

Developing a
suitable model to
predict the total
sales of SuperKart's
stores for the
upcoming quarter

Executive summary

This predictive model can be effectively employed to anticipate the forthcoming quarter's total sales for SuperKart. The model proficiently explains around 82% of the variability evident in the data.

Notably, OUT004, classified as Supermarket Type2 and situated in a Tier 2 city with a medium-sized store, is demonstrating commendable performance.

- Enhancing this store's size from medium to large could be a viable strategy for SuperKart.
- It might be advantageous to establish stores in similar socio-economic settings to expand their market outreach.

Another instance of success is OUT002, functioning as a food mart in a Tier 3 city with a modest store size.

- An option worth considering is upgrading the store size or targeting analogous cities for potential business expansion.

However, the performance of OUT001, a Supermarket Type 1 store located in a Tier 2 city with a substantial store size, falls short of expectations.

- It could be beneficial for SuperKart to formulate novel marketing strategies, including attractive discounts and offers, to attract a larger customer base to this store.

A similar strategy can be applied to stimulate growth for OUT003, identified as a Departmental store in a Tier 1 city with a medium-sized store.

- As a premium store that primarily sells higher-cost items, focused targeting of the right audience is pivotal for its success.

Executive summary

Products catering to daily necessities like fruits, vegetables, and snack foods are major contributors to revenue across all outlets.

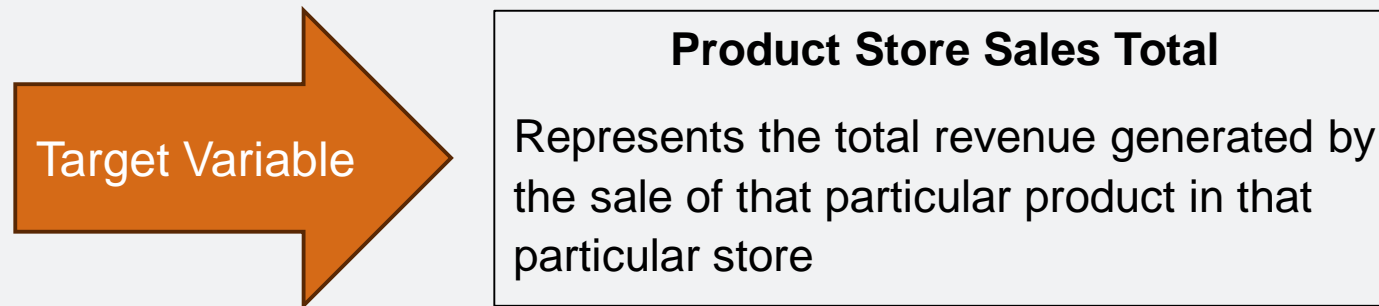
- SuperKart's vigilance in maintaining consistent inventory levels for these products is imperative to avoid supply shortages.

Incorporating customer demographics such as age and gender into the model could yield better audience insights, enabling the company to tailor their sales strategies more effectively.

A consideration for seasonal festivities occurring in a quarter can guide inventory adjustments, ensuring preparedness for heightened demand during these periods.

Overview

- The dataset contains **16 distinct product types**, with the highest sales occurring in the "fruits and vegetables" category (1249 occurrences).
- There are a total of **4 unique stores** represented in the dataset.
- **Sales revenue** for specific products at different outlets varies widely, ranging **from 33 to 8000**. **Around 75% of the values exceed 2762**.
- The **average store sales amount to approximately USD 34,640**, while the median store sales value is around USD 34,523. This indicates a slight rightward skew in the distribution of Product Store Sales Total.

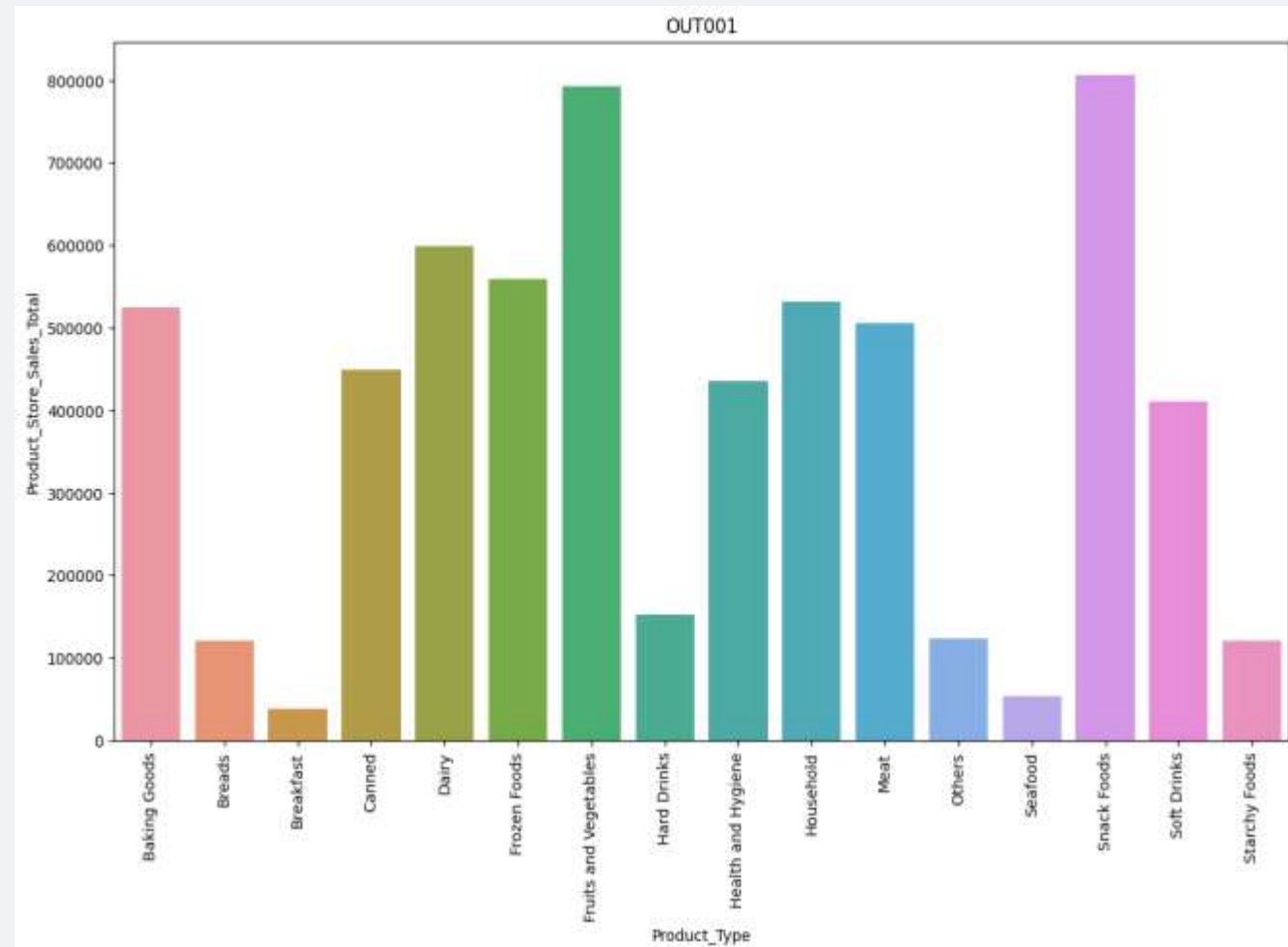


Exploratory Data analysis per store

store: OUT001

Total Revenue
\$6,223,113

- OUT001 is a **Supermarket Type 1** store situated in a **Tier 2 city**. The store boasts a **high-size profile** and was established in the year 1987.
- The products sold at OUT001 encompass a range of MRP values, spanning from \$71 to \$ 227.
- Snack Foods claims the title for the highest sales frequency.
- Revenue per product varying between \$2300 and \$5000.
- OUT001 has garnered the **highest revenue through the sale of fruits and vegetables** as well as snack foods, with both categories contributing approximately 800,000 units each.
- Conversely, breakfast items and seafood have yielded the lowest revenue, each contributing less than 70,000 units to OUT001's total revenue.

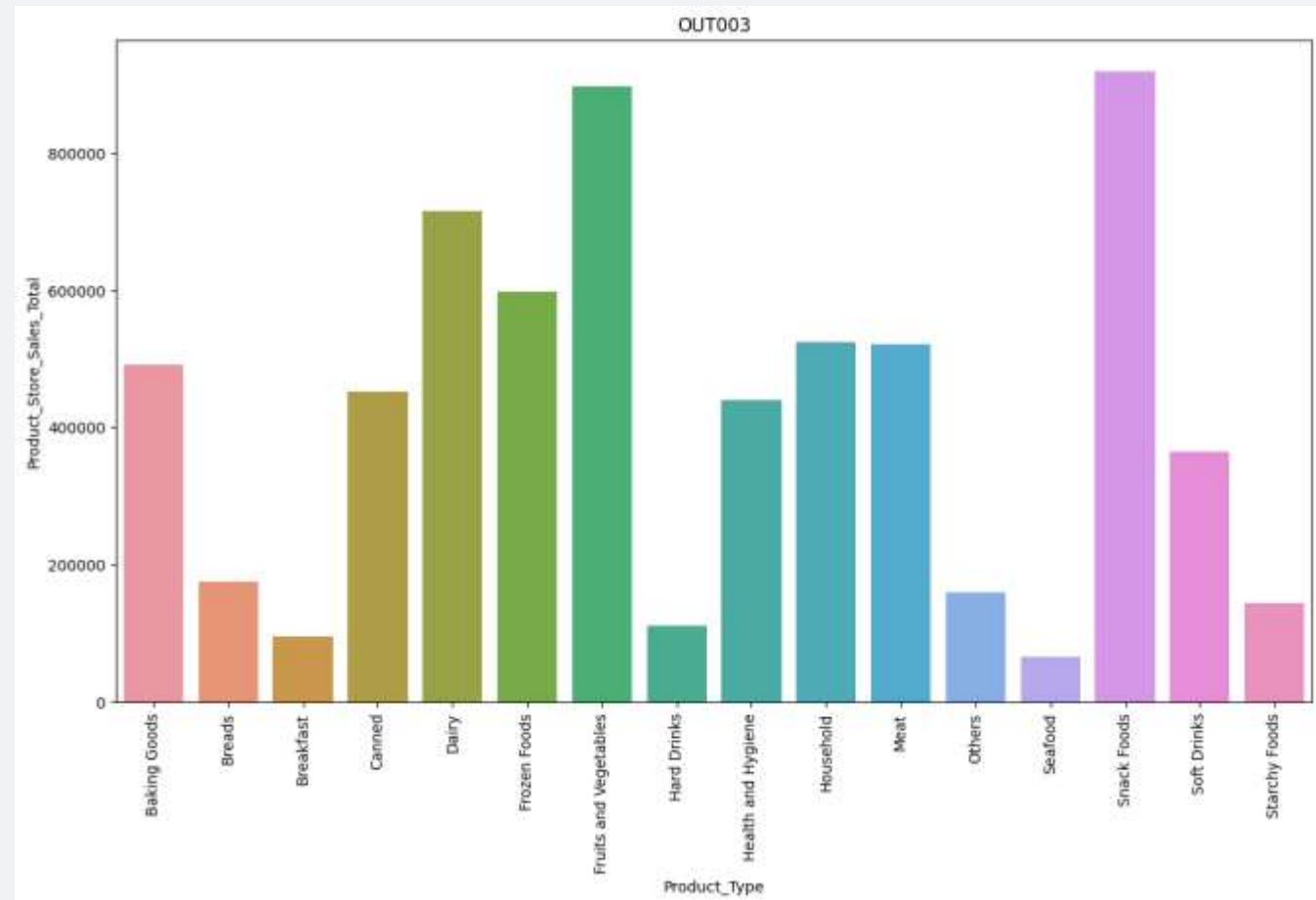


Exploratory Data analysis per store

store: OUT002

Total Revenue
\$2,030,910

- OUT002 is a **Food Mart** store situated in a **Tier 3 city**. The store boasts a **small-size profile** and was established in the year 1998.
- The products sold at OUT002 encompass a range of MRP values, spanning from \$31 to \$225.
- Fruits and Vegetables have the highest sales frequency.
- Revenue per product varying between \$33 and \$2300.
- **Highest revenue through the sale of fruits and vegetables as well as snack foods**, with both categories contributing approximately 300,000 and 250,000 respectively.
- Conversely, breakfast items and seafood have yielded the lowest revenue, each contributing less than 40,000 units to OUT001's total revenue.

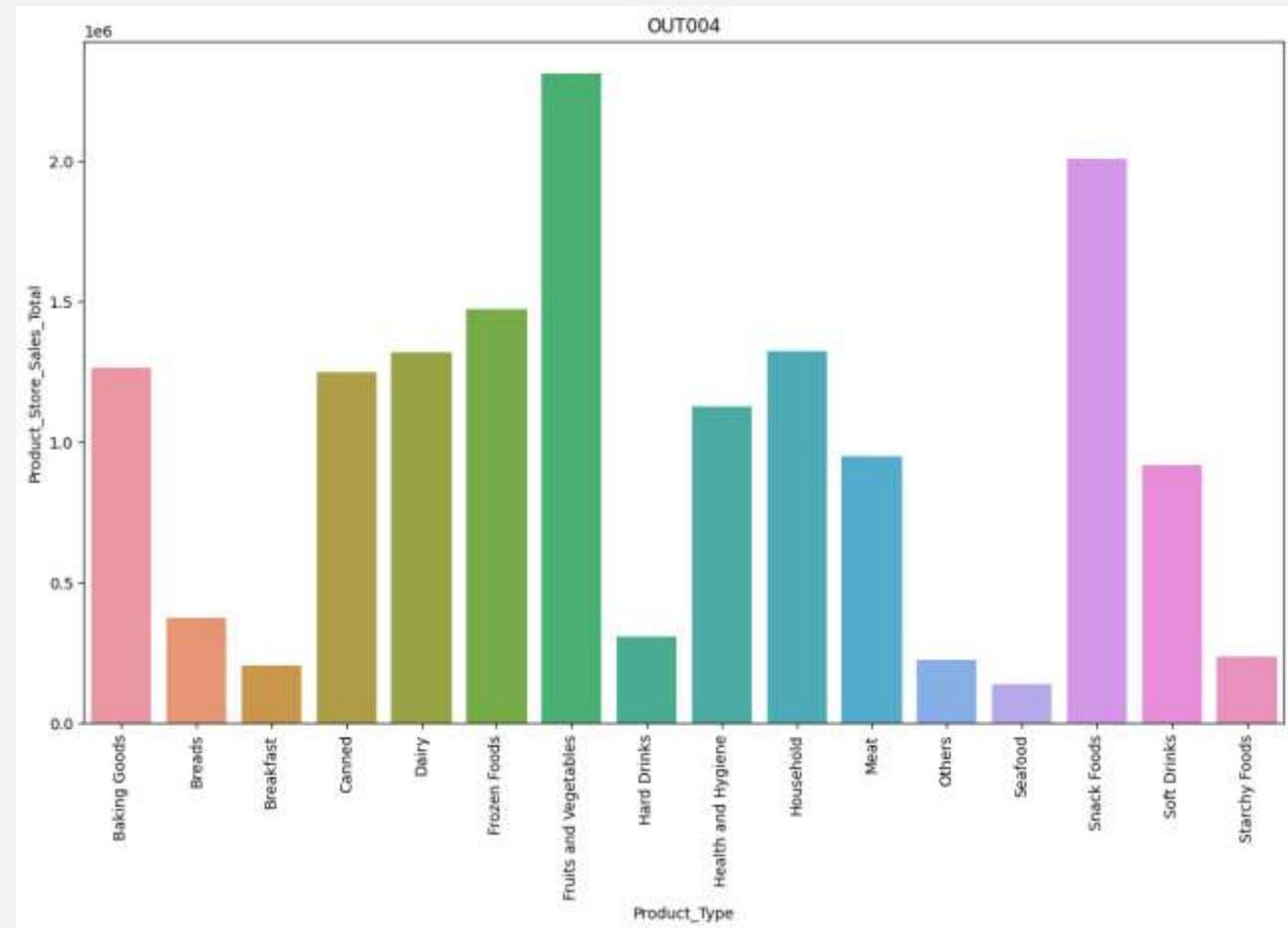


Exploratory Data analysis per store

store: OUT003

Total Revenue
\$6,673,458

- OUT003 is a **Departmental Store** situated in a **Tier 1 city (premium store)**. The store boasts a **medium-size profile** and was established in the year 1999.
- The products sold at OUT003 encompass a range of MRP values, spanning from \$3069 to \$8000.
- Snack Foods claims the title for the highest sales frequency.
- Revenue per product varying between \$678 and \$8000.
- OUT004 has generated the highest revenue from the sale of fruits and vegetables (~ 2500000) followed by snack foods (~ 2000000).

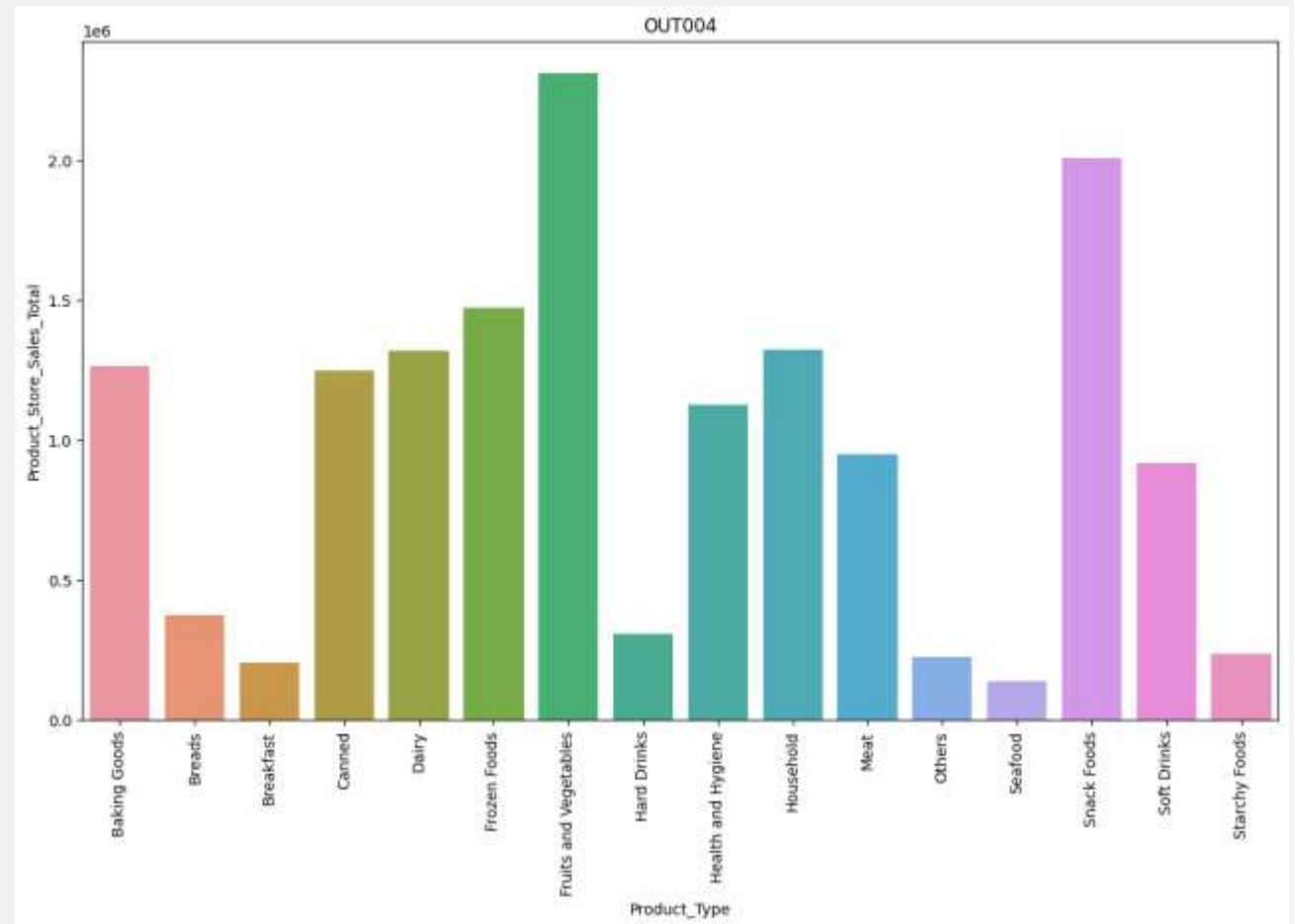


Exploratory Data analysis per store

store: OUT004

Total Revenue
\$15,427,583

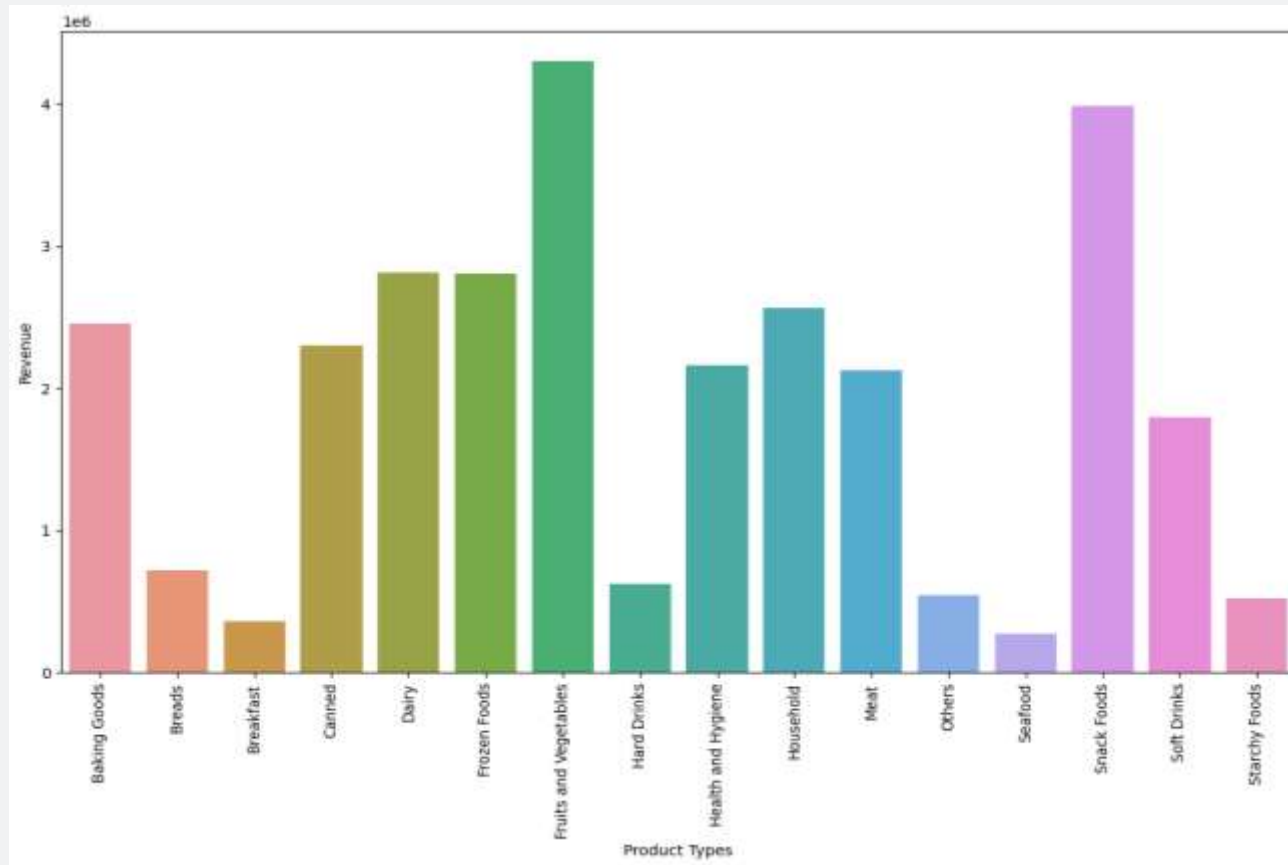
- OUT004 is a **Supermarket Type2** store in a **Tier 2 city**. The store boasts a **medium-size profile** and was established in the year 2009.
- The products sold at OUT004 encompass a range of MRP values, spanning from \$83 to \$198.
- Fruits and vegetables have the highest sales frequency.
- Revenue per product varying between \$1561 and \$5463.
- OUT004's highest revenue is through the sale of fruits and vegetables as well as snack foods, both contributing approximately 2,500,000 and 2,000,000 respectively.



Insights

- Across all product types, **OUT004 stands out as the top revenue generator**, which aligns logically given that approximately 53% of the total products were purchased from this particular store.
- In contrast, **OUT002 consistently reports the lowest revenue** across all product categories. This outcome is unsurprising, considering the store's small size and location in a Tier 3 city.
- The revenue generated by OUT004 is more than two times that of OUT003 across all product types.

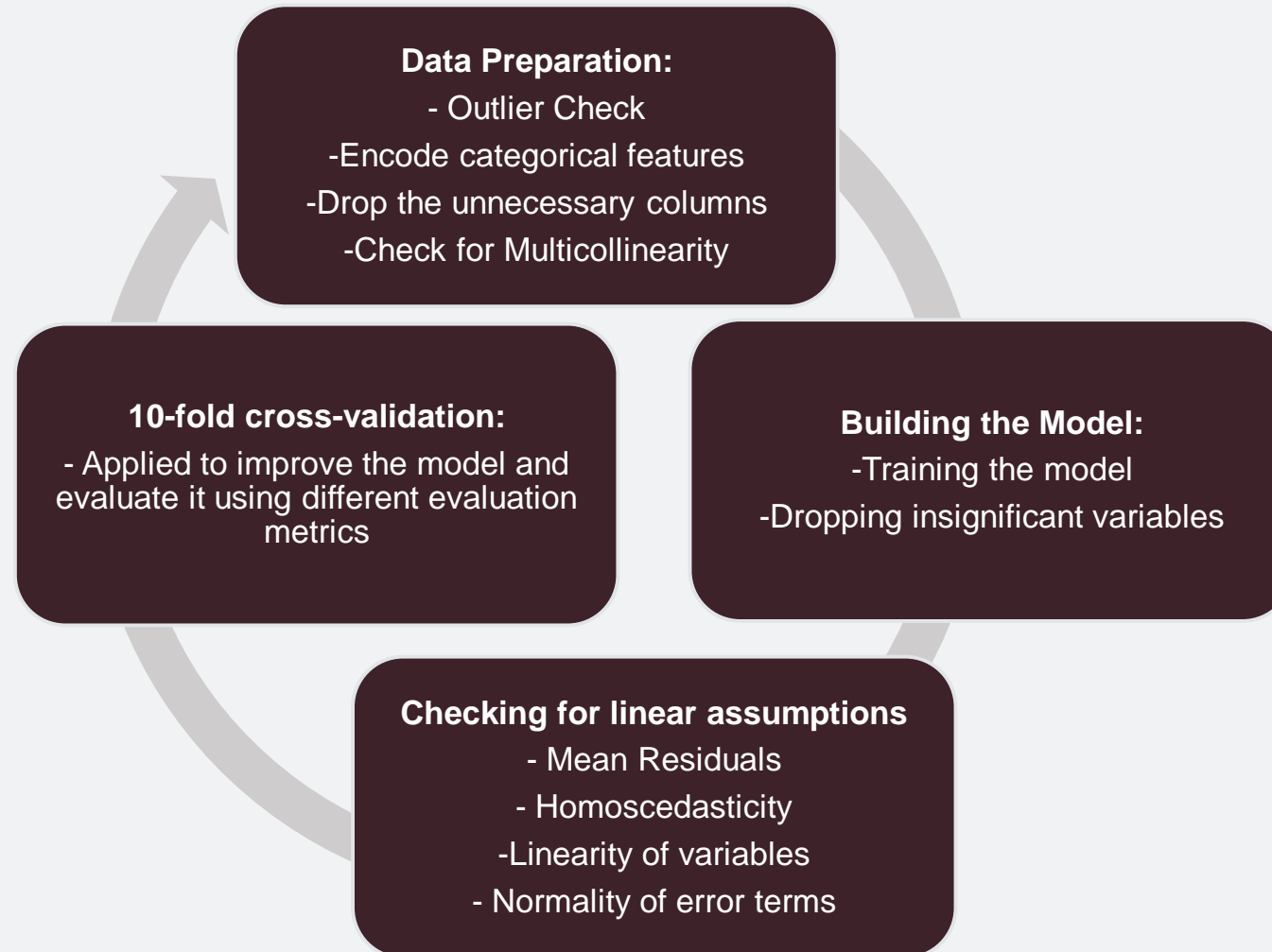
Exploratory Data Analysis



Which product type of the company generates most of the revenue?

- The revenue of SuperKart is primarily driven by sales of "**Fruits and Vegetables**" and "**Snack Foods**."
- Conversely, "Seafood" accounts for the lowest revenue contribution to SuperKart.
- "Dairy" and "Frozen Foods" make nearly equal contributions to the company's revenue.

A Machine Learning model that can predict SuperKart's sales has been created with 82% accuracy and precision



A summary of the most influential features relating to store sales and some recommended action steps

Stores	Performance	What can SuperKart do about it?
OUT001	<ul style="list-style-type: none">• Supermarket Type 1, located in a Tier 2 city and having store size as big/high is underperforming• Low Revenue	<ul style="list-style-type: none">• Build new marketing strategies• Giving attractive discounts and offers in this store in order to attract more customers.
OUT002	<ul style="list-style-type: none">• Being a food mart in a Tier 3 city and having small store size, is performing well.• Moderate Revenue	<ul style="list-style-type: none">• SuperKart can look to upgrade its size• Target similar cities for business expansion.
OUT003	<ul style="list-style-type: none">• Departmental store in a Tier 1 city and having store size as medium• Premium Store of the company• Moderate Revenue• Most costly goods are sold here	<ul style="list-style-type: none">• As it's a premium store, SuperKart should focus on targeting the correct set of audience• Build new marketing strategies accordingly
OUT004	<ul style="list-style-type: none">• Supermarket Type2, located in a Tier 2 city and having a store size as medium, has an outstanding performing• High Revenue	<ul style="list-style-type: none">• SuperKart can look to increase the size of this store from medium to high.• Set up stores in this type of city having comparable socio-economic conditions to expand their business and reach.

Additional conclusions and recommendations

Features	Performance	What can SuperKart do about it?
Products: Fruits and vegetables and Snack foods	<ul style="list-style-type: none">• They represent the biggest contributors to the revenue across all the stores.	<ul style="list-style-type: none">• SuperKart should look to maintain the inventory of these products properly.• Ensure that these products never face a shortage.
Customers' details	<ul style="list-style-type: none">• The data is missing customer information• These customers' details could add value to SuperKart's target audience	<ul style="list-style-type: none">• The company should get basic details about their customers i.e. gender, age• To build their sales strategies according to that.
Festive Occasions	<ul style="list-style-type: none">• SuperKart does not seem to take into account the number of festive occasions present in a quarter	<ul style="list-style-type: none">• The company should keep a watch for the number of festive occasions in a quarter• So that they can strategize their inventory accordingly.