A Business Data Management Project Presentation

Maximising Profitability: A Multi-headed approach for enabling Multi-Channel sales and Inventory Optimisation for T.R Departmental

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GUIDED BY:

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DR. ASHWIN J. BALIGA

- Founded in 1995 by Mr Ohab Ali

- Located in Hengrabari, Guwahati, Assam.

- Business type: B2C

- Staff of 1

- Deals in daily essentials, grocery items

Objectives

- Identify Stock Performance

- Customer Segmentation

- Inventory Optimization

Metadata

| A	B	C	D	E	F	G	H	I	J	K	L	M	N
InvoiceDate	Month	CustomerName	ItemName	MOP	Qty	CurrStock	MRP	Purchase Rate	SRate	Amount	TaxPer	TaxAmt	NetAmt
2024-09-01	2024-09	CASH CUSTOMER	SUGAR 1 KG	Cash	1	42	55	39.05	52.38	52.38	5	2.62	55
2024-09-01	2024-09	CASH CUSTOMER	SUGAR 1 KG	Cash	1	42	55	39.05	52.38	52.38	5	2.62	55
2024-09-01	2024-09	CASH CUSTOMER	SUGAR 1 KG	Cash	1	42	55	39.05	52.38	52.38	5	2.62	55

- Processed Data
- Some redundant columns still

Analysis Approach

- Extracted sales data from monthly Excel files

- Consolidated files using Python to create a unified dataset

- Calculated revenue, profit, and profit margins

- Analysed customer contribution to revenue

- Performed statistical analysis (daily, weekly, monthly)

- SKU analysis for revenue and profit

Revenue vs Profit Generated

Sales Trends

- Average daily sales: ₹24,403.6 with high standard deviation (₹5,732.58)

- Sharp revenue spikes observed in late October and early November

- Weak negative correlation (-0.0104) between quantity sold and profit

- Some products sold below cost price, leading to losses

- Sales decline during Durga Puja festival and winter months

- High-revenue items often show smaller profit contributions
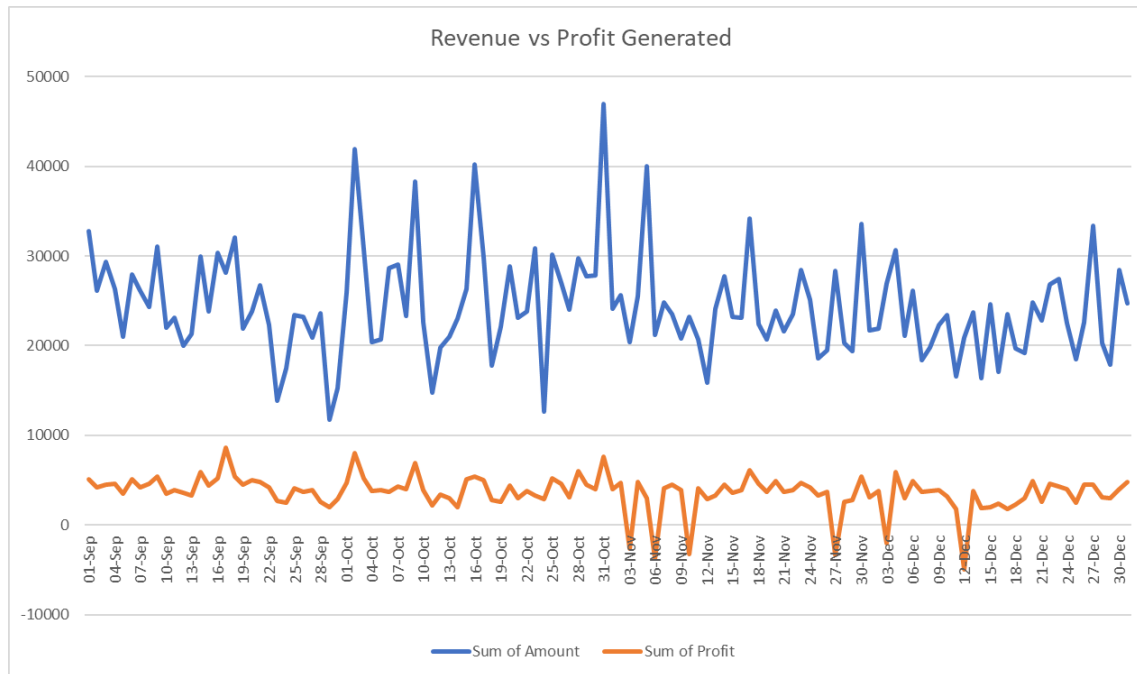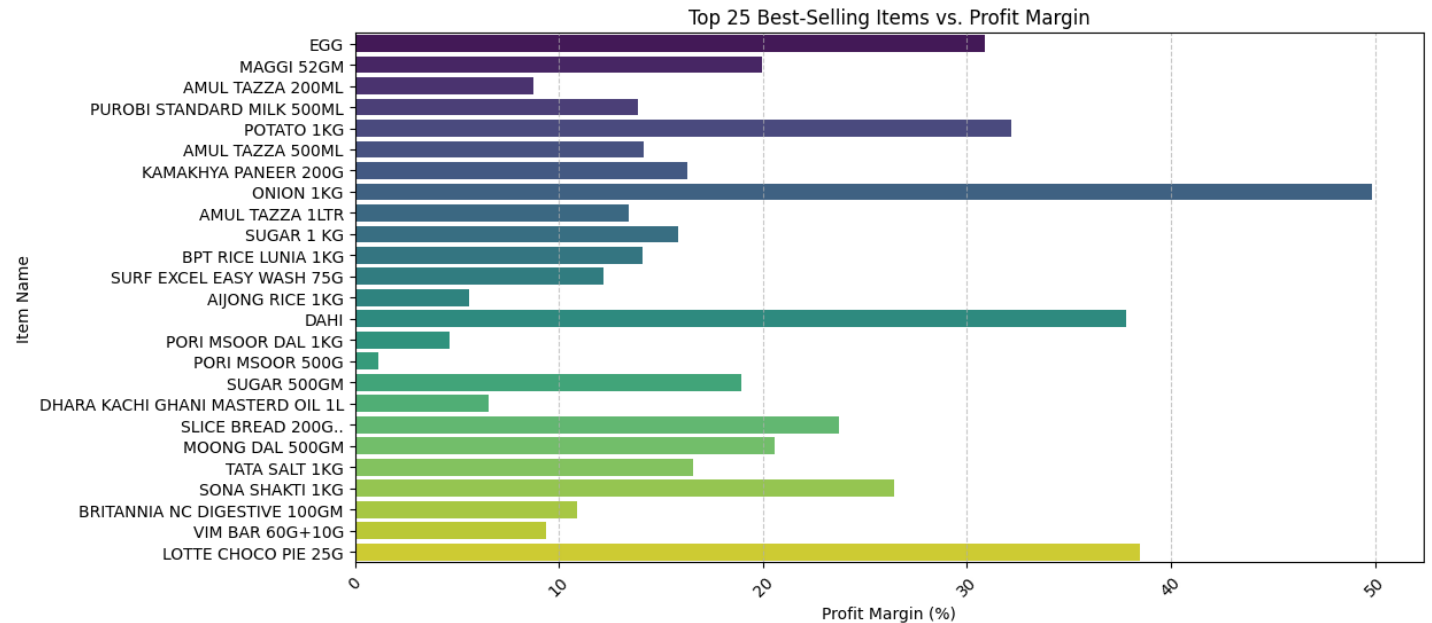
SKU analysis

- Shows Revenue vs Profit

- High revenue not always high profit

- Onion 1 kg gives high profit

- Dhara Kachi Ghani 1L gives high revenue

Revenue vs Profit
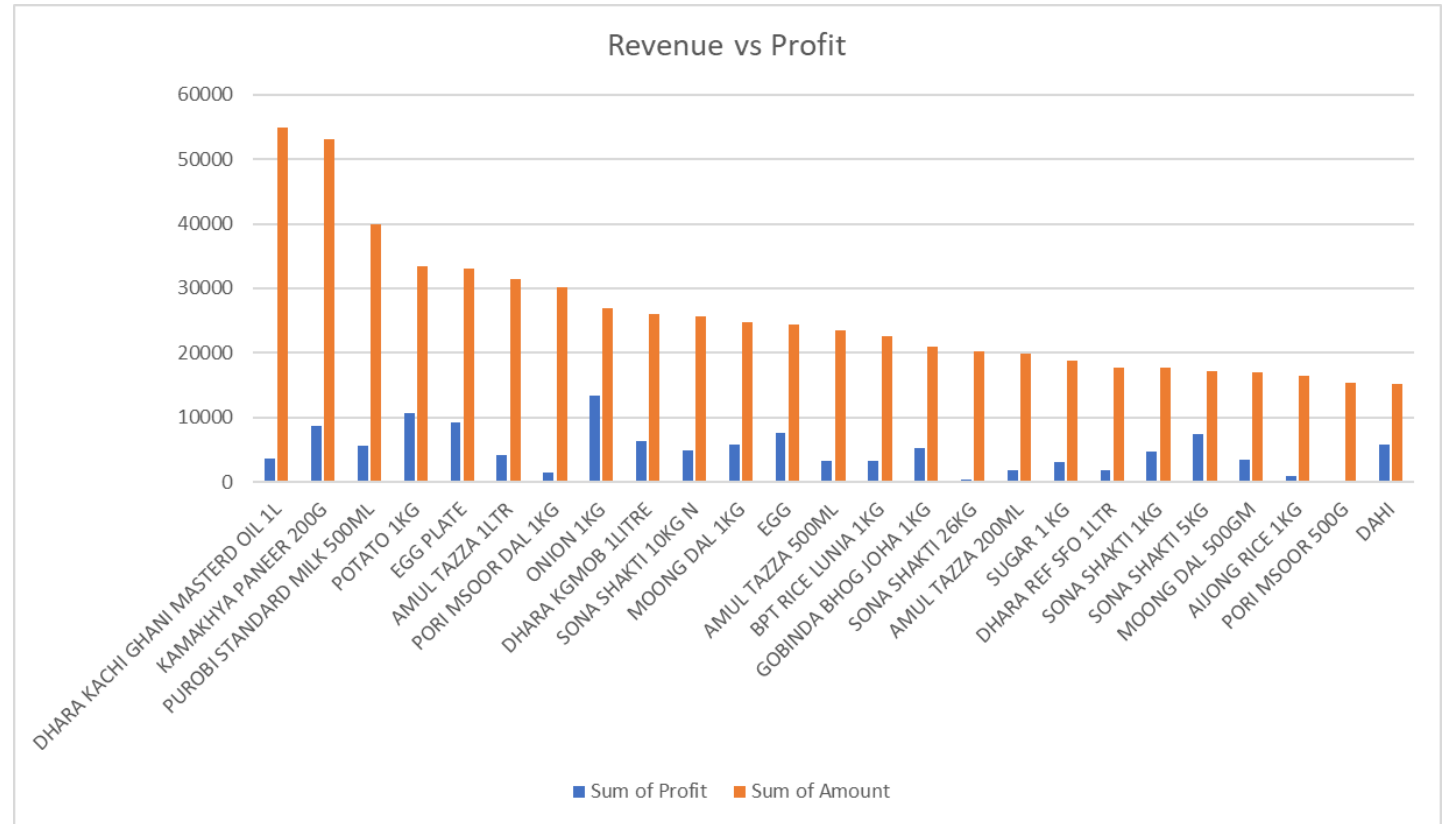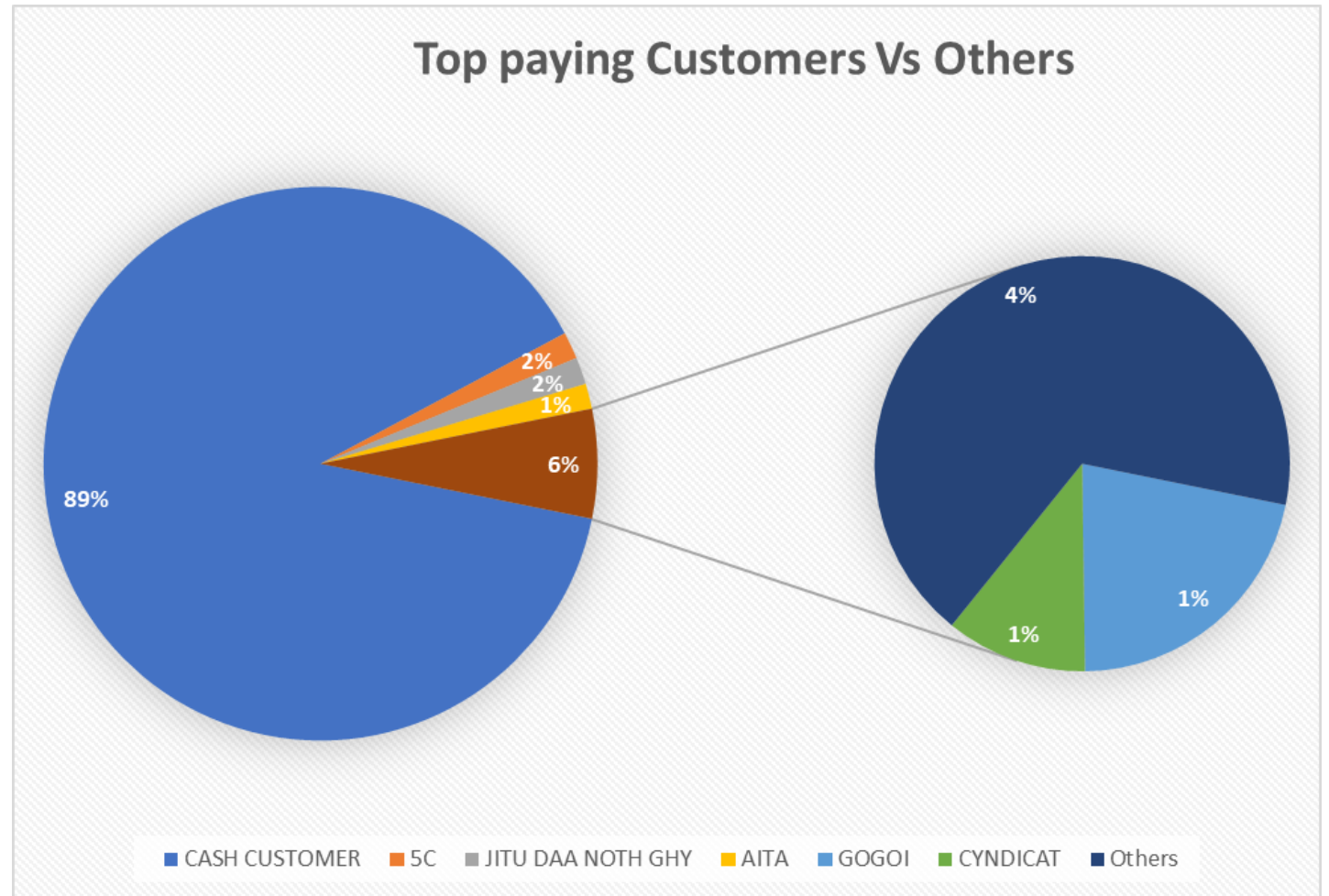
High Profit Margin Items

- Eggs, Onion 1KG give significant margin

- Pori Masoor Dal 1KG give very low margin

- Onion 1KG, Potato 1KG, Lotte Choco Pie are perfect combinations of high profit and high demand items.

Top 25 Best-Selling Items vs. Profit Margin

Customer Analysis

- Dominated by Cash Customers

- Returning named customers

- "5C" and Aita more prominent of them

- Further analysis can give more insights

Top paying Customers Vs Others

89%
2%
2%
1%
6%
4%
1%
1%

CASH CUSTOMER ■ 5C ■ JITU DAA NOTH GHY ■ AITA ■ GOGOI ■ CYNDICAT ■ Others

Recommendations

- Promote and upsell high-margin products

- Stock up on high-selling items

- Prioritize high-margin high-revenue items

- Bundle high-margin items with popular staples

- Re-evaluate pricing strategies for low/negative-margin items

- Negotiate better supplier terms for staple products

- Implement a loyalty program for cash customers

- Offer personalized incentives for top named customers