S125 PRT564 DATA ANALYTICS AND VISUALISATION

1. Group Project Plan (Group: 10%)

Image credit: Dall-E 3 via https://chatgpt.com/

Assessment 1: Group Project Plan

Due Date: refer to Learnline
Weighting: 10%
Group Size: 4 students

Learning Outcomes Assessed:

- Unit Learning Outcome 2: Critically analyse the role of data analysis tasks in an organisational context.
- Unit Learning Outcome 3: Justify the process or methods used to analyse datasets.

Task Description

This assignment requires you to form a group and develop a project plan for a data analysis project focused on avian disease surveillance data from Great Britain. You will utilise provided resources, including a publicly accessible Tableau dashboard, and generative AI tools to explore potential data analysis tasks.

This assignment directly addresses the learning outcomes by requiring your team to:

- *Critically analyse the role of data analysis tasks in an organisational context*

By exploring potential data analysis tasks related to avian data, you will consider the practical applications and relevance of such analyses within a specific organisational context. You will explain how your chosen data analysis task could address a specific need or problem faced by an organisation (e.g., a biosecurity agency, bird farms, food manufacturers, restaurants, supermarkets, a conservation organisation, a wildlife management agency, or a research institution).

- *Justify the process or methods used to analyse datasets*

You will justify the entire data analysis process for your chosen task, including the selection of features, the choice of regression method (and why it is appropriate), any necessary data preprocessing steps, and the metrics you will use to evaluate the results. This justification should demonstrate your understanding of appropriate techniques for handling and analysing datasets and explain why your chosen approach is suitable for the specific problem and data.

Context Statements

Avian Disease Surveillance in Great Britain

Avian disease surveillance plays a crucial role in safeguarding Great Britain's biosecurity, agricultural sector, hospitality and tourism industries, and the overall economy. The interconnectedness of these sectors means that an outbreak of avian disease can have far-reaching and devastating consequences. Robust surveillance systems are essential for early detection, rapid response, and effective control measures, minimising the impact of potential outbreaks.

Biosecurity is paramount, as the introduction and spread of highly pathogenic avian influenza or other diseases can decimate poultry populations, impacting food supply chains and international trade (DEFRA, 2025). The economic ramifications extend beyond agriculture. Outbreaks can lead to trade restrictions, impacting export markets for poultry products and causing significant financial losses for farmers, processors, and related industries (FAO, 2025). Furthermore, the culling of infected birds and the implementation of movement restrictions can disrupt related industries, such as feed suppliers, transport companies, and packaging manufacturers.

The hospitality and tourism sectors are also vulnerable. Avian disease outbreaks can negatively affect consumer confidence, leading to decreased demand for poultry products and potentially impacting restaurant businesses and food tourism. Restrictions on movement and outdoor activities in affected areas can further disrupt tourism, impacting local economies and livelihoods (VisitBritain, 2025). The reputation of Great Britain as a safe and reliable source of food and a desirable tourist destination is heavily reliant on maintaining effective disease control measures.

Effective avian disease surveillance relies on the collection and analysis of comprehensive data. This includes information on disease prevalence, geographic distribution, species affected, and potential risk factors. Data analysis plays a critical role in identifying patterns, predicting outbreaks, and informing targeted interventions. By analysing surveillance data, we can gain a deeper understanding

of disease dynamics, identify potential sources of infection, and develop strategies to mitigate the risk of future outbreaks. This includes understanding the role of wild bird populations in disease transmission, the effectiveness of different biosecurity measures on farms, and the impact of environmental factors on disease spread.

This project focuses on utilising avian disease surveillance data from Great Britain to explore potential data analysis tasks that can contribute to improved disease management. By leveraging publicly accessible data, such as the Tableau dashboard provided (APHA, 2025), you can gain valuable insights into the complex factors influencing avian disease dynamics.

This project will require your team to critically analyse the role of data analysis in supporting organisational decision-making within various sectors relevant to biosecurity, including government agencies, agricultural businesses, and conservation organisations. Furthermore, it will provide you with an opportunity to justify the selection of appropriate analytical methods and demonstrate the potential of data-driven approaches to enhance animal and plant disease surveillance.

References:

- Animal and Plant Health Agency (APHA). (2025). *Avian Dashboard*. Available at: https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview (https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview) [Accessed 18 Feb 2025].
- Department for Environment, Food & Rural Affairs (DEFRA). (2025). *Avian influenza (bird flu)*. Available at: https://www.gov.uk/guidance/avian-influenza-bird-flu (https://www.gov.uk/guidance/avian-influenza-bird-flu) [Accessed 20 Feb 2025].
- Food and Agriculture Organization of the United Nations (FAO). (2025). *Avian flu Q&A*. Available at: https://www.fao.org/animal-health/animal-diseases/avian-flu-qa/en (https://www.fao.org/animal-health/animal-diseases/avian-flu-qa/en) [Accessed 20 Feb 2025].
- VisitBritain. (2025). *VisitBritain*. Available at: https://www.visitbritain.com/en (https://www.visitbritain.com/en) [Accessed 20 Feb 2025].

Step-by-Step Instructions

1 - Contextual Exploration: In your team, begin by considering potential organisational contexts where avian data analysis could be valuable. You may use the context statement above and generative AI tools to shape your thinking.

2 - Data Exploration and Task Selection:
Using the Tableau dashboard (https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview (https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview)) and generative AI tools (reminder: as supportive resources for brainstorming and exploration, not as the primary focus of this assessment), explore potential data analytic tasks that could address a need within your chosen organisational context.

Identify key variables from the Tableau dashboard that are relevant to regression-based analysis. This step is essential as you will curate your own dataset from the same Tableau dashboard in Assessment 2.

You are also encouraged to explore additional features that can be curated from other data sources. This is required to score higher marks.

At the end of this step, your team must select **only** one (1) data analytic task suitable for further development in Assessment 2.

3 - Process Justification: Critically analyse the chosen task's relevance to the selected organisation. Justify the entire data analysis process by clearly:

- Stating the selected regression task.
- Defining the organisation in focus and explain how the task may address a specific need or problem within that organisation.
- Justifying the selected features, including how they will be extracted from the Tableau dashboard and their relevance to the chosen task. If you have also identified additional features that will be collected from other data sources beyond what the Tableau dashboard provides, discuss them here.
- Outlining the proposed methodology for data analysis, including the specific regression techniques you anticipate using and a detailed justification for this choice. Explain any necessary data preprocessing steps.
- Defining the metrics you will use to evaluate the performance of your regression model.

4 - Project Plan Development: Your group will create a project plan outlining the steps involved in completing Assessment 2. This plan should include the elements described in Step 3 above, as well as:

- A realistic timeline for completing Assessment 2, including key milestones.
- Clearly defined roles and responsibilities for each group member.

Deliverables

A written project plan (maximum 300 words per student) outlining:

- The chosen data analytic task and its organisational relevance.
- The selected methods, features, and justification for their use.
- A preliminary plan for how the tasks will be allocated to the team members in Assessment 2, including risk mitigations.

A copy of Turnitin originality report of your project plan.

A copy of the signed AI Usage Declaration Form:

- Include clear acknowledgement of the use of generative AI.
- A reflective account of the use of generative AI in the project, accompanied by well-documented prompts and interaction evidence.
- Please use the following template:

AI Usage Declaration Form.docx

Submission Guidelines

Please submit one (1) .zip file containing:

- A group report in Microsoft Word format (.docx) **with tracked changes**. Incorporating a professional title page and table of contents is encouraged; they do not contribute to the word count.
- A copy of Turnitin originality report.
- A copy of AI Usage Declaration Form signed by all team members.

Submit your work via Learnline *no later than* the stated due date of this assignment.

- Email submissions will not be accepted.
- Do not submit multiple documents.
- Late submission penalty may apply: https://policies.cdu.edu.au/view-current.php?id=177#major4 (https://policies.cdu.edu.au/view-current.php?id=177#major4)

Resources

- Publicly accessible Tableau avian dashboard: https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview (https://public.tableau.com/app/profile/siu.apha/viz/AvianDashboard/Overview)

Overall Assessment Criteria

- The project plan will be assessed based on the clarity and completeness of the regression task selection and justification, the appropriateness of the chosen features, the feasibility of the proposed methodology, and the overall quality of the project plan document.
- Emphasis will also be placed on the critical analysis of the chosen task's industry relevance and the justification of the selected features for regression analysis. These criteria directly reflect the learning outcomes, ensuring that the assignment effectively assesses your ability to analyse the role of data analysis and justify appropriate methodologies.
- You will also demonstrate responsible, effective and appropriate use of AI tools.

Originality

Do not plagiarise from other student groups.

Do not engage in contract cheating. Providing contract cheating services is a criminal offence in Australia, punishable by imprisonment and/or hefty fines. Reference: https://universitiesaustralia.edu.au/media-item/cheating-the-system/ (https://universitiesaustralia.edu.au/media-item/cheating-the-system/)

In writing reports, you **must not** use AI tools (e.g., ChatGPT, Gemini, DeepSeek or others) to write and conceptualise the first draft of your report. This is an important stage where students are expected to clearly demonstrate their original thoughts and ideas. You may use AI tools to improve the clarity of

your writing at a later stage and/or to supply non-critical details and background information. If so, these must be clearly acknowledged in your AI Usage Declaration Form that is signed by all.

The group mark will not be released in the absence of the mandatory AI Usage Declaration Form.

Violating the originality requirement may constitute a serious breach of academic integrity, leading to significant loss of marks or even not passing the unit.

Individual Marks

This unit is committed to ensuring that each team member contributes his or her fair share of the group work.

All student have the responsibility to clearly document their contributions. Failure to provide satisfactory evidence of individual contributions may result in loss of marks or not passing this assessment for the student involved.

All teams **must** document their creative process on Microsoft Teams and use the Microsoft Word tracked changes feature. Other platforms (WhatsApp, Facebook, Discord, etc.) **should not** be used as evidence, without any prior agreement with the campus lecturer. The group mark may not be released to the students if this collaborative requirement is not met by the submission due date.

Evidence from Microsoft Teams and Microsoft Word tracked changes may be used to further differentiate individual marks. Your instructor reserves the right to differentiate individual grades where appropriate.

If in doubt, please contact your campus lecturer.

Academic Integrity and Assessment Irregularities

Academic integrity is a core value at CDU and must be upheld at all times when completing this assignment. You must not plagiarise the work of others. Please refer to the Students - Breach of Academic Integrity Procedures (https://policies.cdu.edu.au/view-current.php?id=50).

Other assessment irregularities are governed by CDU's Higher Education Assessment Procedures (https://policies.cdu.edu.au/view-current.php?id=177).

Acknowledgement of the use of generative AI

I, Yakub Sebastian, declare that I originally drafted the critical design elements of this assessment: ideation, contextualisation, Tableau dashboard selection and the outline of assessed tasks.
I acknowledge the use of ChatGPT, DeepSeek and Gemini in further articulating the detailed wording of the assessments based on prompts I originally crafted. These prompts are well-documented and may be referred to upon request.
I further declare that I used these AI tools to generate the initial grading rubric by providing the assessment details and the overall assessment criteria. I then carefully vetted all AI-generated outputs and modified them in accordance with my expert knowledge to ensure that all assessment tasks and the rubrics evaluate all designated unit learning

outcomes at appropriate cognitive levels.