Mentem by UNSW

Course 4: Assessment Brief

ASSESSMENT OVERVIEW		
Assessment task	**Description**	**Due Date**
1	Data Presentation	9am, Thursday 9th November
2	Data analysis and data story	4pm, Friday 10th November

ASSESSMENT 1 – Description

Due date for submission to Canvas: 9am, Thursday 9th November 2023

Due date for live presentation evaluation: Thursday 9th November 2023

Presentation length: 6 minutes

Delivery mode: Online

Prepare and present a 6-minute online presentation, presenting your data story that forms the basis of your report for Assessment 2. This is an **individual assessment.**

INSTRUCTIONS

Use the below guidelines to prepare your presentation.

- **Audience**: you will be presenting to a UNSW Expert and a small group of colleagues from your learning group. Aim your presentation to non-technical business managers.
- The **purpose** of your presentation is to convince the audience to align with your call to action through a clear understanding on your data and insights.
- **Content:** consider the below areas:
  - present and describe your data, keeping in mind the principles of data story telling
  - explain your data insights, keeping in mind your audience
  - make your recommendations
  - conclude with your call to action.
- **Presentation:** use PowerPoint or a similar visual aid to visualise your proposed solution and support your presentation.
- **Time:** the Reskill Team will confirm the time of your presentation via email closer to the date.

Note: this assessment will only be evaluating the learning outcomes associated with presentation skills. You will NOT be assessed on your content or knowledge of Data Analytics.

SUPPORTING RESOURCES

The modules you completed on presentation skills will help you make choices that align your approach with a business-minded context in online mode. Before making your presentation, you will attend:

- a presentation skills workshop, and
- a 1-1 session for feedback on presentation skills with a UNSW Expert.

MARKING CRITERIA Required	Fail (0 marks)	Pass (1 mark)	Credit (2 marks)	Distinction (3 marks)
Structure of ideas	Presentation is not well organised and difficult to follow. Sequence is not logical and effective transitions are lacking. Presentation does not appear to have a central message	Organisation of the presentation is for the most part well sequenced, but may lack appropriate sections or clear transitions, for instance, leading to a potentially confusing or unclear message.	Organisation of the presentation is thoughtful and easy to follow including clear introduction and conclusion, well sequenced and smooth transitions. Central message is clear, consistent.	Organisation is compelling, presenting listeners with a problem or question that involves a clear driving question, a sequenced rationale and a clear and compelling conclusion.
Spoken communication – clarity of verbal expression – intonation, emphasis, rhythm/tempo and pauses aid communication.	The spoken text is difficult to understand. The speech indicates limited attempts to manage verbal clarity through adjusting speed, volume, or pace of delivery.	The spoken text indicates good attempts to manage verbal clarity through adjusting speed, volume, or pace of delivery, and succeeds in most instances	The spoken text is communicated clearly and with emphasis/rhythm/tempo appropriate to the content being delivered in a manner that engages listeners	The spoken text is delivered persuasively, and uses verbal communication techniques (emphasis, pause, rhythm, intonation) to successfully engage and command listeners.
Physical presentation – physical presence, eye contact, body movement, lighting and spatial design, posture, facial expression as appropriate to	The physical delivery of the speech detracts or distracts from the content of the speech. There is no	Many aspects of the physical presentation style enhance its content (for example, a commitment to eye contact).	Most aspects of the physical presentation style enhance its content (for example, a commitment to eye contact). There is strong evidence that	The physical presentation style commands audience engagement by focussing on the presence of the presenter in a manner that has

online delivery modes	evidence that the physical delivery of the speech has been prepared or rehearsed.	Limited from the presentation (for example, fiddling with hair). There is sound evidence that the physical delivery of the speech has been prepared or rehearsed	the physical delivery of the speech has been prepared or rehearsed.	been prepared but that appears effortless, and that is appropriate to the content of the presentation.
Visual design – integration of visual elements to enhance communication.	Visual design has been used in a way that risks detracting from the presentation (for example, slides contain too much text, confusing images, or mistakes	Visual design has been used in a way that limitedly enhances the presentation (for example, slides are used to convey basic information but are not easily interpreted).	Visual design has been used in a way that enhances the presentation in some keyways (for example, slides are used to communicate strong visual messages, but the approach might be inconsistent).	There is a strong integration between the visual elements and the other presentation elements. The visual design is innovative in approach with design choices that allow audiences to process verbal and visual cues simultaneously.

ASSESSMENT 2 – Description

Capstone Project: Data-driven analysis and insights from insurance transactions

Due date: Friday, 10 November 2023, 4pm

Report length: 10 slides (+ up to 30 slides appendix maximum)

Delivery mode: Upload to Canvas Online

Prepare a report that summarises your analysis and insights from the provided data set.
This is an **individual assessment.**

INSTRUCTIONS

Purpose: This assessment is designed to test your understanding and application of the concepts covered in Courses 1, 2 and 3. You will be evaluated on your analytical skills, understanding of data analytics concepts, and your ability to draw and present actionable and compelling insights

from data that can inform business strategies. You will employ industry best practices in communicating your data-driven insights and actionable recommendations (e.g., Minto Method). As there is both science and art in data story-telling and communicating data-driven insights, part of this assessment is how you exercise your judgement in deciding which key insights/ data/charts will be included in the main deck (in contrast to which data/charts belong in the appendix) as well as building upon your data-story telling skills in communicating a compelling narrative.

Audience: Business managers (non-technical audience, not familiar with data analytics).

Background: The CEO of Prestige Insurance Group has recently obtained a data set detailing various insurance transactions. Given the competitive landscape of the insurance industry and the company's ambition to innovate and stay ahead, the CEO believes that this data set holds the key to understanding current market dynamics. She is particularly interested in actionable insights that can inform business strategy and/or drive revenue growth. You have been tasked with leading this initiative, diving deep into the data set, and presenting your findings in a manner that can guide the company's future direction.

You should aim to complete 1 Part of Assessment each week to take full advantage of the Expert and Mentoring sessions that will support you to successfully complete your capstone project.

Download the Prestige Insurance data set here

Part 1: Descriptive Analysis, Exploratory Data Analysis, Data Preparation

Objective: To delve deep into the data set's structure and content, ensuring its readiness for subsequent analyses.

Tasks:

1. **Data set familiarisation**:
    - Load the data set and review its structure.
    - Understand the nature of columns and their respective data types.
2. **Descriptive analysis**:
    - Compute basic statistics for numerical attributes.
    - Determine the frequency of categorical variables.
    - Establish the time span of the data set.
3. **Exploratory Data Analysis (EDA using Tableau)**:
    - Visualise the distribution of essential numerical attributes to appreciate their variance and central tendencies.
    - Discover patterns or trends in the data set by probing relationships between variables via scatter plots, box plots, and bar charts.
    - Investigate potential relationships between categorical aspects using cross-tabulation or contingency tables.
    - Utilise heatmaps or other visual aids to grasp correlations or patterns in missing data.
4. **Data quality assessment**:
    - Detect any missing values and devise a strategy for their treatment.

- Identify and rectify outliers or anomalies, such as negative values for units or Gross Written Premium (GWP).

5. **Data preparation**:
    - Apply strategies to rectify missing values and outliers.
    - Engineer features or transformations beneficial for in-depth analysis or modelling.

Part 2: Statistical analysis and linear regression

Objective: To further examine the potential relationships between variables and forecast Gross GWP based on relevant factors.

Tasks:

1. **Correlation study**:
    - Map out the correlations for numerical variables (include a list or table of correlations).
    - Discuss significant correlations and potential implications.
2. **Linear regression modelling**:
    - Implement regression analysis to examine the relationship between GWP and other influential numerical variables.
    - Dissect the regression output, focusing on R-squared, coefficients, and significance levels.
    - Evaluate the assumptions behind linear regression and discuss any deviations.
3. **Insights from modelling**:
    - Elucidate the significance of variables in predicting GWP.
    - Propose business recommendations grounded in the regression findings.

Part 3: Data visualisation and data storytelling

Objective: To represent the data visually and develop a narrative with compelling insights.

Tasks:

1. **Data visualisation**:
    - Plot essential distributions and relationships within the data set.
    - Depict how GWP, transaction counts, and units vary across different categorical variables like brands and products.
    - **NB:** Prestige Insurance Group uses the same colour palette as Suncorp. Please use this palette in your data story.

2. **Narrative of data story**:
    - Summarise primary insights from EDA, regression analysis, and visualisations.
    - Discuss dominant trends in the data set and their potential business implications.
    - Offer actionable insights and strategies.
    - Ponder challenges encountered during the analysis and potential areas for refinement.
    - Consider any limitations intrinsic to the data set or imposed by the analytical approach.

3. **Strategic conclusions and reflections**:
    - Synthesise and communicate insights from the analysis to propose actionable strategies for key stakeholders (e.g., use Minto method)
    - Elucidate any market trends, anomalies, or behaviours that could sculpt future strategies or decisions
    - Present your call to action

Final Deliverable: Compile the analyses, visualisations, and insights into a coherent report.
The report should encompass:

- An executive summary encapsulating key findings and recommendations.
- Detailed analyses and visualisations.
- A structured and accessible format, ensuring clarity and ease of understanding for a broad audience.

Deliverables (Report is 10 slides Max. Appendix is 30 slides max—i.e., 40 slides max total):

1. A 10 slide PowerPoint report outlining your key recommendation(s), findings, data visualisations, and insights.
2. Appendix includes supporting visualisations, data, analysis (30 slides Max for Appendix)
3. Any code or scripts developed for the analysis should also be included in the appendix.

Format:

- Slide1: Title Slide
- Slide 2: Situation, Context, Question, Hypothesis
- Slide 3: Key Recommendation(s) & Insights
- Slide 4: Data Dive (descriptive statistics summary)
- Slide 5: Data Prep (approach and implementation)
- Slide 6: Exploratory Data Analysis and Key Data Visualisations (e.g., Insight 1)
- Slide 7: Exploratory Data Analysis and Key Data Visualisations (e.g., Insight 2)
- Slide 8: Exploratory Data Analysis and Key Data Visualisations (e.g., Insight 3)
- Slide 9: Predictive Modelling (show linear regression and explain what it means)
- Slide 10: Summary and call to action

Appendix: 30 slides max (supporting analysis, charts, visualisations, dashboard, etc.)

Marking: You must receive a PASS mark or above in all criteria for your project to pass this course. You will be marked using the criteria below.

SUPPORTING RESOURCES

The materials covered in Courses 1, 2 and 3 will provide the information needed to successfully complete this assessment task. You will also have access to weekly Expert sessions, group and

individual mentoring and a moderated Q and A Discussion Board.

Marking criteria

Evaluation Criteria	Fail (0 marks)	Pass (1 mark)	Credit (2 marks)	Distinction (3 marks)
Data set familiarisation & EDA	Incomplete exploration; misses key details.	Adequately explores the data set; identifies key patterns.	Competently navigates the dataset; delves into EDA nuances.	Expertly navigates the dataset; dives deep into EDA, uncovering intricacies.
Descriptive analysis	Omits basic statistics; does not recognise data nuances.	Provides basic statistics; identifies main categories of data.	Provides competent statistics; identifies and delves into data nuances.	Delivers comprehensive statistics; pinpoints and addresses all nuances.
Data quality & preparation	No strategy for missing values or anomalies; Major Data Quality issues not identified.	Identifies data issues, even if unable to resolve all of them.	Demonstrates competent data cleaning and preparation; addresses most data issues.	Demonstrates robust data cleaning and preparation.
Correlation & statistical study	Fails to compute or misinterprets correlations; overlooks significance.	Computes basic correlations; conducts rudimentary significance testing.	Investigates basic correlations; conducts competent significance testing.	Thoroughly investigates correlations; conducts in-depth significance testing.
Linear regression modelling	Does not conduct regression; misinterprets results.	Implements basic regression; provides general interpretations.	Conducts competent regression analysis; evaluates results against data.	Conducts a comprehensive regression analysis; interprets results in the context of the problem.
Data visualisation	Provides no visualisations or	Presents clear visualisations that represent	Crafts competent visualisations that support	Crafts compelling, clear, and insightful

	visualisations lack basic clarity and relevance.	data but might lack depth or detail.	understanding and insights.	visualisations that drive home findings.
Insight generation & reflection	Provides vague or irrelevant insights; no reflection.	Offers general insights based on data analysis; some reflection on findings.	Derives competent insights; reflects on the analysis and its implications.	Derives actionable insights; reflects critically on all aspects of the analysis.
Report presentation	Incoherent structure; misses key findings.	Structured report that captures main analyses and findings.	Presents report with a clear structure, summarizing all key findings.	Professionally presented report, with clear structure, and logical flow.