 3:00pm Friday 23<sup>rd</sup> July (AEDT)



30%



Writing task, based on a case study



Maximum word count of 2000, excluding references and appendix



Via Moodle course site, through Turnitin

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### Description of assessment task

In this team assessment, you will apply key concepts discussed in weeks 1-5 of the course to a real-world scenario. In this assessment, you will continue to explore data related to the individual assessment, using predictive analytics to derive actionable insights to assist with business decision making. You must present your findings in the form of a written report (approx. 2000 words).

As you know, a pharmaceutical company called Globex Pharma has contracted your consulting company to investigate their firm's workforce. There has been some recent turnover at Globex, and the leadership team, through the grapevine, is aware of rumours of dissatisfied employees that may seek other job opportunities. Fortunately, the firm's employees have recently undertaken a survey (within the last year) measuring various attributes of their jobs (e.g., salary, time since last promotion) and demographics (e.g., education, distance travelled to work). Globex wants you to use their data to identify factors contributing to employees being frustrated and displeased with their work.

Your consulting company initially assigned several analysts to conduct individual assessments of Globex data, resulting in several short reports containing exploratory data analysis on the negative sentiment of their employees. Since the submission of the report, Globex has provided your consulting company with additional data on employee attrition, i.e., which employees left the company over the last year. In addition, Globex has provided other pieces of information collected from their employees that may prove useful.

Globex Pharma wants your consulting company to design a method for anticipating employee attrition and to use the resulting insights to make recommendations for the firm to retain valuable employees. As business analytics is a team sport, your consulting company has grouped together the individuals undertaking the exploratory analysis to form a team to build the predictive model. Your consulting company has promised to deliver the following in a report by Friday 23<sup>rd</sup> July:

1. A model to predict which employees will leave the organisation.
2. Information explaining:
  - I. How the model was selected.
  - II. Factors that drive employee attrition.
  - III. An assessment of the model's accuracy.
3. Present insightful recommendations and/or interventions well supported by analysis of the model that Globex can implement.
4. Globex has also included 30 people who they are unsure will leave the organisation in the next few months and wants your team to assess using the model to assess which employees are likely and unlikely to leave the organisation.
5. A high-level executive summary of the model, issues and recommendations.
6. R Code for building the model. (This will be in the report's appendix.)

## Submission instructions

Have your team leader submit the written report with all relevant code in the appendix to the TurnItIn assessment submission link on Moodle. To determine the team leader, list all group members in alphabetical order. Whoever is listed first is the designated team leader. The submission link can be reached by logging into Moodle or through Ed. Your submission must be in a word doc (.docx). Include a cover page, with group members names and the word count. The appendix must have all relevant R code. The code should take the raw data file provided as the input and reproduce all analysis in the report (i.e., for this assignment, you cannot pre-manipulate data in excel prior to analysis in R). Please note that the code and references (done via Harvard Referencing) do not count towards the assessment's word count. Assignments that are submitted late will be penalised at a rate of 10% per day.

## How to download the data

1. Go to the following link [https://unsw.au1.qualtrics.com/jfe/form/SV\\_2sqdZdl89ZvkQ9o](https://unsw.au1.qualtrics.com/jfe/form/SV_2sqdZdl89ZvkQ9o)
2. Follow the instructions and have the team leader enter the second last and last digits of their zID.
3. An excel file will be downloaded onto your local drive.
4. Use the downloaded file. Save the file as a CSV file (using "save as"), and use this for your assignment.

## New data

The dataset has more observations (approximately 1300 observations) than your individual dataset. (You can assume that your group members have put together their respective datasets). The new variables are as follows:

- Attrition
- Stockoptionlevel
- Yearsatcompany
- Yearsincurretrole
- Yearssincelastpromotion
- YearsWithCurrManager
- ST1 (which equals 1 if the data was previously in one of your team members datasets).

In addition, you will notice that the last 30 observations in your dataset do not have a value for attrition. These are the data observation that you must predict for Globex.

## Other Tips

Here is advice from the lecturing team on developing models and recommendations:

1. It is important to emphasise that there is not a correct answer to the assignment. There are many different models that can be put forward that can effectively address the organisations brief. Thus, it is important that you clearly identify the analysis methods and set out a systematic, comprehensive plan to resolve Globex's problem.
2. To ensure the rigour of the model development and subsequent analysis, apply the frameworks discussed in class and the workshops. In this assignment, you will be primarily leveraging the materials from Weeks 4 and 5. We are not expecting the use of statistical/machine learning methods beyond the scope of this course.
3. Remember that your conclusions should well supported by the undertaken data exploration and created visualisations. You should also outline any key assumptions in your data-driven conclusions and acknowledges limitations.
4. If appropriate, connect findings or questions from your individual reports to your team report.

## Marking rubric for Individual Assessment & Team Assessment

	Criteria	Fail (0% - 49%)	Pass-Credit (50% - 74%)	Distinction-High Distinction (75% - 100%)	%
<b>Analysis</b> (80%)	<b>Identify a problem or issue, relevant questions and purpose of task for critical analysis</b>	<ul style="list-style-type: none"> <li>Does not clearly or correctly identify or define/explain an issue or problem</li> <li>Does not effectively outline purpose of task and method/s of analysis</li> <li>Does not formulate appropriate questions and/or plan to resolve problems, issues</li> </ul>	<ul style="list-style-type: none"> <li>Identifies (and explains where necessary) key elements of a problem or issue, but may not cover all relevant aspects or convey its complexity.</li> <li>Outlines purpose of task and method/s of analysis</li> <li>Formulates appropriate questions and/or plan to resolve problems, issues</li> </ul>	<ul style="list-style-type: none"> <li>Clearly identifies (and accurately explains where necessary) all relevant, key aspects of a problem or issue, and conveys its complexity</li> <li>Clearly and accurately outlines purpose of task and method/s of analysis</li> <li>Formulates insightful questions and/or comprehensive plan to resolve problems, issues</li> </ul>	10
	<b>Apply rigorous analysis, appropriate frameworks, tools, and standards to develop and/or evaluate data</b>	<ul style="list-style-type: none"> <li>Does not provide sound analysis of a problem / issue using appropriate theory and/or relevant research</li> <li>Does not accurately apply appropriate analytical frameworks / tools</li> <li>Does not apply appropriate criteria / standards to evaluate information / data</li> </ul>	<ul style="list-style-type: none"> <li>Provides sound analysis of a problem or issue using some relevant data, theory and/or research</li> <li>Applies appropriate analytical frameworks / tools relatively accurately</li> <li>Provides some critical evaluation of information / data using appropriate criteria / standards</li> </ul>	<ul style="list-style-type: none"> <li>Effectively analyses an issue or problem, applying and synthesising (and critically evaluating where necessary) a range of appropriate theories and/or research</li> <li>Applies most appropriate analytical frameworks / tools with a high level of accuracy and rigour</li> <li>Provides high level critical evaluation of information / data using appropriate criteria / standards</li> </ul>	50
	<b>Develop well-reasoned, appropriate conclusions or solutions</b>	<ul style="list-style-type: none"> <li>Does not demonstrate understanding of what information / data communicates</li> <li>Does not present a sound, well-justified conclusion or solution</li> <li>Does not explain or justify assumptions made in investigation</li> <li>Does not assess potential solutions against appropriate criteria / standards</li> </ul>	<ul style="list-style-type: none"> <li>Develops a sound conclusion or solution, but may contain weaknesses or limitations</li> <li>Discusses and justifies assumptions made in investigation</li> <li>Considers and assesses differing perspectives and alternative strategies, where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Presents an insightful / strategic conclusion or solution, well-supported by analysis, evidence, theory and/or research</li> <li>Clearly explains and justifies assumptions made in investigation</li> <li>Considers and evaluates differing perspectives and alternative strategies, using appropriate criteria / standards</li> <li>Acknowledges limitations and constraints of own conclusion / solution</li> </ul>	20
<b>Communication</b> (20%)	<b>Demonstrates proficiency in reading and writing in English</b>	<ul style="list-style-type: none"> <li>Inappropriate or inaccurate word selection, regular errors in grammar and/or spelling</li> <li>Poor structure and organisation</li> <li>Incomplete and/or inaccurate referencing</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate word selection, grammar and spelling</li> <li>Clear structure and organisation</li> <li>Mainly accurate and adequate referencing</li> </ul>	<ul style="list-style-type: none"> <li>Excellent word selection, and exemplary grammar and spelling</li> <li>Excellent structure and organisation</li> <li>Mainly accurate and adequate referencing</li> </ul>	10
	<b>Uses language, visual and representations, to effectively and accurately convey qualitative and quantitative information</b>	<ul style="list-style-type: none"> <li>Qualitative and/or quantitative data is misinterpreted or not accurately explained</li> <li>Complex data is not appropriately presented in graphical formats</li> <li>Visual representation does not clearly and effectively communicate processes, relationships</li> <li>Does not use images and design aspects or these aspects are not employed effectively/meaningfully</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative and/or quantitative data is interpreted and explained as appropriate to audience and purpose</li> <li>Presents complex data in appropriate graphical formats to communicate effectively</li> <li>Effectively employs visual representation to clearly communicate processes, relationships</li> <li>Uses images and design aspects to capture attention and communicate key ideas/messages</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative and/or quantitative data is interpreted and explained clearly with explicit relevance to audience and purpose</li> <li>Uses graphical formats to simplify and effectively communicate the relevance and application of complex data</li> <li>Effectively employs high quality visual representation which provide insight into processes, relationships</li> <li>Uses images and design aspects to professional standard which highlight and enhance understanding of key ideas/messages</li> </ul>	10