

Business Data Management Capstone Project - Analysis of Sales of a Local Multipurpose Store

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November 23, 2021

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Data Collected and SKU Dictionary

Data Collected

Date	Day	SKU	Sales	Price
9/12/2021	Sunday	Frz-01	24	₹120.00
9/12/2021	Sunday	Frz-02	34	₹90.00
...
9/15/2021	Wednesday	Frz-03	StockOut	₹150.00

Table: The data supplied has 5 columns, **Date**, **Day**, **SKU**, **Sales** and **Price**. The values of the column SKU are alphanumeric, each corresponding to an item sold by the shop. The Sales column has integer values as well as a non integer value **StockOut**, which means the item went out of stock on that day. The price corresponds to the price of the corresponding SKU.

Data Collected and SKU Dictionary

SKU Dictionary

SKU	Item Name
Frz-01	Sausage
Frz-02	French Fries Small
Frz-03	Momo Chk.
Frz-04	Chk. Breast
Frz-05	Chk. Curry Cut
Frz-06	Seekh Kebab Mttm
Frz-07	Sweet Corn
Frz-08	Frozen Vegetables
Bvr-01	Bru Gold
Bvr-02	Nescafe Classic height

Table: SKU Dictionary

SKU	Item Name
Bvr-03	Coca-Cola
Spc-01	Keya's Oregano 40gms
Spc-02	Keya's Onion Power 40gms
Spc-03	Keya's Chilli Flakes 40gms
Snk-01	Lays Chips
Snk-02	Haldiram Plain Bhujia
Snk-03	Cadbury Chocolate Bar
TI-01	Lux Soap Bar (Lavender)
TI-02	Park Avenue Beer Shampoo
TI-03	Menthol Body Spray

Table: SKU Dictionary

Revenue Pareto

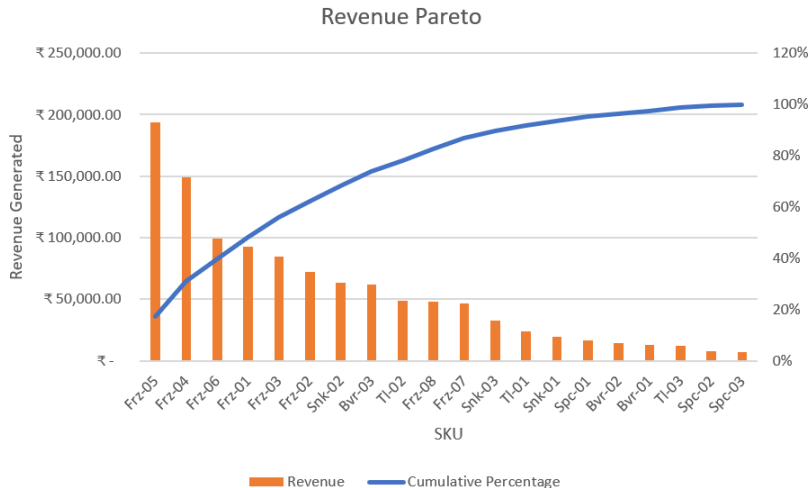


Figure: The Revenue Pareto Diagram: Pareto Principle is not obeyed here.

Volume Pareto

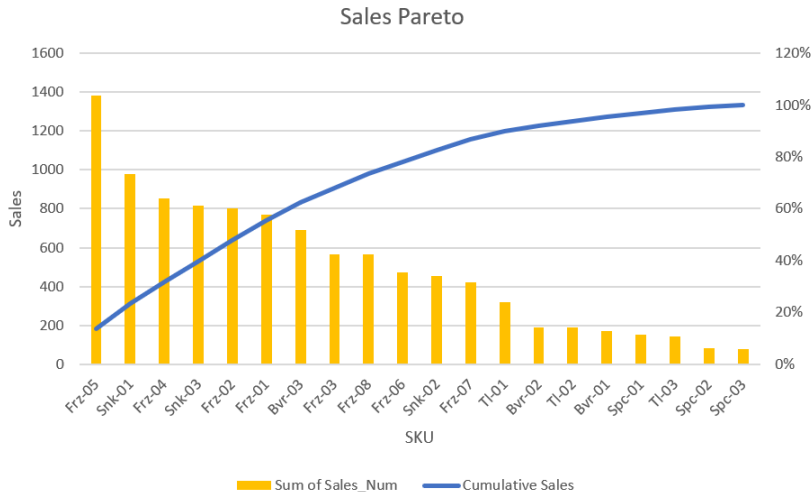


Figure: The Sales Pareto Diagram: Pareto Principle is not obeyed here.

Sales Trend: Non Vegetarian Frozen Items

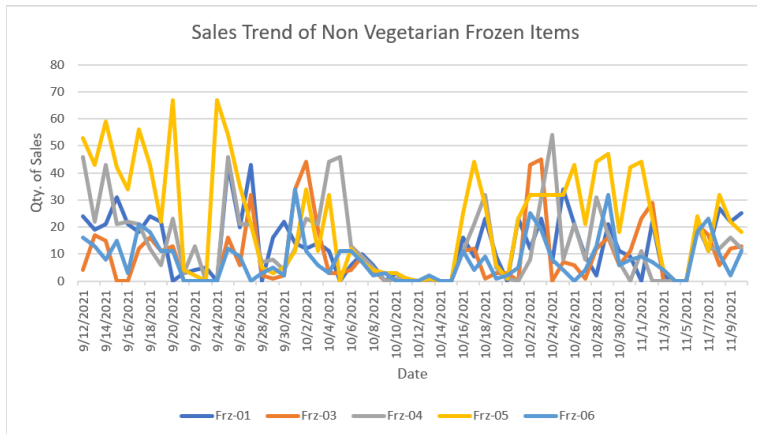


Figure: Daily Sales Trend of Non Vegetarian Frozen Items

Sales Trend: Non Vegetarian Frozen Items

- Frz-05 is the most sold frozen non vegetarian item at this shop, followed by Frz-04, Frz-03, Frz-01, Frz-06, in that order
- We see a reduction in sales of non vegetarian items during the period Oct 10 2021 - Oct 15 2021. This may be due to Durga Puja's in Kolkata, when a significant portion of people prefer to eat vegetarian during the span of the festival.
- **Exception***: Another reduction in Sales can be seen during Sept 21 2021- Sept 22 2021 due to heavy thunderstorms in Kolkata. Sales was reduced due to Stock Out as stocks could not be replenished due to road blockages.

Sales Trend: Non Vegetarian Frozen Items: Frz-03 & Frz-06

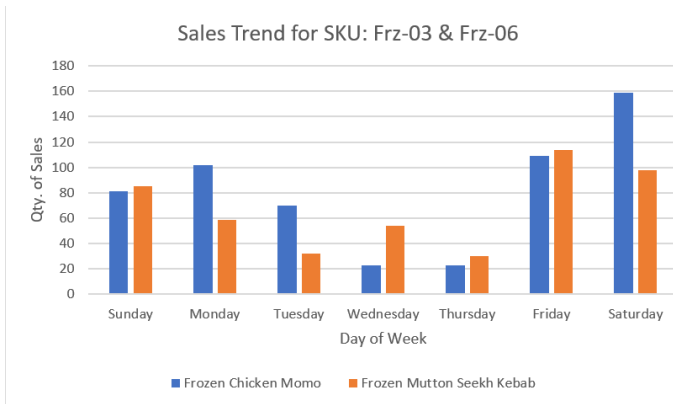


Figure: Day wise sales trend of two specific SKUs - Frozen Chicken Momo and Frozen Mutton Seekh Kebabs

Sales Trend: Non Vegetarian Frozen Items: Frz-03 & Frz-06

- The items Frozen Chicken Momo (Frz-03) and Frozen Seekh Kebabs (Frz-06) have a high volume of sales on Friday and Saturday compared to other days of the week.
- These being ready to eat snacks items, people tend to buy them more during the weekends.
- It is advisable to replenish the stocks of these items before Friday to avoid stock out issues with these products.
- These are also perishable goods and cannot be stored without refrigeration. Stock keeping must be optimised so as to meet the additional demand whilst keeping other items in stock.

Sales Trend: Non Vegetarian Frozen Items: Frz-01, Frz-04 & Frz-05

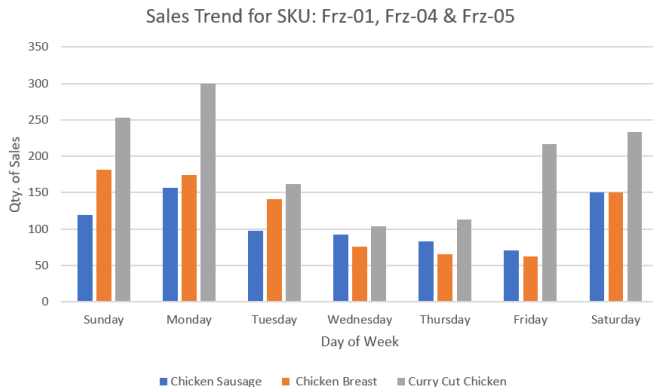


Figure: Day wise sales trend of regular consumables - Sausage, Chicken Breast & Curry Cut Chicken

Sales Trend: Non Vegetarian Frozen Items: Frz-01, Frz-04 & Frz-05

- Sausages being a regular consumable in Breakfast, people tend to purchase more of them and store them in advance for use through the entire week, as it is difficult to people to keep on buying them on weekdays.
- Chicken Breast and Curry Cut Chicken are a staple consumption for Lunch and Dinner so they have very high sales volume, and are purchased by people in high quantities during the beginning of the week.
- Sales of these items drop during the weekdays, so it's sufficient to keep a small buffer throughout the week to meet the demands.
- However the stocks must be replenished before Sunday of each week to meet the usual high demand on Sundays and Mondays.

Sales Trend: Vegetarian Frozen Items

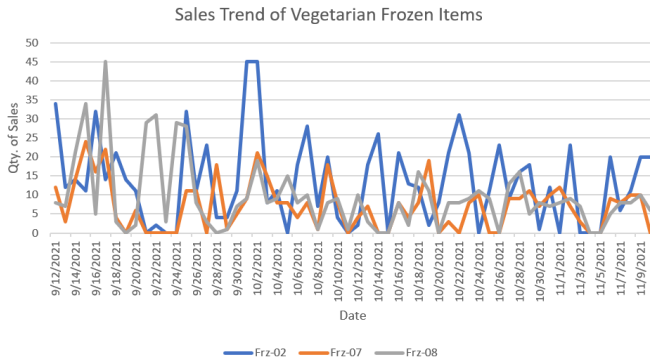


Figure: Daily Sales Trend of Vegetarian Frozen Items

Sales Trend: Vegetarian Frozen Items Daily

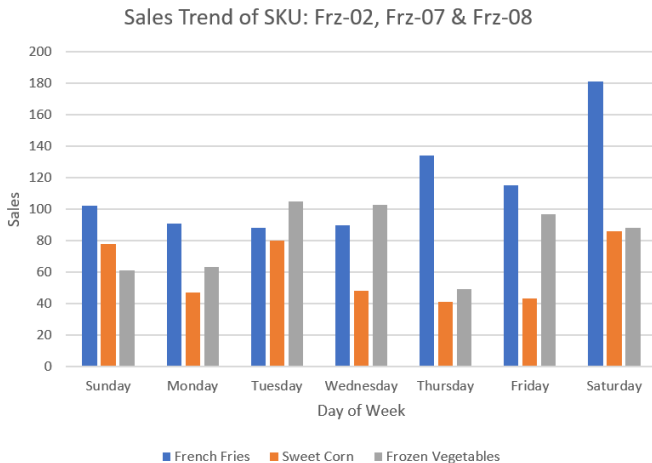


Figure: Day wise sales trend of frozen vegetarian items

Sales Trend: Vegetarian Frozen Items

- The highest selling vegetarian item is French Fries and during the duration of two months, as can be seen from the sales, there have been many stockouts. It would be advisable to keep this item high in stock.
- Frozen Sweet Corn has a low volume of sales, as it's not an item that is used daily, rather it's used for making special dishes. This item may not be kept in high stock at the store, and can be stored based on local demand, or on order.
- Frozen vegetables also have a low volume of sales, as people prefer to eat fresh vegetables purchased from the market. Frozen vegetables only tend to sell during the weekdays, where people may not have the time to go the fresh items market and make a purchase.
- French Fries being a snacks item, again experience high sells during and around weekends.

Sales Trend: Beverages

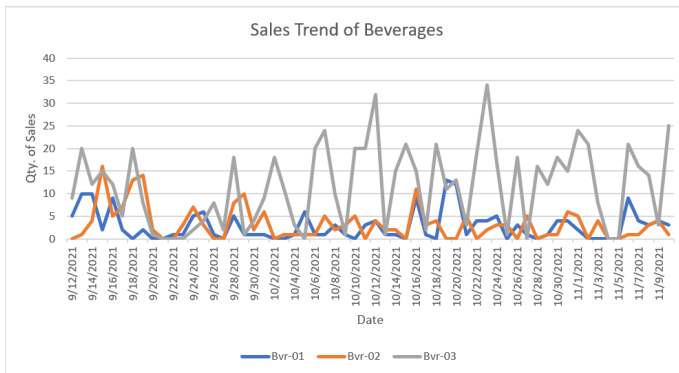
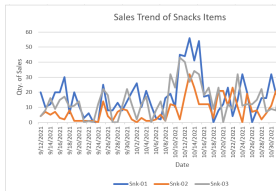
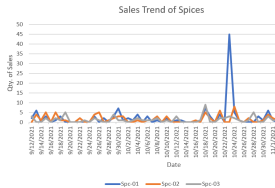


Figure: Daily Sales Trend of Beverages: **Bvr-03 - Coca-Cola** is the highest selling beverage in this shop (by the data supplied). **Bvr-01 & Bvr-02**, two varieties of powdered coffee experience a fairly regular sales throughout the period of two months.

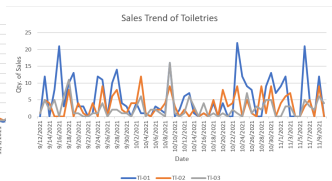
Sales Trend of Other SKUs



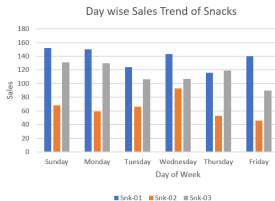
(a) Snacks



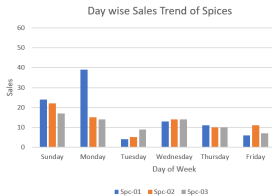
(b) Spices



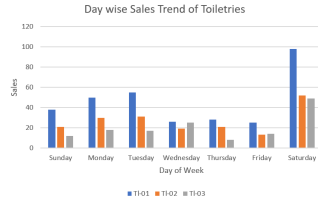
(c) Toiletries



(d) Snacks



(e) Spices



(f) Toiletries

Figure: (a),(b),(c): Daily Sales Trends, (d),(e),(f): Day wise Sales Trends

Revenue Generated per Business Unit

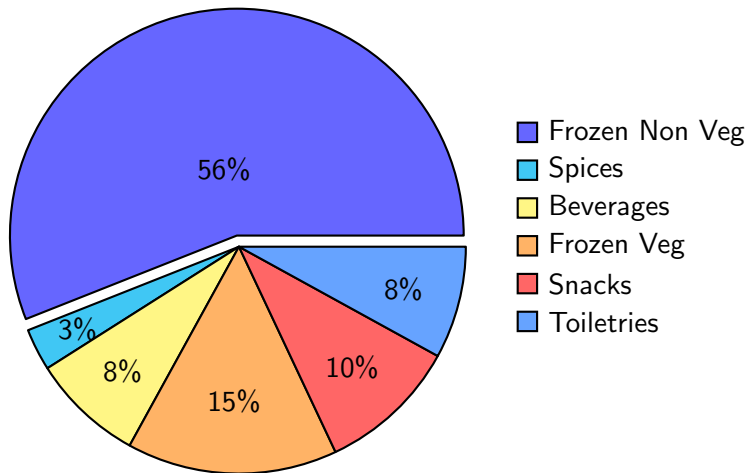


Figure: Proportions of Revenue Generated per Business Unit

Revenue Generated per Business Unit

- The most revenue (56%) is brought in by the sales of **Non Vegetarian Frozen Items**, followed by **Frozen Vegetarian Items**(15%).
- The sales of spices have generated very less revenue over the two months and there sales may be discontinued upon observing the trend over the next few months, or can be made available to the customer on order.
- Snacks, beverages and toiletries generate similar amounts of revenue and based on feedback from the consumers, new varieties of these items may be added.

Daily Revenue Trend

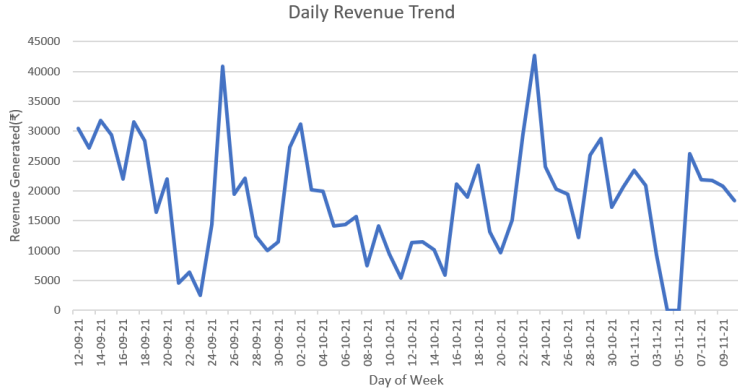


Figure: Daily Revenue Trend

Daily Revenue Trend

- Revenue generated is significantly higher around weekends than during weekdays.
- Pertaining to this two month dataset, revenue reduced during October 8 - October 14 due to the Durga Pujas, when most people eat and stay out and the requirement for the household goods is usually less.
- Revenue generated during November 4 - November 5 was zero as the shop was closed due to Diwali.

Daily Revenue Growth

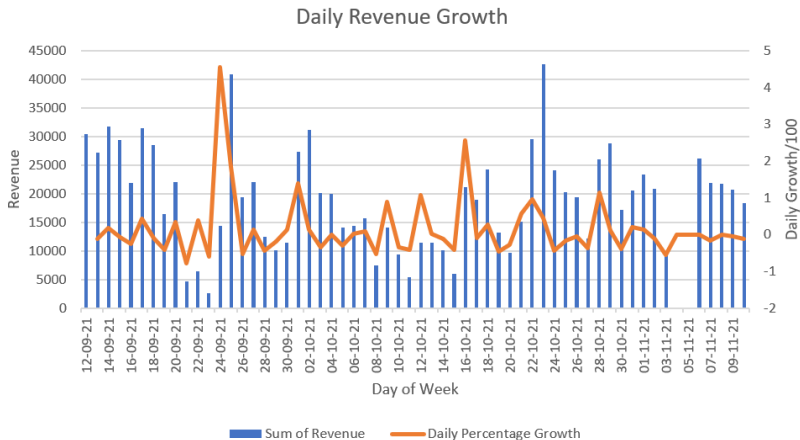


Figure: Daily Revenue Growth

Revenue Vs Sales Scatterplot

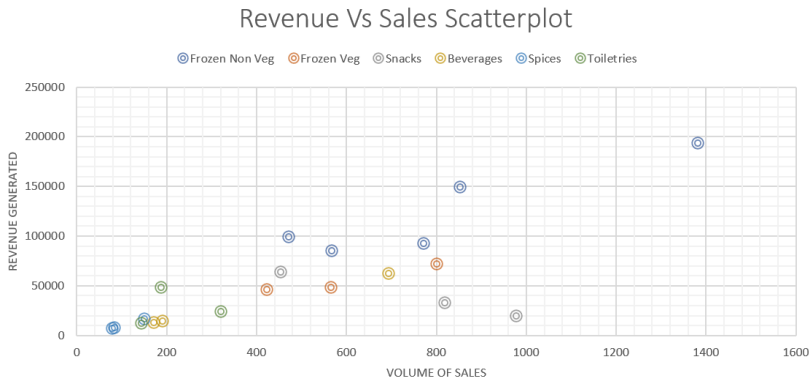


Figure: Revenue Vs Sales Scatterplot

The End