

A hand holding a smartphone in a supermarket aisle. The background is a blurred view of supermarket shelves stocked with various products. A network of white lines and dots is overlaid on the image, connecting different points across the frame. A large, semi-transparent yellow rectangle is centered over the image, containing the title and author information.

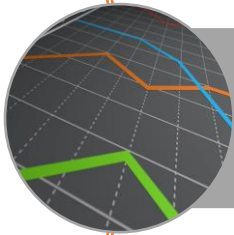
# Capstone Project Saffron Retailors Ltd.

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# Establishment



Saffron Retailers are prominent players in terms of Indian grocery markets



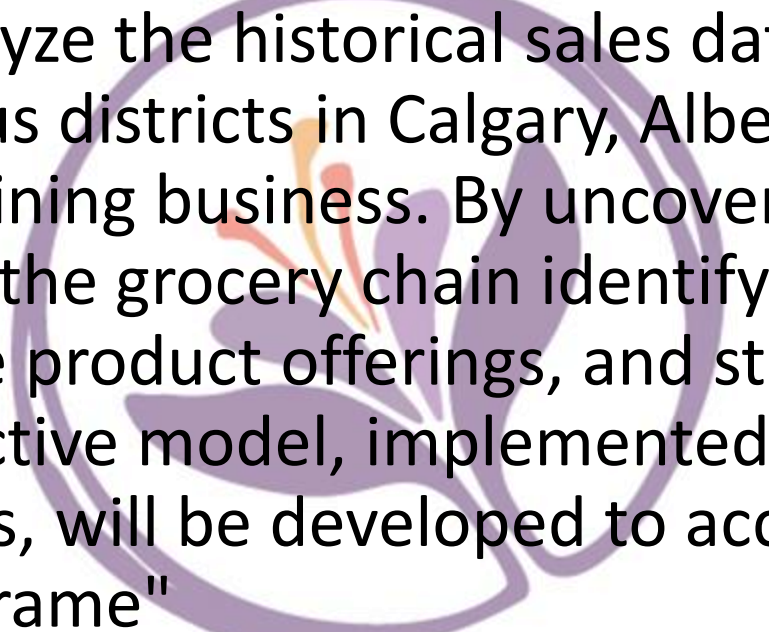
In recent times, we have observed a stagnancy or decline in operations across various stores of Saffron Retailers.



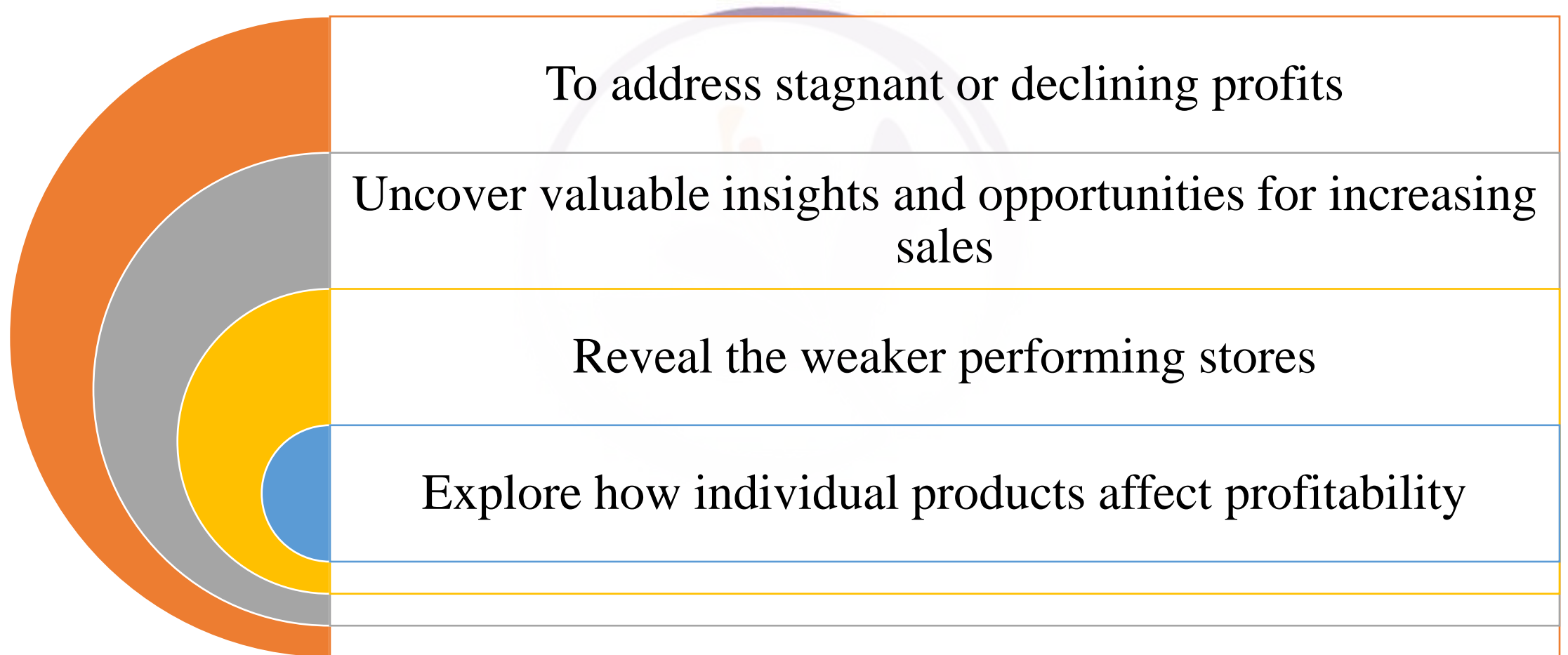
However, to translate this vision into reality, it is imperative to harness the power of data analysis to uncover opportunities for enhancing profitability

# Project Mission Statement

“Our mission is to analyze the historical sales data of Saffron Retailers Ltd. stores in the various districts in Calgary, Alberta, to identify the root causes of our declining business. By uncovering insights and trends, we aim to help the grocery chain identify areas of improvement, optimize product offerings, and strategically plan for future growth. A predictive model, implemented with practical business considerations, will be developed to accurately forecast sales over a six-month timeframe”

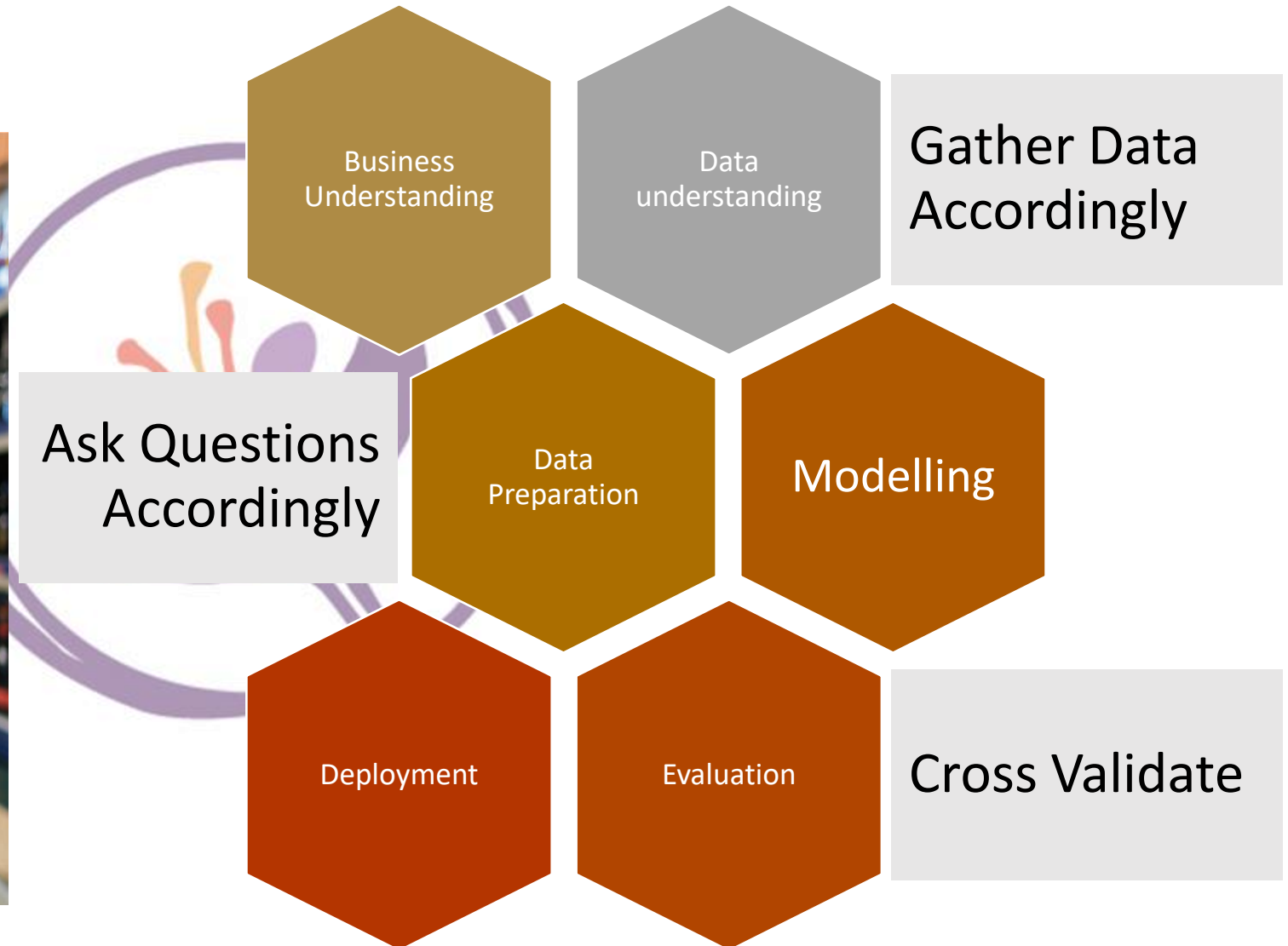


# Intents and Goals

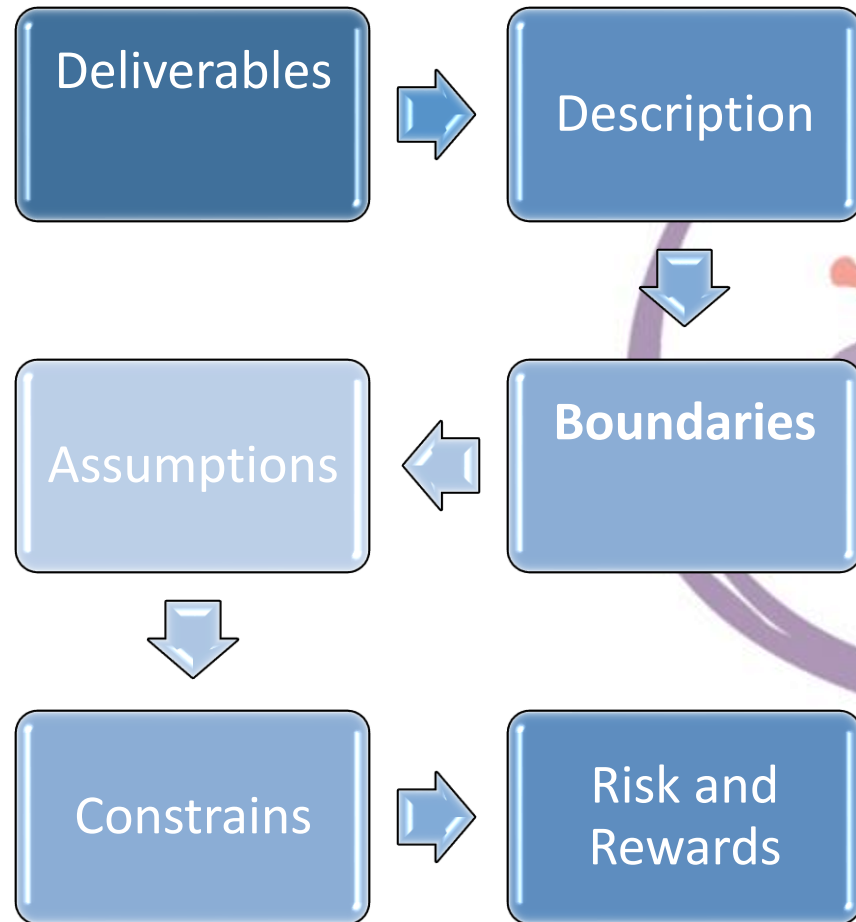




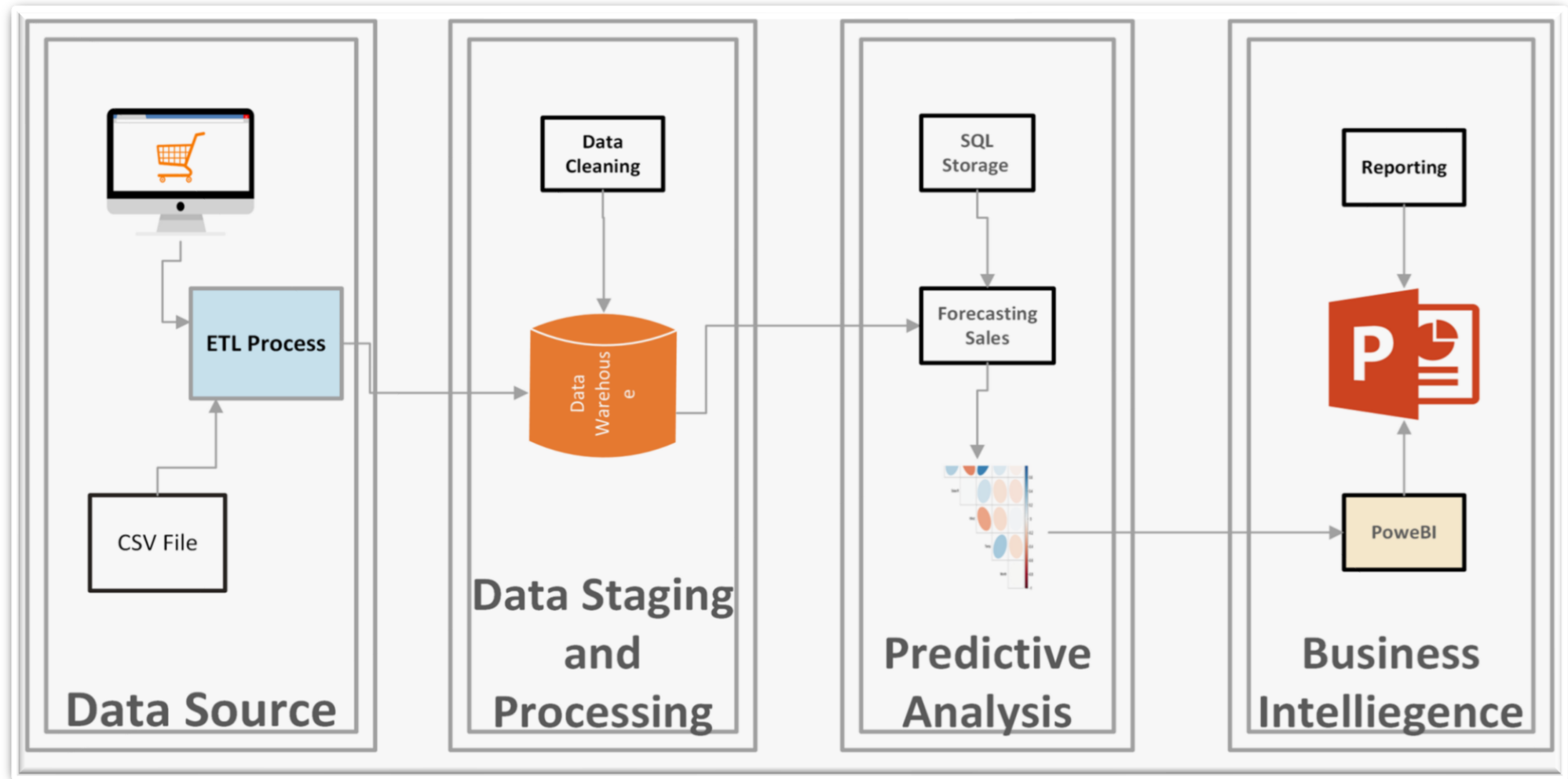
# Significant Process



# Project Plan



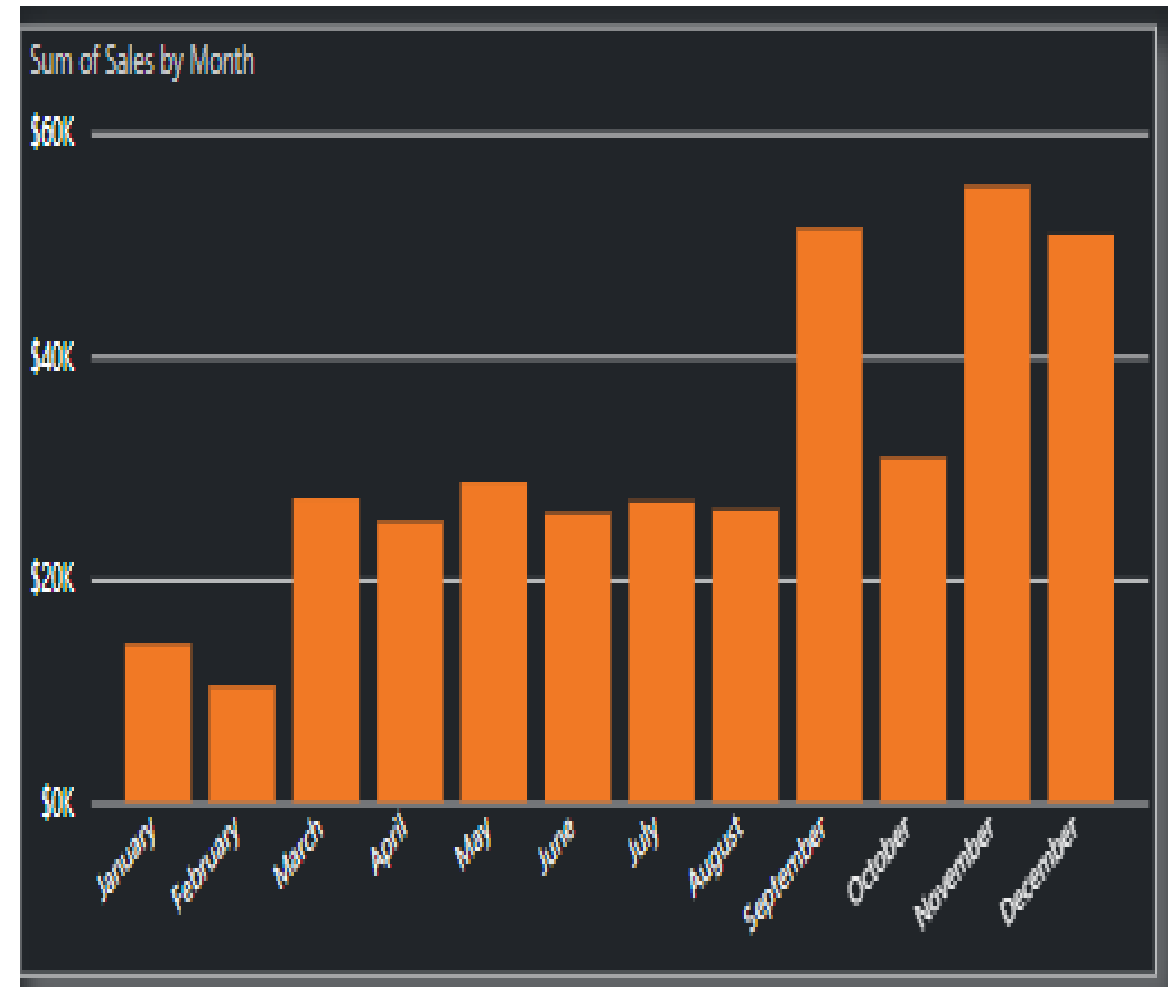
# Architectural Diagram



1) What are the overall sales trends on an annual basis, and are there any seasonal patterns or fluctuations?

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- In general, the sales are declining over time, and therefore solutions must be put into place to increase profits. There are however seasonal trends when looking closer at each year. These seasonal patterns tend to occur around Indian Holidays, where the increase of sales occurs.



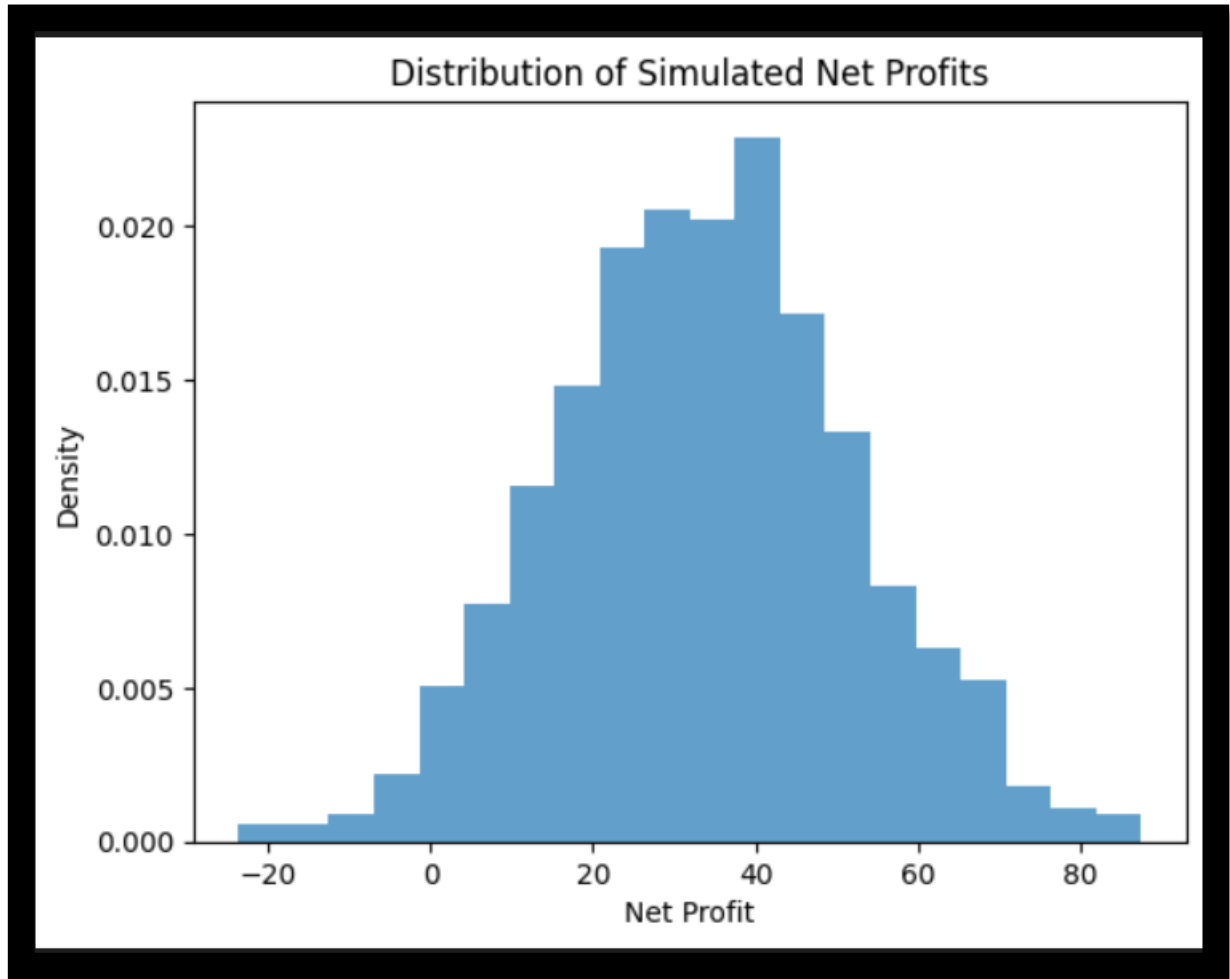


2) What are the most common combinations of products (itemset) that customers tend to purchase together? How can this information be used to create targeted product bundles or start promotions to increase sales?

Items	Support	Confidence
Snacks	62%	82%
Beverages	60%	81%
Eggs Fruits	43%	72%
Snacks Vegetables	42%	70%

3)How do different product offerings impact net profits? Can we identify specific products that consistently contribute positively to net profit? Should we focus on promoting and selling these products more?

Product Categories	Mean Net Profit	SD of Net Profit
Bakery	44.748	4.479
Beverages	16.68	1.653
Eggs and Meat	70.39	7.30
Food Grains	42.864	4.118
Fruits and Vegetables	36.39	3.72
Oil and Masala	26.830	2.733
Snacks	21.801	2.31



- Based on the insights gained, we can consider focusing on promoting and selling categories that have higher mean simulated net profits and lower standard deviations. For instance, "Eggs Meat Fish" and "Fruits & Veggies" have higher mean net profits, indicating strong potential for driving net profits. These categories could be prioritized in marketing strategies.

#### 4) What strategy was employed to address the issue of declining sales?

- In response to declining sales, our approach was to concentrate efforts on two specific store locations, namely Strathcona Park and Charleswood stores. By analysing sales data for the year 2022, we identified the underperforming category and strategically transformed it into the top-performing category. This adjustment was made with the aim of revitalizing sales. Subsequently, utilizing this revamped strategy, we forecasted sales for the upcoming six months. As evident in the provided data, this proactive initiative resulted in a modest upward trend in sales, signifying a positive trajectory.



# Saffron Retailers Ltd

Overview

Review and Predictions

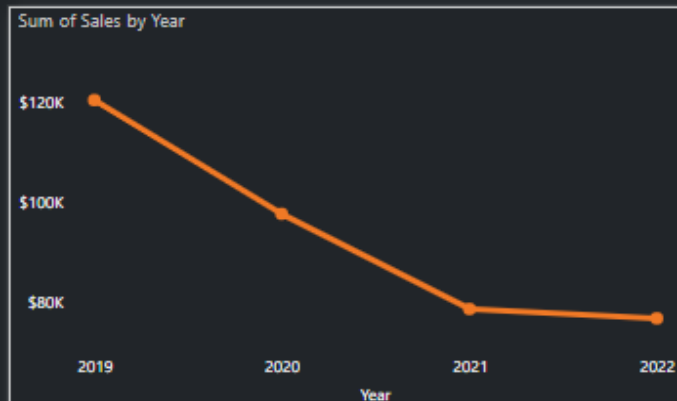
Category

All

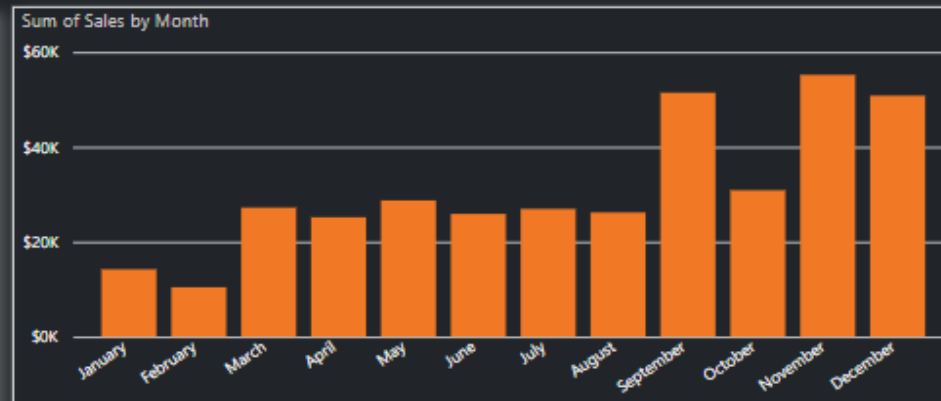
Year

All

## Sales trend over years



## Seasonality Analysis

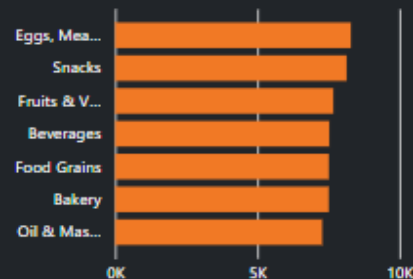


54K

Sum of Quantity

## Quantity sold by product category

### Sum of Quantity by Category



## Trend in payment

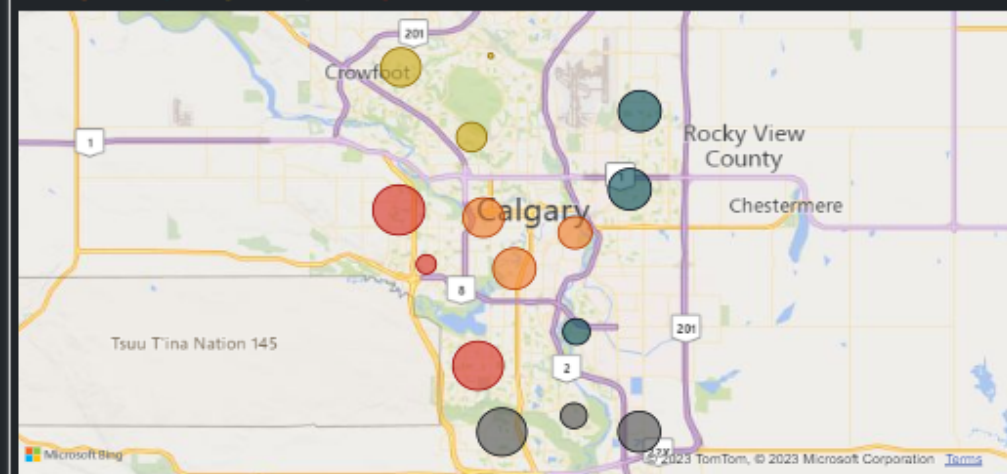
### Sum of Sales by Payment Type



## Sales by each sector

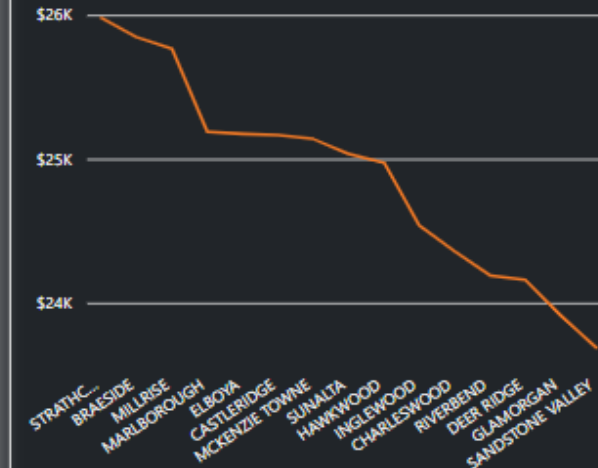
### Sum of Sales by Sector, Latitude and Longitude

Sector: CENTRE (orange), EAST (teal), NORTH (yellow), SOUTH (grey), WEST (red)



## Sales according to community

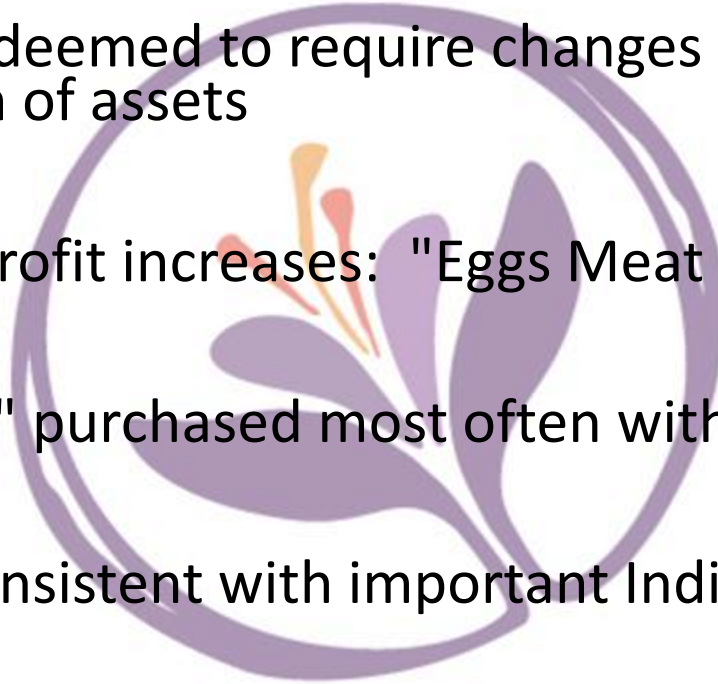
### Sum of Sales by CommunityName





# Conclusion

- Underperforming stores deemed to require changes in their product offerings, or a complete redistribution of assets
- Products that will drive profit increases: "Eggs Meat Fish" and "Fruits & Veggies"
- "Snacks" and "Beverages" purchased most often with other products
- Seasonality trends are consistent with important Indian celebrations
- After conducting predictive modelling on the proposed changes, it was evident that there will be an increase in profitability into the future if the board of directors were to implement the solutions recommended



# Thank You

For more information  
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