

Dear Client,

Thank you for providing us with the three datasets from Sprocket Central Pty Ltd. The below table highlights the summary statistics from the three datasets received. Please let us know if you have any queries surrounding the issues presented.

Summary Table

	Accuracy	Completeness	Consistency	Currency	Relevancy	Validity
Customer Demographic	DOB: inaccurate Age: missing	Job title: blanks Customer id: incomplete	Gender: inconsistency	Deceased customers: filter out	Default columns	
Customer Address		Customer id: incomplete	States: inconsistency			
Transactions	Profit missing	Customer id: incomplete Online order: blanks Brand: blanks			Cancelled status order: filter out	List price: format Product sold date: format

Below are more in depth descriptions of data quality issues discovered and methods of mitigation used. Recommendations and explanations have also been included to avoid further data quality issues in the future. Following recommendations will improve the accuracy of data used to influence business decisions of Sprocket Central Pty Ltd in the future.

Accuracy Issues:

- **DOB was inaccurate for “Customer Demographic” and missing an age_column; missing a profit column for “Transactions”**

*Mitigation: filter out outlier in **DOB***

*Recommendation: Create an **age_column**, allowing for more comprehensible data and easier to check for errors. Create a **profit_column** in “**Transactions**” to check accuracy of sales.*

*Creating additional columns for age and profit will allow for easier identification of errors. The **profit_column** will assist in future monetary analysis.*

Completeness

- **Additional customer_ids were inconsistent among “Customer Demographic,” “Customer Address,” and “Transactions”**

*Mitigation: Filter all **customer_ids** from 1 to 3500*

*Recommendation: Ensure tables are up to date (from the same time period). For our model, only **customer_ids** from 1 to 3500 will be used as they complete data.*

The data received may not be in sync across all spreadsheets, with incomplete data the analysis results may be skewed. This is a ‘completeness’ issue, to prevent future occurrences it is encouraged to check spreadsheets and sync data.

- **Blanks in job_title for “Customer Demographic,” in online_order and brand_column for “Transactions”**

*Mitigation: Filter out ‘blank’ for **job_title**, **online_order**, and **brand_column**.*

*Recommendation: Simplify **job_title** to another category such as **industry_industry** or provide dropdown options for **job_title**. Provide dropdown options for **online_order** and **brand_column**.*

Blanks are treated as incomplete data and can skew further analysis result. The addition of dropdown options will allow to have more complete data and result in more accurate analysis.

Consistency

- **Inconsistency in gender for “Customer Demographic” and “Customer Address” respectively**

*Mitigation: Filter all ‘M’ under category of ‘Male,’ filter all ‘Femal and ‘F’ under ‘Female’ for **gender**. Filter all ‘New South Wales’ and ‘Victoria’ to ‘VIC’ for states.*

*Recommendation: Create dropdown options for male female and U in gender. Create dropdown for all **state** abbreviations*

Dropdown options, minimizes manual entries and human error. Allows for increase of consistency of terminology. Gender identity can be a sensitive topic, proceed with caution when creating options.

Currency

- **People that are ‘Y’ in deceased_indicator are not current customers for “Customer Demographic”**

*Mitigation: filter out customer checked ‘Y’ in **deceased_indicator**.*

Recommendation: Can be difficult to check for deceased customers, but once this information is received one should update data accordingly.

Deceased customers are not current customers, removing them data will increase currency of data and will result in more accurate estimates in future analysis.

Relevancy

- **Lack of relevancy or comprehensibility in default_column for “Customer Demographic” and order_status for “Transactions”**

Mitigation: Deleted metadata in default column. Filter out ‘Cancelled’ order status.

Recommendation: Check for incomprehensible metadata and delete or format to make comprehensible.

‘Cancelled’ order status is irrelevant information for future analysis, as it can skew data for example total number customer per annum will be an overestimate

Validity

- **Format of list_price, product_sale_date for “Transactions”**

*Mitigation: Format **product_sale_date** to short date format, format list price to currency.*

Recommendation: Set up columns so that format such as price and decimals are ready in place when entering a new data.

Allowable values will make data to be interpreted more easily. Formatting into price and allowing for either two or three decimals placed consistently will increase readability. This will reflect positively on speed and accuracy of an analysis for business decisions.

That summarizes all data qualities issues discovered through the first stage of the data quality analysis. The mitigation strategies suggested as simple and effective ways of improving data quality for future analysis. They will not only improve the analysis output that one can perform within the company but will increase the level of analysis that can be performed by KPMG and other hired analysis teams.

Please let us know if you have questions regarding mitigation or any data quality issues identified.

Kind regards,

Emmanuel Adeniyi.