BDM Capstone Project

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The Business:

The shop chosen is a general store Holla's Fresh located within my apartment, whose customers are the residents. They sell a variety of items including food item, toiletries, stationery, etc. They purchase their supplies at a discounted rate from various suppliers.

Collection of Data:

Their sales data is stored using a DBMS. I was able to access their daily and monthly sales data, which I extracted as .xlsx files. Their purchase orders are scattered and not stored systematically.

Analysis of Data:

a. Effect of COVID-19 (2020)

1. Rise in sales volume and revenue during March as people were stocking up for the lockdown.
2. Shop shut down after August since sales kept decreasing.
3. Had to rely on a second producer (Thirumala) to match demand for milk.

b. Recovery post COVID (2021)

1. Milky Mist is a high value good that had high revenue and profits. Eggs are low value good that had good revenue and profits, and were sold the most in number.
2. Shop is open longer on Fridays, and they also have maximum sales on Fridays.
3. 82% of stock of Bauli was unsold and a similar trend was observed in the previous months.
4. Customers tend to buy chips and ice cream together in a day.

Recommendations:

1. Keep a systematic log of purchase orders

2. Keep the shop open for longer hours during the rest of the days to increase sales.

3. Reduce the purchase of Bauli to minimize holding costs.

4. To increase sales, introduce an offer where if customers buy chips and ice cream together, they get a discount.

5. Reduce the purchase of Amul products and replace them with Milky Mist since Milky Mist is more profitable and they both have similar products.
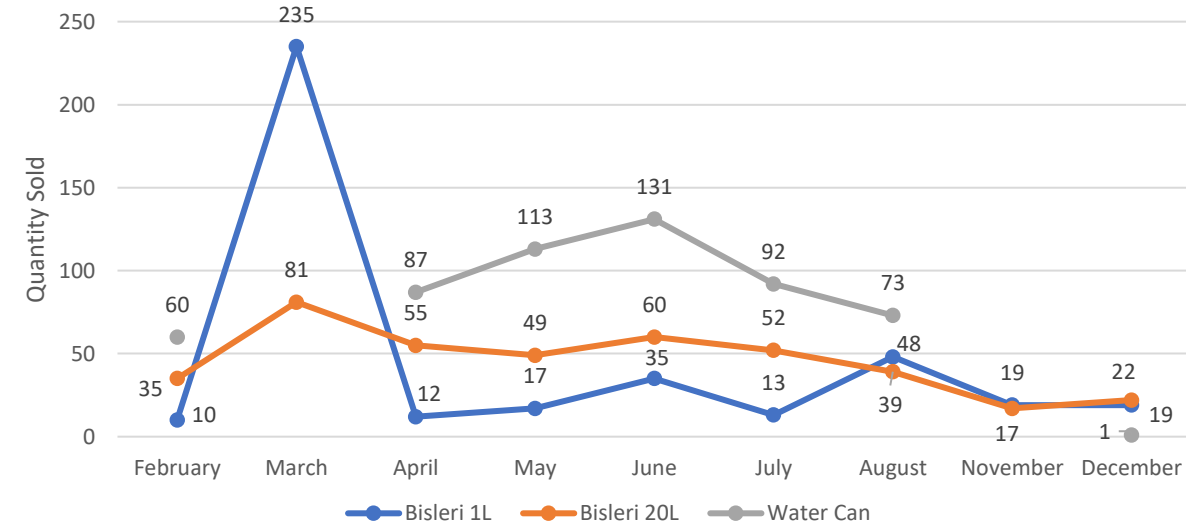
THE EFFECT OF COVID-19

Revenue Trend in 2020
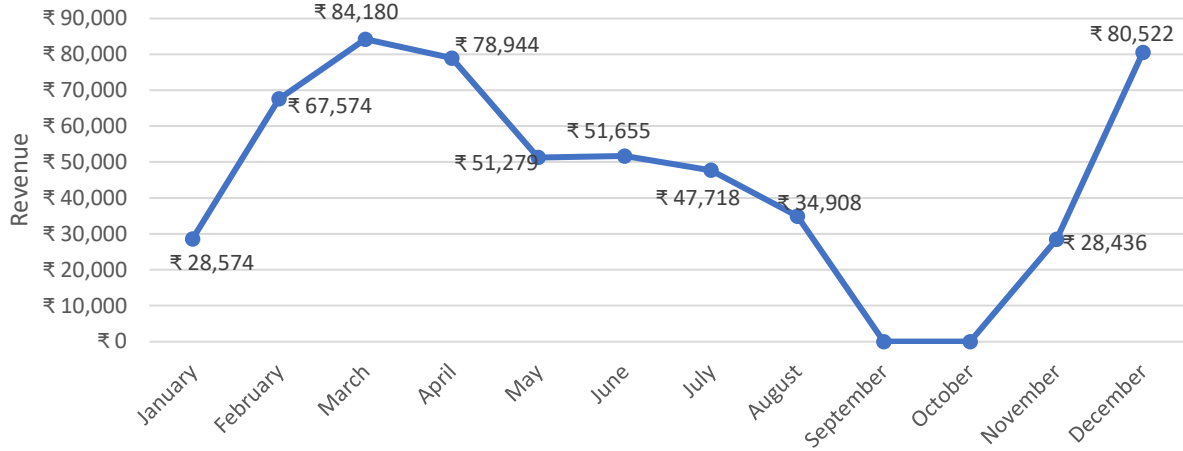
Monthly Trend in Volume of Food Items - 2021

Volume Sold of Main Sources of Drinking Water - 2020
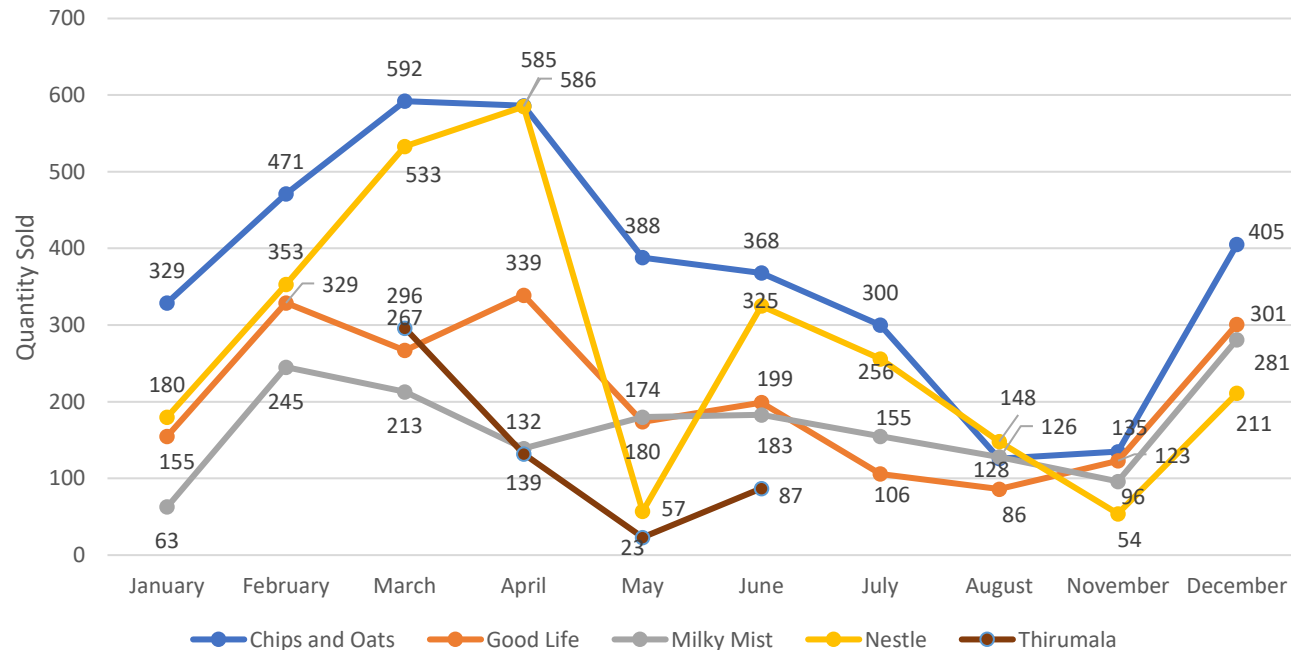
Analysis

1. When plans for a lockdown were announced in March 2020, there was an abnormal rise in the sales of water cans from Bisleri and a local supplier, indicating that people were stocking up for the lockdown.
2. The sales of water cans did not diminish during lockdown. The main reason for this is that the apartment was not allowing the water trucks to enter, hence people had to depend on cans for their daily water needs.
3. Along with water, people also stocked up on essentials such as curd, milk, snacks, chips and Maggi.
4. The supply of Good Life wasn't enough to meet consumer demand, hence the shop purchased from a second brand (Thirumala) during March-June.
5. The revenue of the shop decreased from March to August, after which it wasn't feasible to run the shop, and they had to shut down for 2 months. They resumed slowly in November and had a good run from December onwards.
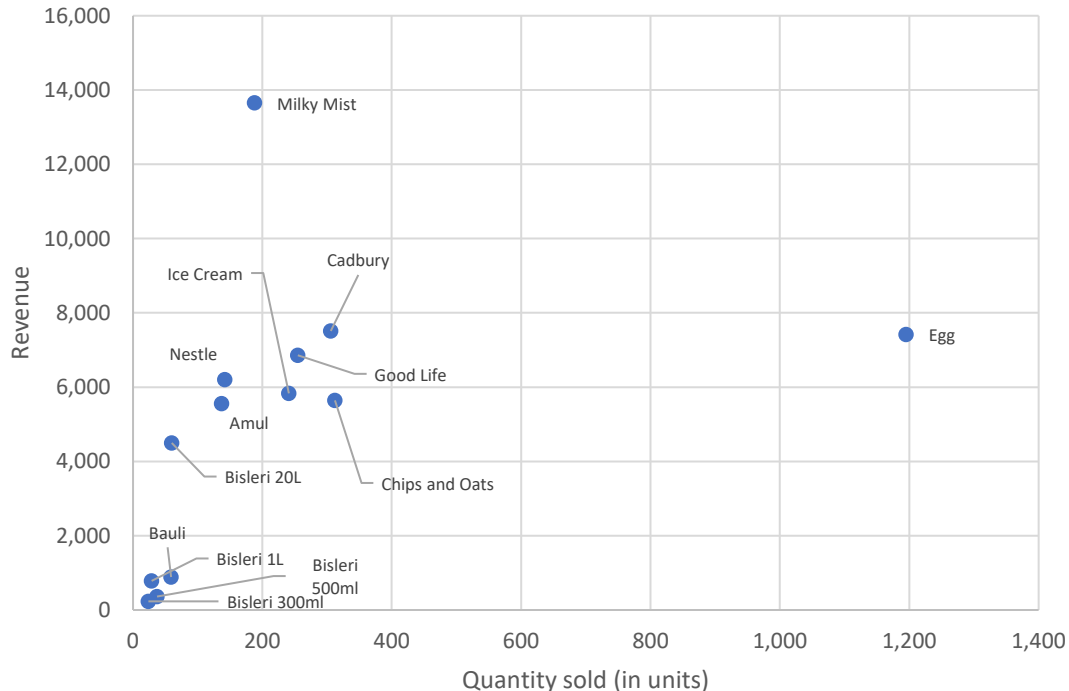
KEY GRAPHS – OCT 2021

Analysis

1. The revenue of most of the items is proportional to the volume of items sold.
2. Milky Mist generated the maximum revenue, despite being sold less in number. So it is a high value product. They also generate the maximum profits.
3. Eggs are sold the most in number, and compared to the rest, they are a low value product. They generate good profits as well
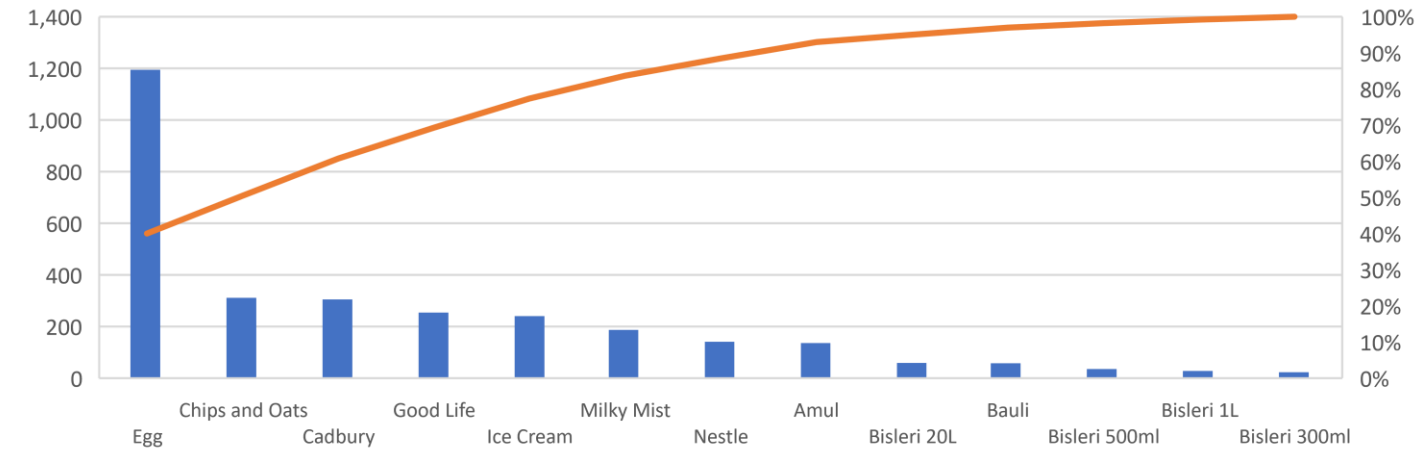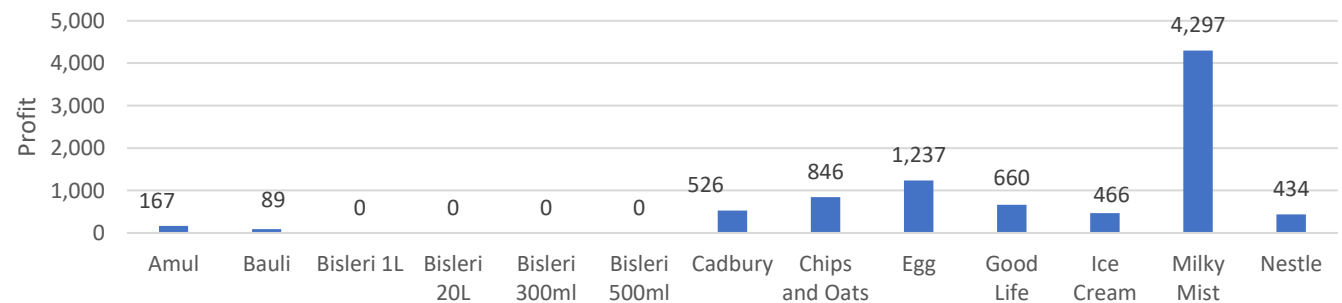
Revenue Distribution (Itemwise) - October 2021
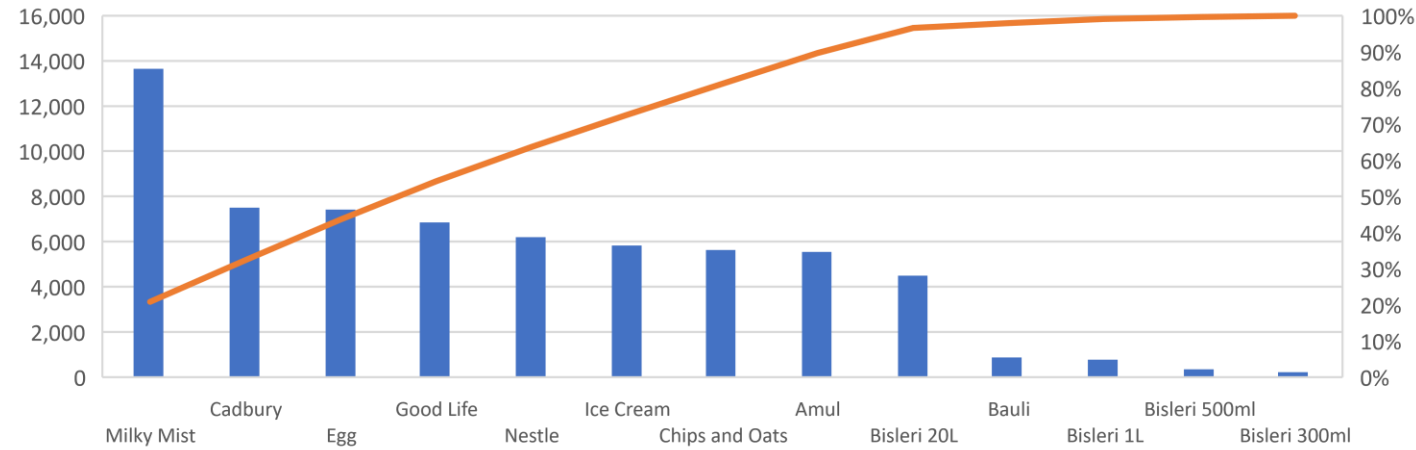
Volume Pareto Chart (Itemwise) - October 2021

Correlation between Volume and Revenue

Gross Profit (Item-wise) - Oct 2021

Total Revenue (Day-wise) - Oct 2021

Shop Timings	10AM-1PM 6PM-8PM	10AM-1PM 6PM-8PM	10AM-1PM 6PM-8PM	10AM-1PM 6PM-8PM	10AM-1PM 3PM-9PM	10AM-1PM 6PM-8PM	6PM-8PM
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Revenue	8,296	10,071	8,580	8,569	16,026	9,995	4,541
Open Time (in hrs)	5	5	5	5	8	5	2

Distribution of Unsold Stock (Item-wise) - Oct 2021
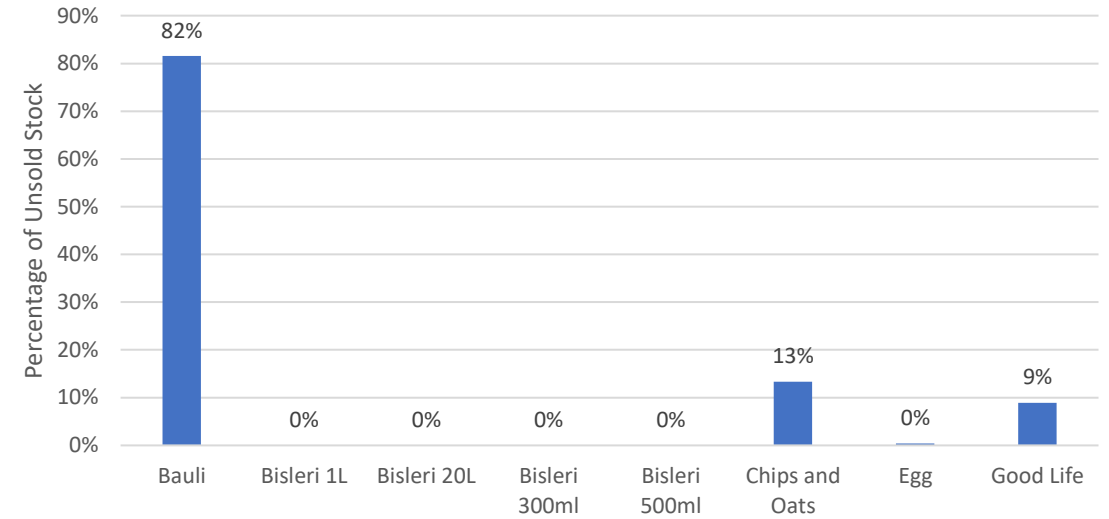

Monthly Trends of Unsold Stock (Bauli) – 2021

Analysis
1. Shop is open for 8 hours on Fridays as opposed to 5 hours during the rest of the weekdays. Correspondingly the sales were highest on Fridays and least on Sundays when the shop was open for just 2 hours.
2. 82% of Bauli Moonfills was left unsold during October, which is very high even after taking its shelf life (4 months) into consideration. A similar trend was observed throughout 2021.
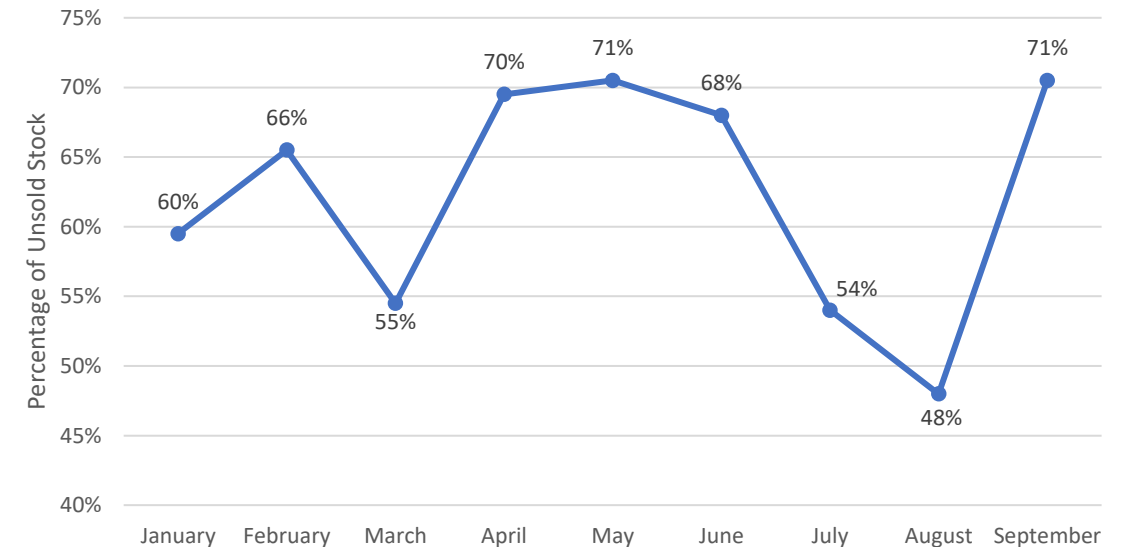
Recommendations
1. Keep the shop open for longer hours during the rest of the days to increase sales.
2. Reduce the purchase of Bauli from 200 units per month to minimize holding costs.
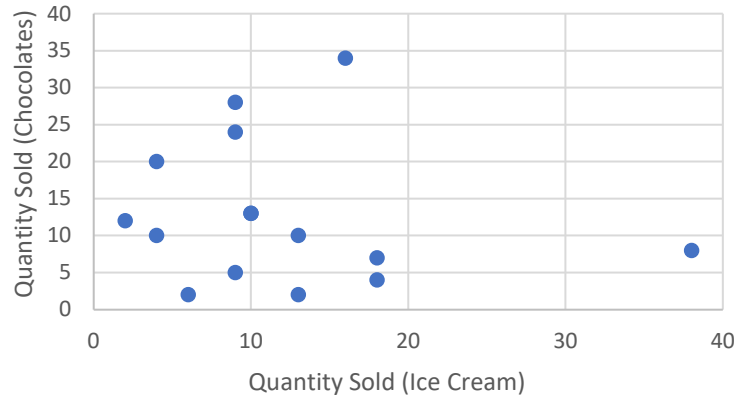
Chocolates vs Ice Cream - Oct 2021

Quantity Sold (Chocolates) vs Quantity Sold (Ice Cream)

Ice Cream vs Chips - Oct 2021

Quantity Sold (Ice Cream) vs Quantity Sold (Chips)
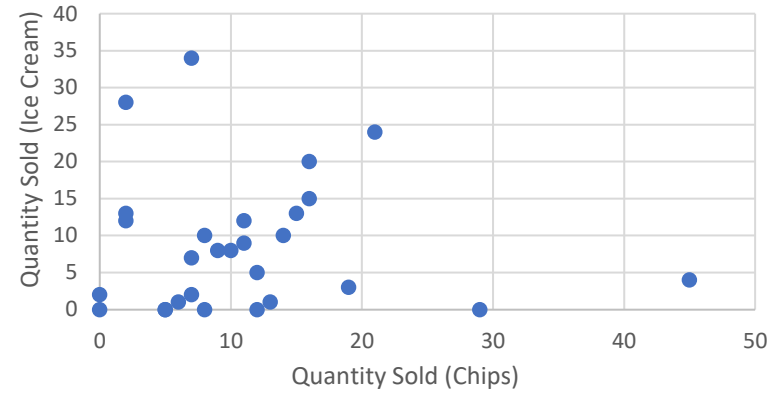
Average Profit vs Average Revenue - 2021

Average Profit vs Average Revenue

Milky Mist, Chips and Oats, Egg, Ice Cream, Good Life, Cadbury, Nestle, Bauli, Amul
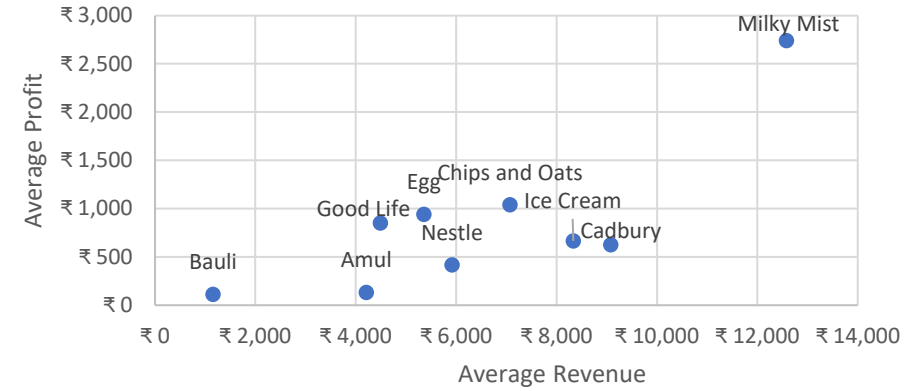
Average Profit Trend - Milky Mist vs Amul

Average Profit by month (January–October)

Milky Mist: ₹1,512, ₹1,232, ₹1,472, ₹1,589, ₹1,347, ₹999, ₹717, ₹1,123, ₹1,246, ₹1,430

Amul: ₹183, ₹72, ₹126, ₹161, ₹164, ₹173, ₹58, ₹150, ₹48, ₹167

Legend: Amul, Milky Mist
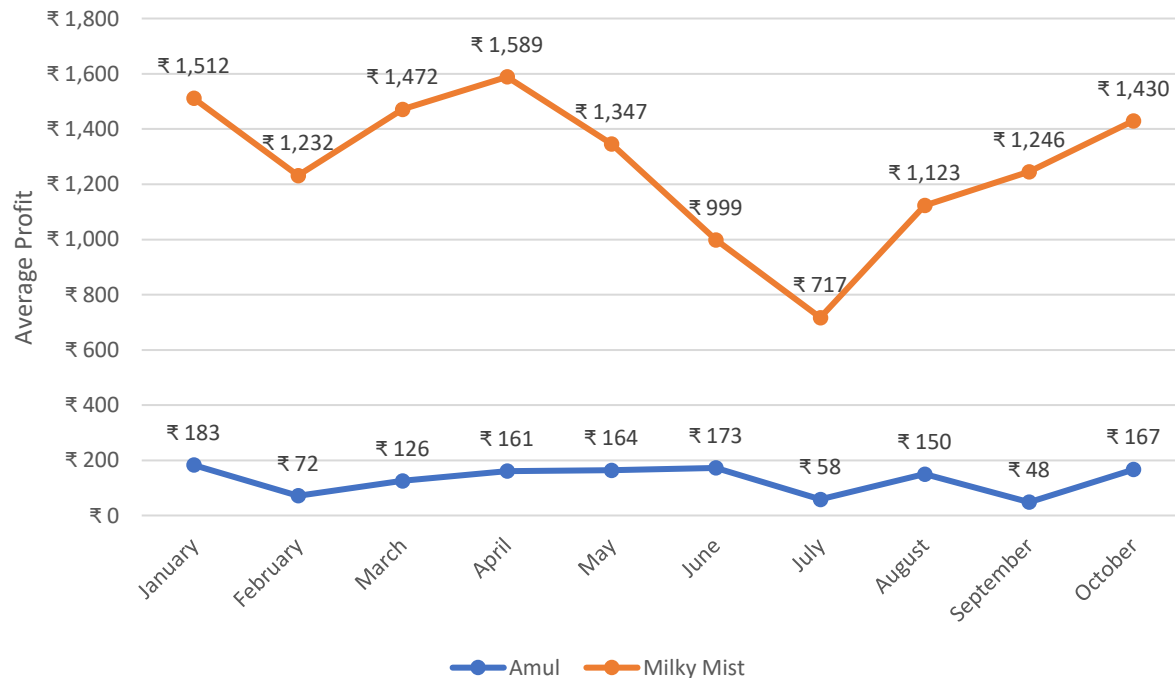
Analysis
1. Customers who buy ice-cream are more likely to buy chips as well. There is a slightly lesser correlation between chocolates and ice-cream.
2. Most of the items generate good revenue with good profit. Exceptions are Milky Mist which is high profit, high revenue and Bauli, Amul which are low profit, low revenue

Recommendations
1. To drive sales up, he can provide an offer where if customers buy chips and ice cream together, they would have to pay lesser than total MRP. He can try the same with chocolates and ice-cream, but as per the scatter plots, there is a higher chance of success in the former case.
2. He can reduce the purchase of goods by Amul and replace them with Milky Mist since the latter is more profitable and they both have similar products.