

Data Visualization Specialist Interview Case Study

**Background**

Wonderland is an Australian-based start-up company who provides outdoor adventure and sporting products national-wide#.

As a senior Insights Analyst, you are working closely with business to lead the commercial analytics and insights. Senior stakeholders rely you to help them identify business problem, produce clear visualisation and meaningful performance insights which ultimately leads to a data-driven decision making.

You are given the sales data of Wonderland (Jan 2015 to Jun 2017).

|  |  |
| --- | --- |
| **File** | **Description** |
| *Customers.csv* | Personal information of each customer |
| *Product\_Categories.csv* | Highest level category |
| *Product\_Subcategories.csv* | Category and subcategory mapping |
| *Products.csv* | Detailed information of each product |
| *State\_Mapping.csv* | Dictionary of 5 Australian states |
| *Product\_Sales\_2015.csv* | 2015 records of sales down to customer and date level |
| *Product\_Sales\_2016.csv* | 2016 records of sales down to customer and date level |
| *Product\_Sales\_2017.csv* | 2017 records of sales down to customer and date level |
| *Product\_Returns.csv* | Records of product return |

**Task:**

Your task is to build a senior management dashboard for C-suite such as CEO and CMO (Chief Marketing Officer). A sample insight could be ‘*What are the long-term trend of sales turnover across different states’?*

**Insights to include:**

**1. Return Rate Analysis**

* **Calculate Return Rate by Product:**  
  Identify products with the highest return rates. A high return rate might indicate quality issues or mismatched customer expectations.
* **Return Rate by Product Subcategory/Category:**  
  Helps identify whether specific product lines are more prone to returns.

**2. Customer Behavior**

* **Customer Segmentation by Return Frequency:**  
  Identify customers who frequently return products and investigate potential reasons (e.g., mismatch in expectations, misuse of products).
* **Average Return Time:**  
  Measure how long it takes customers to return products after purchase. This can reveal trends in customer behavior.

**3. Financial Impact**

* **Loss Due to Returns:**  
  Analyze the financial impact of returns on revenue and margins.
* **Return Costs by Product/Category:**  
  Understand which products incur the highest return-related costs (e.g., restocking, logistics).

**Hints:**

* You will to be actively thinking about what is the key information C-suite needs to know in order to run business more efficiently.
* Your solution will be a good starting point but not necessarily to be prefect and comprehensive. Your thought process is important as well.
* Either Tableau or PowerBI is fine.
* Make any assumption if needed.
* Not all data need to be used.

# Wonderland is fictitious. The dataset is mock up only.

**Technical Criteria:**

* Develop dashboard in Power BI
* Avoid using “Customised Apps” for the dashboard only use the standard tools available in Power BI only. Standard tools are:

