BSBXBD404

ASSESSOR GUIDE – Part 1 of 2

Use big data for operational decision making

Assessment 4 of 5

Project

Version 1

Assessment Instructions

Task overview

This assessment task is divided into eight (8) parts has 12 activities. Read each question carefully before documenting the demonstration task evidence in the spaces provided.

To complete this assessment, you will need the following:

Information and telecommunications equipment

- A computer installed with the Windows operating system.
- Microsoft Power BI Desktop App - Download and install the free 'Power BI Desktop' app from Microsoft Store: [Downloads | Microsoft Power BI](https://powerbi.microsoft.com/en-au/downloads/) (Long URL: https://powerbi.microsoft.com/en-au/downloads/)

Additional resources and supporting documents

BSBXBD404_04_Project_Scenario documents (zipped folder) - This folder contains the following scenario documents and templates required for reference and use when performing the tasks in this assessment.

- AUS Retail_Email_template (.docx)
- AUS Retail_DAX formula reference(.pdf)
- AUS Retail_Data dictionary reference (.xlsx)
- AUS Retail_Data sources and summaries (.pbix)
- AUS Retail_Data analysis and reporting policy (.pdf)
- AUS Retail_Stakeholder communication policy (.pdf)
- AUS Retail_Draft report feedback form_template (.docx)

Assessment Information

Submission

You are entitled to three (3) attempts to complete this assessment satisfactorily. Incomplete assessments will not be marked and will count as one of your three attempts.

All questions must be responded to correctly to be assessed as satisfactory for this assessment.

Answers must be typed into the space provided and submitted electronically via the LMS. Hand-written assessments will not be accepted unless previously arranged with your assessor.

Reasonable adjustment

Students may request a reasonable adjustment for assessment tasks.

Reasonable adjustment usually involves varying:

- the processes for conducting the assessment (e.g. allowing additional time)
- the evidence gathering techniques (e.g. oral rather than written questioning, use of a scribe, modifications to equipment)

However, the evidence collected must allow the student to demonstrate all requirements of the unit.

Refer to the Student Handbook or contact your Trainer for further information.

Part A: Project scenario

All tasks in this assessment refer to a simulated environment where conditions are typical of a workplace that uses big data related to a fictitious retail business organisation called '**AUS Retail**'. Read the case study scenario carefully before doing the tasks in **Part B**.

A1. Company Background

AUS Retail started as a single retail store based in Sydney, NSW. They now have retail store locations across several other states and territories in Australia and continue to grow with the goal of eventually setting up stores across all states in Australia. As the business is growing rapidly, the management requires a more accurate and efficient way to gain insights into their retail sales that enables them to make better operational decisions.

A2. Your role

You are working at AUS Retail as an 'Operations Analyst' who is training to use the analytical insights from the organisation's big data sources to help the senior management make more efficient and effective operational decisions.

You must comply with legislative requirements and follow any standard operating procedures outlined in AUS Retail's policy and procedure documents when interpreting big data sources and summaries and when making operational decisions based on big data analysis.

Current Project

Previously you emailed AUS Retail's key stakeholders to confirm the business requirements for achieving a key business goal. A summary of the business goal and the confirmed business requirements for the two (2) operational decisions are detailed as follows.

Business goal: To achieve a sales turnover of $850,000 next year.

Data source requirements for the analysis:
- Statistical analysis is to be based on AUS Retail's sales transactions data from 2018-2021
- What-if scenario analysis is to be based on AUS Retail's sales transactions for last year [i.e. 2021].
Note: Assume that the last calendar year is 2021.

Operational decision-making requirements:
Note: These operational decisions will impact sales and production work areas.
- **Operational decision #1:** Decide on the top range of products that have the most effect on increasing revenue. *Note: The Pareto principle [80-20 rule] suggests '80% of all outcomes will result from 20% of the actions/inputs'.*
- **Operational decision #2:** Decide on the optimum unit price increase percentage to apply for the selected top range of products.

Technology and reporting requirements:
All analysis reports need to be developed using the 'Power BI Desktop' platform according to AUS Retail's standard templates and visualisation guidelines.

As AUS Retail's *Operations Analyst,* you are tasked with developing analytical insights using big data to help make the required operational decisions for a revenue scenario that addresses the business requirements. The required policy, procedure and specification documents are provided for your reference. These documents include up-to-date information on the process to follow when using big data sources and summaries.

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A3. Standards, legislative requirements and procedures

You are provided with the following organisational documents and data files related to the fictitious organisation 'AUS Retail' to assist with their operational decision-making requirements.

- **AUS Retail_Stakeholder communication policy.pdf** – This includes organisational procedures, communication protocols and standards used when engaging with key stakeholders in the organisation for seeking input and feedback on the identified insights of the analysis.

- **AUS Retail_Data analysis and reporting policy.pdf** – includes guidelines and procedures for analysing, reporting and distributing analysis recommendations of the datasets whilst complying with any legislative requirements relating to data protection and privacy of customers.

A4. Data sources and summaries

AUS Retail_Data sources and summaries [.pbix] – A Power BI file already loaded with the relevant big data sources and summaries from AUS Retail's Sales and Production departments. Also, this file includes copies of AUS Retail's standard report templates for creating new analysis reports.

A5. Document templates

- **AUS Retail_Draft report feedback form_template.docx** – This template is referred to in the 'AUS Retail_Data analysis and reporting policy.pdf' and must be used when obtaining feedback from stakeholders.

- **AUS Retail_Email_template.docx** – This template is referred to in the 'AUS Retail_Stakeholder communications policy.pdf' and must be used when drafting emails to AUS Retail's stakeholders.

A6. Specification documents

- **AUS Retail_Data dictionary reference.xlsx** – contains additional details of the data type, format and structure specifications for each dataset field required for analysis.

- **AUS Retail_DAX formula reference.pdf** – This provides specifications on how to create statistical measures and sample DAX formulas required for the analysis.

Part B: Access big data sources and summaries

To complete this part of the assessment, you are required to:
- carefully read the scenario details outlined in Part A and within this section
- follow the organisational policies and procedures
- use the recommended technology platform to access the data sources and summaries provided.

Scenario:

Previously, you requested access to the data sources and summaries relevant to the analysis.
This request is now validated and approved. Therefore, you are provided with the Power BI work file '**AUS Retail_Data sources and summaries.pbix**' that contains the requested data sources and summaries.

You are also advised to:
- follow the procedures in the 'AUS Retail_Data analysis and reporting policy.pdf' > section '4. Accessing big data sources and summaries' when accessing the information in the Power BI work file

- refer to the 'AUS Retail_Data dictionary reference.xlsx' to help understand the dataset fields, their structure, data type and formats.

Tasks:

Task B1

Access the sales transaction data sources and summaries by doing the following.

    a.   Save a copy of the Power BI work file '**AUS Retail_Data sources and summaries.pbix**' as '**BSBXBD404_04_Data Analysis Report_YourName_ddmmyyyy**' with your name and current date information.
        Note: You will use this Power BI work file to perform all tasks in this assessment.

    b.   Follow the procedures provided in the relevant policy document.

Task B2

Access the required information from the data summary pages in the Power BI work file that supports operational decision-making to do the following tasks.

Note: Assume that the year 2021 is the last calendar year.

    a.   Customise the 'Revenue Summary Dashboard' page to only show the sales data insights relevant to the last calendar year recorded.
        Important: You must provide a screenshot of the customised 'Revenue Summary Dashboard' page in 'Table 1'> 'B2a' under 'Screenshot evidence:'. Read the 'Note' sections carefully to understand the details that must be visible in the screenshot.

    b.   Customise the 'Product Demand Summary Dashboard' page to only show the product demand data insights relevant to the last calendar year recorded.
        Important: You must provide a screenshot of the customised 'Product Demand Summary Dashboard' page in 'Table 1'> 'B2b' under 'Screenshot evidence:'. Read the 'Note' sections carefully to understand the details that must be visible in the screenshot.

Task B3

Ensure the following required data source tables and fields of the Power BI work file are accessible from the 'Report view' of the Power BI work file.

Note: You must unhide these fields from the 'Data view', so they will be visible in the 'Report view'.

    a.   Date[Year]
    b.   Date[Month]
    c.   'Key Measures'[Total Sales]
    d.   Category[Category Name]
    e.   Product[Product ID]
    f.   Transactions[Quantity]
    g.   Transactions[Unit Price]
    h.   Transactions[Sales]

Important: You must provide a screenshot of the 'Data' pane in 'Report view' of the Power BI work file in 'Table 1'> 'B3' under 'Screenshot evidence:'. Read the 'Note' sections carefully to understand the details that must be visible in the screenshot.

Assessor instructions: The screenshot provided must show the correct context/filters selected by the Student and indicate the modifications displayed in the sample screenshot provided as evidence of accessing big data sources and summaries. The changes/modifications on the report page are circled in red and highlighted in yellow for ease of identification.

Table 1 – Evidence of accessing big data summaries and sources

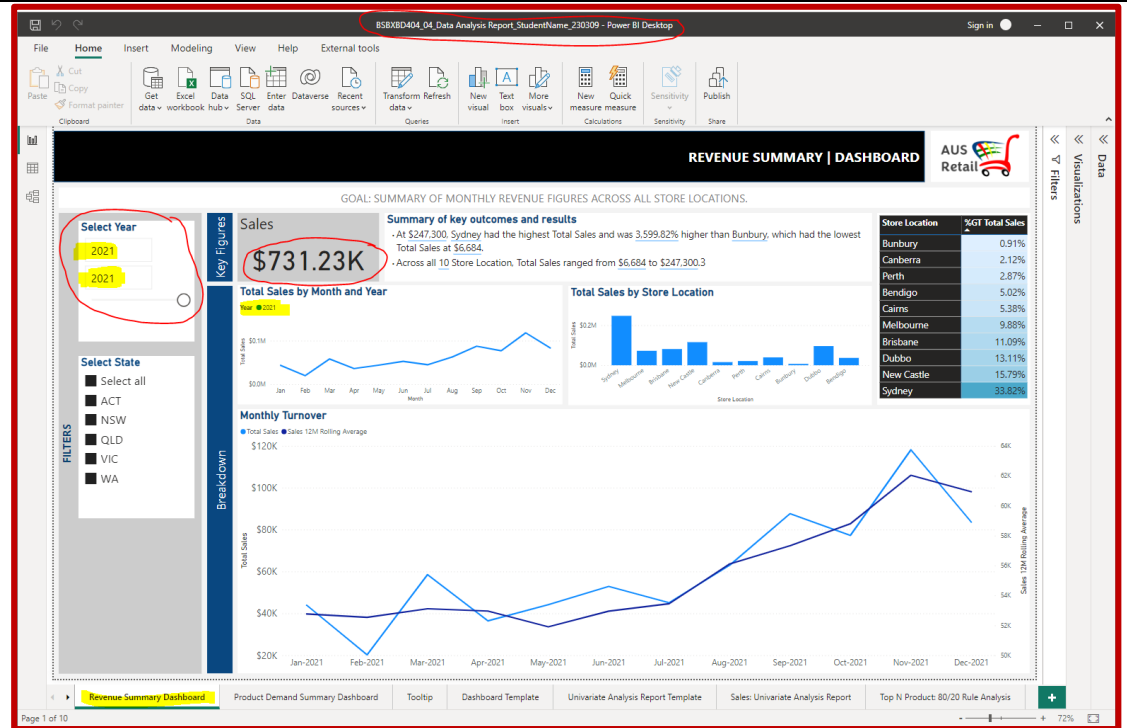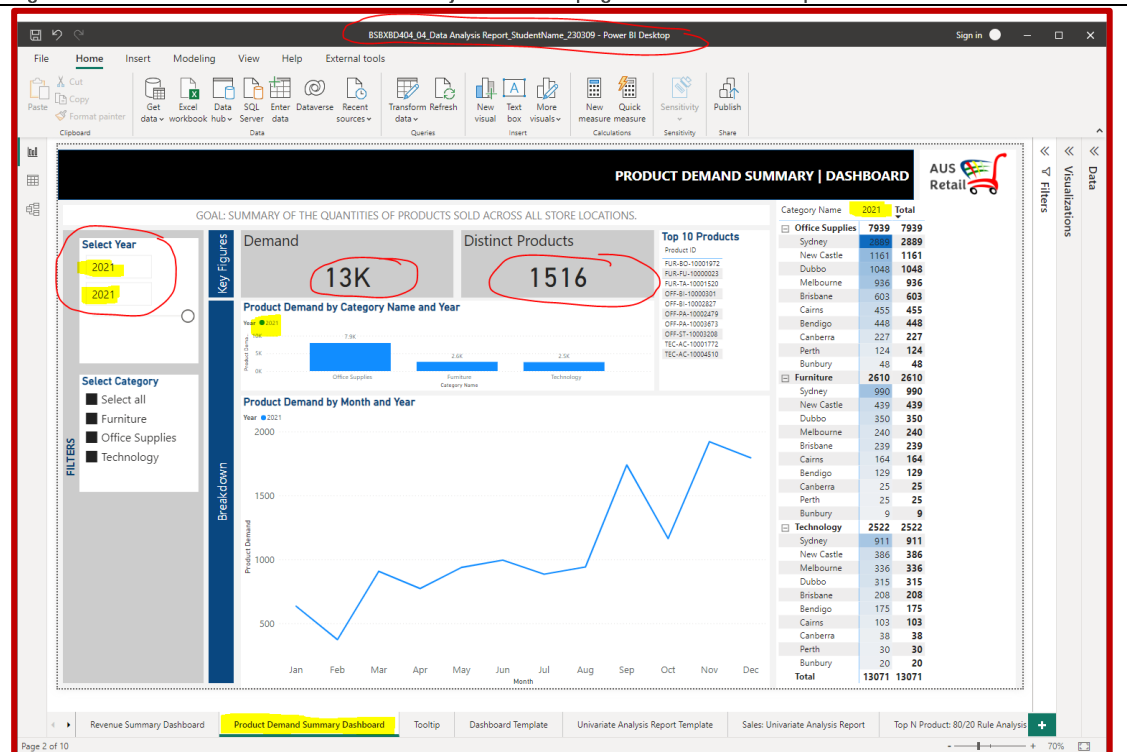| Required evidence:	Screenshot *(Tick the checkboxes in the 'Required evidence' column as you check your screenshot against each required item)*
B2a. Screenshot of the customised 'Revenue Summary Dashboard' page. **Note:** The screenshot must clearly show the following details: ☐ 'Report' view of the Power BI work file. ☐ Full view of the 'Revenue Summary' page showing the data relevant to the last calendar year recorded (i.e. 2021) ☐ Title bar showing the file name with your name initials and current date.	 Figure 1 – Screenshot of the 'Revenue Summary Dashboard' page in Power BI Desktop © Microsoft
B2b. Screenshot of the customised 'Product Demand Summary Dashboard' page. **Note:** The screenshot must clearly show the following details: ☐ 'Report' view of the Power BI work file. ☐ Full view of the 'Product Demand Summary' page showing the data relevant to the last calendar year recorded (i.e. 2021) ☐ Title bar showing the file name with your name initials and current date.	 Figure 2 – Screenshot of the 'Product Demand Summary Dashboard' page in Power BI Desktop © Microsoft

Required evidence:	Screenshot
	[Tick the checkboxes in the 'Required evidence' column as you check your screenshot against each required item]

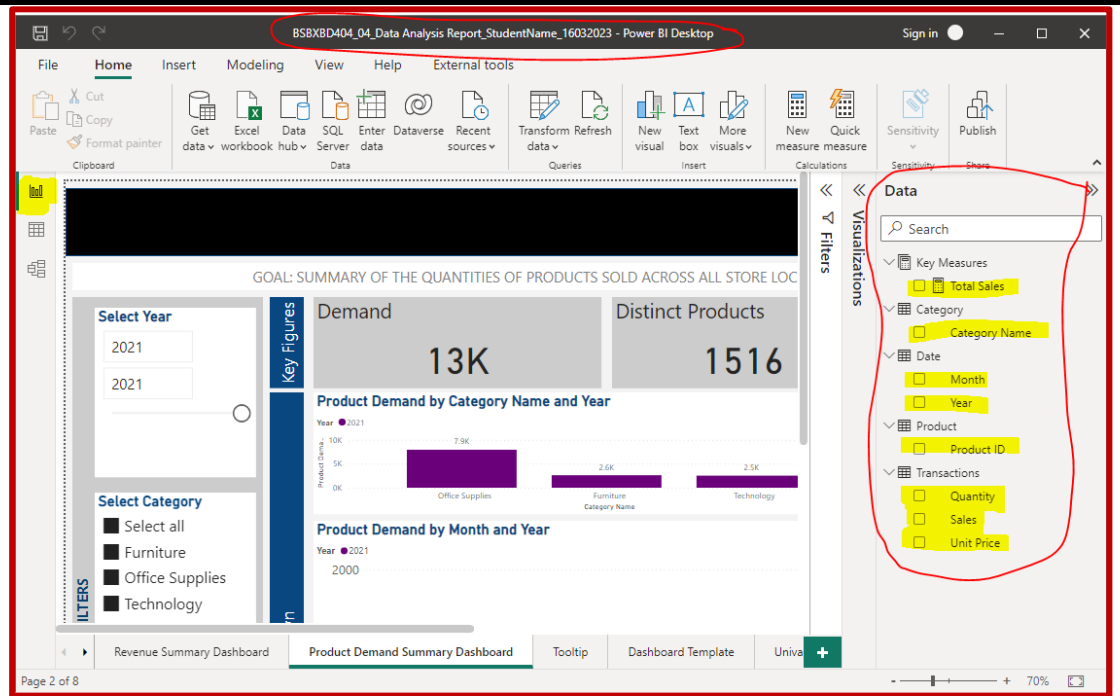|	
B3. Screenshot of 'Data' pane in Report view' of the Power BI work file. **Note:** The screenshot must clearly show the following details: ☐ 'Report' view of the Power BI work file. ☐ 'Data' pane visible, with expanded tables listing the required fields for the analysis. ☐ Title bar showing the file name with your name initials and current date.	 Figure 3 – Screenshot of the 'Data' pane in 'Report view' of Power BI Desktop © Microsoft

Note: Once you have recorded the screenshot evidence, save and close your Power BI work file as you will continue to work on this file again for the tasks in **Part C**.

Part C. Apply descriptive statistics and insight analysis

To complete this part of the assessment, you are required to:
- carefully read the scenario details outlined in **Part A** and within this section
- use the Power BI work file you previously worked on in **Part B** to conduct the statistical analysis tasks
- follow the organisational policies, procedures, guidelines and specifications provided.

Scenario:

To support operational decision-making, the summarised sales figures at the product level need to be statistically analysed. This is done to check for extreme values (outliers) that may impact the final report.

To perform this check, you must conduct a univariate analysis of the sales data. This type of analysis involves applying descriptive statistics to analyse the distribution of the summarised sales figures.

Task:

Create a univariate analysis report that analyses the distribution of the 'Sales' data in the 'Transactions' table by doing the following tasks.

1. Plan, organise and efficiently follow the logical sequence of steps outlined in 'AUS Retail_Data analysis and reporting policy.pdf' > section '7. Creating a univariate analysis report'.
2. Use mathematical concepts and statistics to complete, at times, complex calculations required for the report according to the specifications provided in the 'AUS Retail_DAX formula reference.pdf'.
3. Record relevant numerical data using the appropriate visuals in Power BI Desktop and ensure that the report includes the following key elements:
   a. the relevant report title and sub-title

b. the 10 essential descriptive statistics
c. a frequency distribution table
d. a histogram with a distribution curve
e. a summary of the statistical analysis insights
   Note: You must use clear, specific and industry-related terminology to represent the outcomes of the analysis in the report to:
   - indicate the shape of the data, central tendency and spread of the data
   - comment on any extreme values (outliers) if found to be present in the data

IMPORTANT: You must provide screenshots evidence of the univariate analysis report under 'Screenshot evidence:'. Read the 'Note' section carefully to understand the details that must be visible in each screenshot.

Screenshot evidence:

Include a screenshot of the univariate analysis report for 'Sales' data in the given space below.

Assessor instructions: The screenshot provided must show:
- the numerical information (descriptive statistics) as displayed in the sample screenshot provided
- the 'Data' pane, listing total of 15 new measures created by the Student. This includes 13 calculated measures under 'Statistics' table + 2 calculated columns under 'Transactions' table (see highlighted in yellow)
- the key elements of the report page and the required changes made to the report template. These are circled in red and highlighted in yellow for ease of identification.

Note: The screenshot must clearly show the following details:
[Tick the boxes as you check your screenshot against each required item]
- ☐ 'Report' view of the Power BI work file.
- ☐ Full view of the univariate analysis page showing the key elements of the report.
- ☐ 'Data' pane showing the new statistical measures (15 in total) created for the analysis.
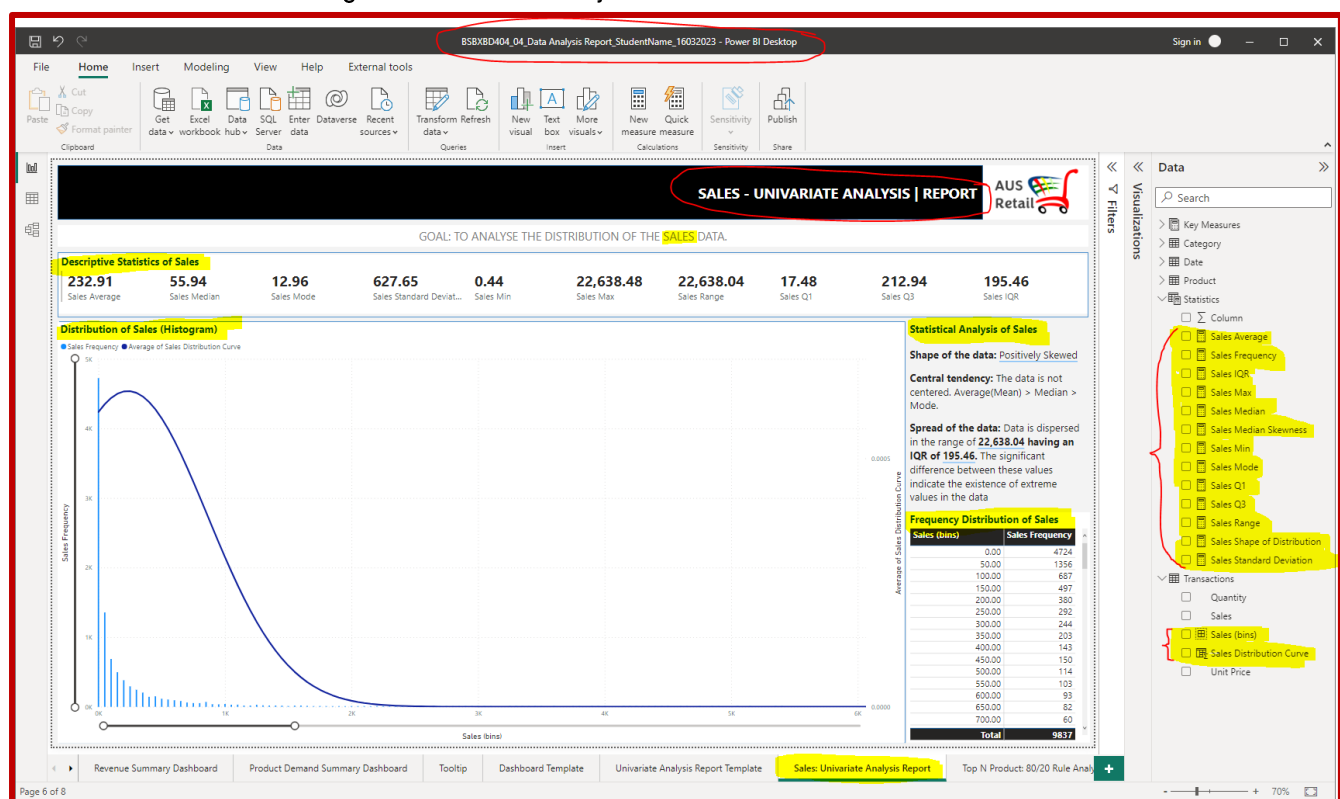- ☐ Title bar showing the file name with your name initials and current date.

Figure 4 – Screenshot of the 'Sales: Univariate Analysis' page created using **Power BI Desktop © Microsoft**

Note: Once you have recorded the screenshot evidence, save and close your Power BI work file, as you will continue to work on this file again for the tasks in **Part D.**

Part D. Use findings to identify insights into operational decision #1

To complete this part of the assessment, you are required to:
- carefully read the scenario details outlined within this section
- refer to and use relevant findings from the statistical analysis report created in **Part C**
- apply programming protocols and techniques when writing DAX statements as required in the tasks
- follow the procedure for integrating big data and analytics into operational workflow [Table 2: Checklist]
- continue using the same Power BI work file from **Part C** to do the tasks in this part of the assessment.

Scenario continued:

Previously you have statistically analysed the 'Sales' data required for operational decision-making and have created a univariate analysis report.

You have noticed that the data is affected by extreme values (outliers).

To ensure that the operational decision-making does not have any effects from extreme values, you need to first standardise the sales data and isolate any outliers using descriptive statistics from the previous analysis.

Secondly, you need to create an 80/20 rule (Pareto) analysis report to identify the range of products (the top N) that generates 80% of revenue, also considering the effect of outliers in the analysis and results.

Operational decision #1: From this 80/20 rule analysis the management wants to decide on the number of products (from the top N %) that should be selected for pricing adjustments for next year.

Tasks:

Task D1

Create a new calculated column in the 'Transactions' table called 'Z-Score Sales' to calculate standardised values for the sales data. When doing this task you must:

a. refer to and use the required descriptive statistics for this calculation from the previously created statistical analysis report in **Part C**

b. use the standard Z-score formula to create the calculated column 'Z-Score Sales'.

$$Z - Score\ Sales = \frac{([Sales] - Sales\ Average)}{Sales\ Standard\ Deviation}$$

c. apply the correct protocols and techniques when writing the DAX statement for the calculated column in Power BI.

d. include a copy of the correct DAX statement you used in the space below.
   Assessor instructions: The correct DAX statement is provided below.

   ```
   Z-Score Sales = DIVIDE(([Sales]-232.91), 627.65)
   ```

Task D2

Identify and isolate outliers from the sales data by doing the following.

    a. Create a new calculated column in the 'Transactions' table called 'Sales Outliers/Non-outliers'. This column needs to contain text as 'Outliers' or 'Non-outliers' based on the following condition.

       Calculated column condition: For all records that have a 'Z-Score Sales' value that is greater than three (3) or less than minus three (-3), the result should be 'Outlier'. Else, records should be identified as 'Non-outlier'.

    b. Apply the correct protocols and techniques to write the DAX statement for the z-score calculation and create the calculated column using the Power BI work file.

    c. Include a copy of the correct DAX statement you used in the space below.
       Assessor instructions: The correct DAX statement is provided below.

```
Sales Outliers/Non-outliers = If(
    ([Z-Score] > 3) || ([Z-Score] < -3),
    "Outliers", "Non-outliers"
    )
```

Task D3

Create an 80/20 rule analysis report to gain insights related to 'Operational decision 1#', as outlined in the scenario.

When doing this task you must:

    a. plan, organise and efficiently follow the logical sequence of the procedures outlined in 'Table 2' checklist.
    b. use mathematical concepts and statistics to complete, at times, complex calculations required for the report according to the specifications provided in the checklist.
    c. record relevant numerical data using the appropriate visuals in Power BI Desktop and ensure that the dashboard includes the following key elements:
        i. the relevant report title and sub-title
        ii. required filters to select the correct 'Year' and non-outliers from the sales data
        iii. a summary table (causes of products on sales)
        iv. a *Pareto* chart depicting the product impact on sales
        v. a *Scatter* chart to show the relationship between 'Product Rank' vs. 'Sales Cumulative %').

Assessor instructions: The students must complete all tasks in the 'Table 2' checklist. Evidence of completing all the tasks correctly will be visible in the completed Power BI dashboard screenshot provided by the Student. When marking the screenshot please refer to the additional assessor instructions provided under the section 'Screenshot evidence for Task D3:'.

Table 2 – Checklist: Procedures for operational decision #1

#	Procedure details	Tick/check ☒ once completed.
	Do the following tasks using the 'Report' view in the Power BI work file.	

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#	Procedure details	Tick/check ☒ once completed.
1.	Duplicate the 'Dashboard Template' to create a new page for the analysis. Rename the page as 'Top N Product: 80/20 Rule Analysis'.	☐
2.	Customise the title and sub-title of the dashboard as follows. • Title: 'Top N Product Sales (80/20 Rule) Analysis | Dashboard' • Sub-title: 'Goal: To identify the Top N range of products that causes 80% of the required results in sales.'	☐
3.	Include the required filters to the dashboard page so that subsets of data can be selected by: • 'Year' • 'Sales Outliers/Non-Outliers' field as 'Outliers' or 'Non-Outliers'. For the above two slicer visuals, ensure that: • Visual > Slicer header: **Off** • the titles of the slicer visuals are customised as appropriate (e.g. 'Select Year', 'Select Outlier/Non-outlier'), following the guidelines in the 'AUS Retail_Data analysis and reporting policy.pdf > section '6.3. Formatting the titles of visuals in a report'. • the numerical data is clearly presented in the visual (e.g. adjust the size of the 'Values' and 'Column headers' of the visual as required).	☐

4.	Create a field parameter to include the numeric range from 0 – 100% according to the following procedure and specifications.
	
	Procedure: From *Power BI Desktop,* navigate to the 'Modelling' tab > 'New parameter' > Select 'Numeric range' and customise according to the following specifications.
	
	Specifications:
	
	• Name of the parameter: **TopN%**
	• Data type: **Decimal number**
	• Min: **0**
	• Max: **1.001**
	• Increment: **0.001**
	• Default: **0**
	• Select option to 'Add slicer to the page'.
	
	Field formatting: Configure the TopN% field as a 'Percentage' format with one decimal point. The correct format should be visible in the 'Slicer' visual.
	
	Slicer format specifications:
	
	• Visual > Slicer header: **Off**
	• Visual > Values > Values> Font: **Segoe UI**, Size: **14**, Style: **Bold**, Color: **#FFFFFF**
	• Visual > Slider: **On**
	• General > Title> **On**
	    ○ Text: **Top N %**
	    ○ Font: **Segoe UI**
	    ○ Size: **14**
	    ○ Style: **Bold**
	    ○ Text color: **#FFFFFF**
	• General > Effects > Background > Color: **#094780,** Transparency: **0%**
		☐

5.	Create the following five (5) calculated measures in the correct logical order in Power BI. **Note:** All these measures must be created within the 'Key Measures' table. Use the DAX statements provided and apply correct programming protocols and techniques when typing in the DAX statements into Power BI's formula bar. **Measure 1**	☐

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```
Revenue($) from TopN% Products =
VAR ProductPercent = [Distinct Products] * [TopN% Value]
RETURN
 CALCULATE([Total Sales],
    FILTER(VALUES('Product'[Product ID]),
        RANKX(VALUES('Product'[Product ID] ), [Total Sales], , DESC ) <=
ProductPercent ) )
```
Note: Format this measure to display in a **currency** format.

Measure 2

```
Revenue(%) from TopN% Products = DIVIDE([Revenue($) from TopN% Products], [Total
Sales])
```
Note: Format this measure to display in a **percentage** format.

Measure 3

```
Product-Sales Cumulative Percentage =
VAR ProductRev = [Total Sales]
VAR AllSales = CALCULATE([Total Sales], ALLSELECTED(Transactions))

RETURN
DIVIDE (
SUMX (
    FILTER(
        SUMMARIZE( ALLSELECTED(Transactions), 'Product'[Product ID],
            "Revenue", [Total Sales]),
                [Revenue] >= ProductRev),
                    [Revenue]),
    AllSales, 0)
```
Note: Format this measure to display in a **percentage** format.

Measure 4

```
Product Rank = RANKX (ALLSELECTED('Product'[Product ID]), [Product-Sales Cumulative
Percentage], , ASC)
```

Measure 5

```
No. of Selected Products from TopN% = [Distinct Products] * [TopN% Value]
```
Note: Format this measure to display in a **whole number** format.

6.	Use 'Card' visuals to display the following key measures relevant to the analysis and format according to the specifications given.	☐

Key Measure	Name to display on visual	Visual formatting
[Total Sales]	Total Revenue	• Visual >Category label: **Off**
[Revenue[$] from TopN% Products]	Revenue[$] from TopN	• General > Title: **On**
[Revenue[%] from TopN% Products]	Revenue[%] from TopN	o **Title text:** Display as specified in *'Name to display on visual'* column.
[No. of Selected Products from TopN%]	Top N Products	o Font: **Segoe UI**, Size: **22**

Visual formatting (continued):
- Visual >Category label: **Off**
- General > Title: **On**
  - **Title text:** Display as specified in *'Name to display on visual'* column.
  - Font: **Segoe UI**, Size: **22**
- General > Effects > Background colour: **#CCCCCC**

Important: Ensure that the numerical values displayed on the 'Card' visuals are in their correct formats [e.g. currency, percentage, whole number etc].

7.	Create a summary table using the following columns.	☐

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#	Procedure details	Tick/check ☒ once completed.

	• Table Title: **Summary Table**
	• Table columns:
	    ○ 'Product'[Product ID]
	    ○ 'Key Measures'[Total Sales]
	        ▪ Note: Change the name of this field for this visual as 'Total Revenue'
	    ○ 'Key Measures'[Product-Sales Cumulative Percentage]
	        ▪ Note: Change the name of this field for this visual as 'Product Rev. Cumulative %'
	    ○ 'Key Measures'[Product Rank]
	        ▪ Note: Change the name of this field for this visual as 'Ranking'
	• Table format: Set the visual > Style presents to 'Bold header'.
	• Sort the table by the 'Total Sales' field in descending order.	

8.	Create a *Pareto* chart to showcase the 'Product' impact on 'Sales', using the necessary visualisations, data fields and previously created calculated measures according to the following specifications. • Chart type: Line and stacked column chart • X-axis: 'Product'[Product ID] • Column y-axis: 'Key Measures' [Total Sales] • Line y-axis: 'Key Measures' [Product-Sales Cumulative Percentage] ○ Note: Change the name of this field for this visual as 'Product Rev. Cumulative %' • Column legend: 'Transactions'[Outliers/Non-outliers] • Chart title: 'Pareto Chart [Product impact on Revenue]' • Data labels: **On**	☐
9.	Create a 'Scatter' chart to show the relationship between [Product Rank] vs. [Product Sales Cumulative Percentage]. • Chart type: Scatter chart • Values: 'Product'[Product ID] • X-axis: 'Key Measures'[Product Rank] • Y-axis: 'Key Measures'[Product-Sales Cumulative Percentage] ○ Note: Change the name of this field for this visual as 'Product Rev. Cumulative %' • Legend: 'Transactions'[Outliers/Non-outliers] • Chart title: 'Scatter Chart [Product Rank vs. Rev. Cumulative %]'	☐
10.	Use the dashboard to analyse the product impact on revenue for year 2021 excluding any outliers from the sales data. As part of this task, you must: • generate summaries from the 'Scatter chart' and the 'Pareto Chart' and include these insights in a single 'Smart Narrative' visual. • set the title of the 'Smart Narrative' visual as 'Summary of key insights and outcomes:'.	☐
11.	Adjust the TopN% slider to identify the number of products that should be selected to achieve at least 80% of revenue (i.e. operational decision #1).	☐
12.	Add constant lines in 'X-axis' and 'Y-axis' of the scatter chart to clearly indicate:	☐

#	Procedure details	Tick/check ☒ once completed.
	• the 80% mark of the cumulative sales figures • the number of products that achieves the 80% mark of the cumulative sales (i.e. operational decision #1). Note: Enable the 'Zoom slider' of the 'Scatter chart' visual to clearly present the point where the constant lines intersect.	
13.	Ensure the placement of all visuals in the report are according to the guidelines in the 'AUS Retail_Data analysis and reporting policy.pdf' document.	☐
14.	Include a screenshot of the completed analysis report under the 'Screenshot evidence:' section. Read the 'Notes' carefully to understand the details that must be visible in the screenshot.	☐

Task D4

Outline the key insights of this analysis and your recommendations on 'Operational decision #1', under the section 'Written answer for task D4:'.

[Word count: 75-100 words]

Important: You must use clear, specific and industry-related terminology to indicate the following.

a. **Summary of key findings from the 80/20 rule analysis:**
   o Comment on the following figures generated from the analysis.
      ▪ Top N % of products,
      ▪ the number of the top N products represented by the Top N%
      ▪ the percentage and actual revenue values generated from the Top N% of products.
   o Comment on the difference of the above figures when outliers are included in the analysis.

b. **Recommendations on operational decision #1:** Comment and justify the recommended number of top N products that should be selected to apply price adjustment.

Screenshot evidence for task D3:

Assessor instructions: The screenshot provided may have different values due to different contexts/filters selected by the Student. However, the following characteristics must be visible in the screenshot.

- The values displayed on the dashboard should be in the context of the year 2021 and should include only 'Non-outliers' (See yellow highlighted selections in the 'filters' section of the dashboard page, in the sample screenshot)
- The value selected for the 'TopN %' must represent a revenue percentage of 80% or more according to the requirements for 'Operational decision #1'. **Note:** The sample screenshot provided below displays the numerical values in the context of when the 'TopN%' parameter is set to 25.6%.
- The 'Data' pane must show a total of nine (9) new items created by the Student (see highlighted in the sample screenshot). This includes:
   o Five (5) calculated measures under the 'Key Measures' table.
   o Two (2) measures created under the 'TopN%' table – these are created automatically when the Student creates the 'TopN%' parameter correctly.
   o Two (2) calculated columns under the 'Transactions' table.
- The key elements of the report/dashboard page must be visible along with any changes made to the report template. These are circled in red and highlighted in yellow in the sample screenshot for ease of identification.

Notes: The screenshot for task D3 must clearly show the following details:
[Tick the checkboxes as you check your screenshot against each required item]

- ☐ 'Report' view of the Power BI work file.
- ☐ Full view of the 'Top N Product Revenue: 80/20 Rule Analysis Report' page showing key elements of the report such as:
  - ☐ the relevant report title, and sub-title
  - ☐ required filters to select the correct 'Year' and 'Non-outliers' from the sales data
  - ☐ a summary table (causes of products on sales) including the necessary columns ('Product ID', 'Total Revenue', 'Product Rev. Cumulative %', 'Ranking')
  - ☐ a *Pareto* chart representing the product impact on revenue
  - ☐ a *Scatter* chart to show the relationship between 'Product Rank' vs. 'Rev. Cumulative %').
- ☐ 'Data' pane showing the new statistical measures, calculated columns and field parameters (9 items in total) created for this analysis.
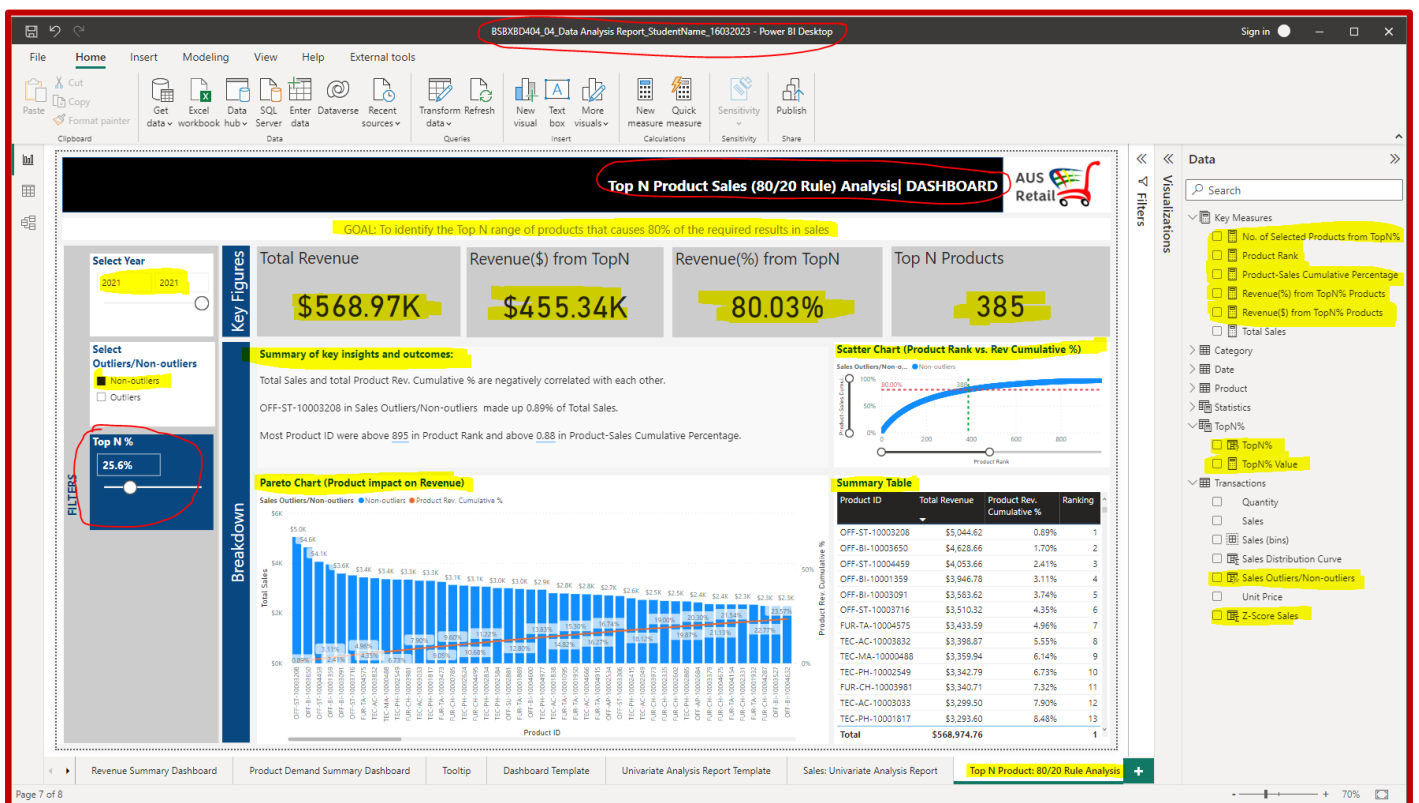- ☐ Title bar showing the file name with your name initials and current date.

Figure 5 – Screenshot of the 'Top N Product: 80/20 Rule Analysis' page created using Power BI Desktop © Microsoft

Note: Once you have recorded the screenshot evidence, save and close your Power BI work file as you will continue to work on this file again for the tasks in **Part E.**

Written answer for task D4:

Assessor instructions: Student responses are likely to include different wording than the sample answer provided. However, the acceptable responses must:
- be within the specified word limit
- reflect the characteristics described in the exemplar answer.

A sample answer is provided below.

Summary of key findings from the 80/20 rule analysis: Based on the 2021 data (outliers excluded) a total of 385 products (25.6% of TopN) generated 80.03 % of revenue (i.e. $45,534,000)

When outliers are included in the analysis, the 25.6% Top N represented a total of 388 products which generated 83.89% of revenue (i.e. $61,343,000)

Recommendation on operational decision #1: Therefore, it is recommended to select at least 388 top N products to apply price increases to achieve next year's sales target, as these products have the most impact on revenue.

ASSESSOR GUIDE

(BSBXBD404) Use big data for operational decision making

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