

Improving Efficiency and Profitability of Santur Bhabani Sweets by Data Analysis

BUSINESS DATA MANAGEMENT PROJECT PRESENTATION



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INTRODUCTION

Brief Overview of Santur Bhabani Sweets:

- Santur Bhabani Sweets, a famous sweet shop located in Rautara, near Contai, Purba Medinipur, West-Bengal.
- Samiran Maity (Santu) founded this B2C sweet shop in the memory of his grandmother Bhabani Devi in 2022. .
- It serves a wide range of sweets to its customers.

PURPOSE OF ANALYSIS:

- The purpose of this analysis is to identify inefficiencies in production, optimize inventory management, forecast demand, reduce wastage, and improve revenue at Santur Bhabani Sweets.
- The goal is to improve profitability, product quality, and customer satisfaction.



THE PDM

➡ P: PROBLEM STATEMENT

- **Inefficient Production Management:** Due to inefficient production management Santur Bhabani Sweets is not able to plan correctly its daily production.
- **Decline in Revenue:** For the last few months this shop is not able to generate its expected revenue and also facing decline in revenue.
- **Lack of skilled worker:** Mr. Samiran is not able to find proper skilled worker for his business who can bring the variation in the sweet production.
- **Scarcity of Milk:** The production is effecting for the unreliable milk supplier.

➡ D: DATA OVERVIEW

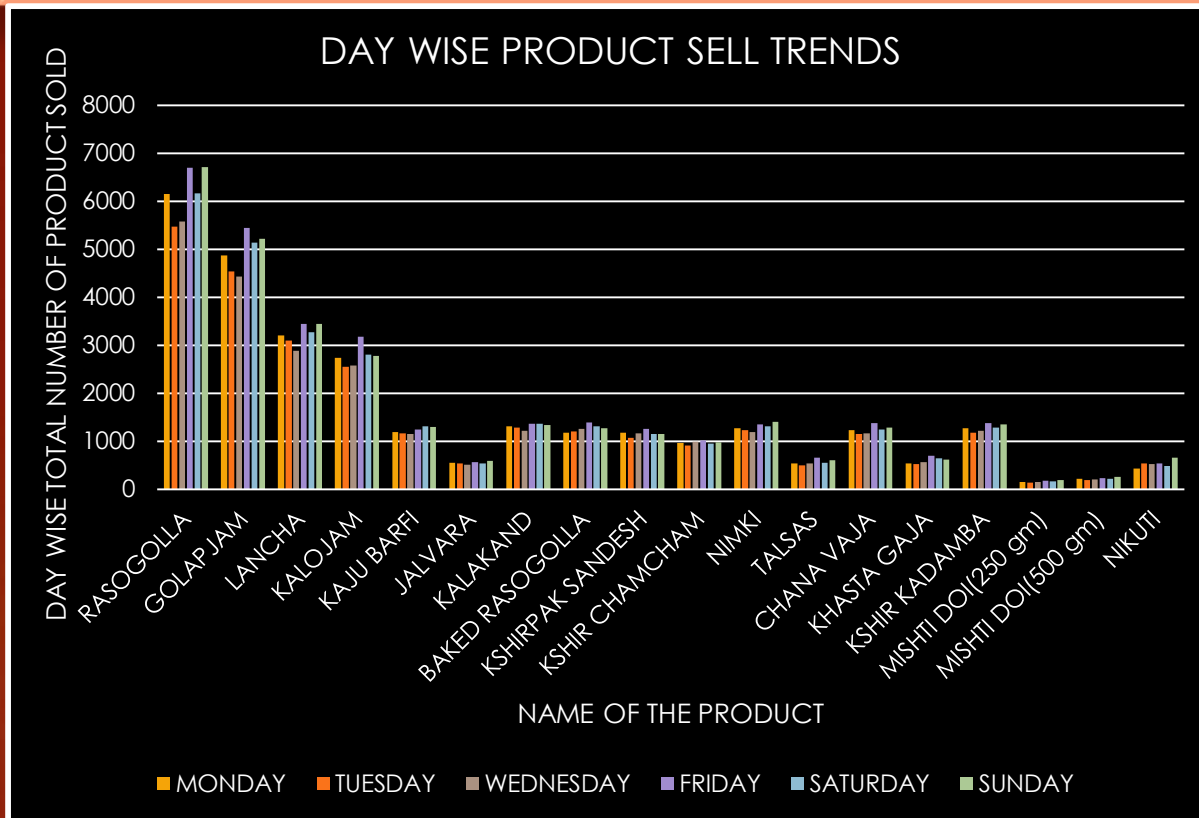
Daily Sales, Production, wastage Data , Daily Milk Supply Data, Worker Data collected over the period of 3 months (March'24-May'24) . Data collected from the owner through formatted sheet and stored into a excel sheet. I converted Daily Sales, Production, Wastage Data into weekly Sales, Production, Wastage Data for detailed analysis.

➡ M: METHODOLOGY OF ANALYSIS

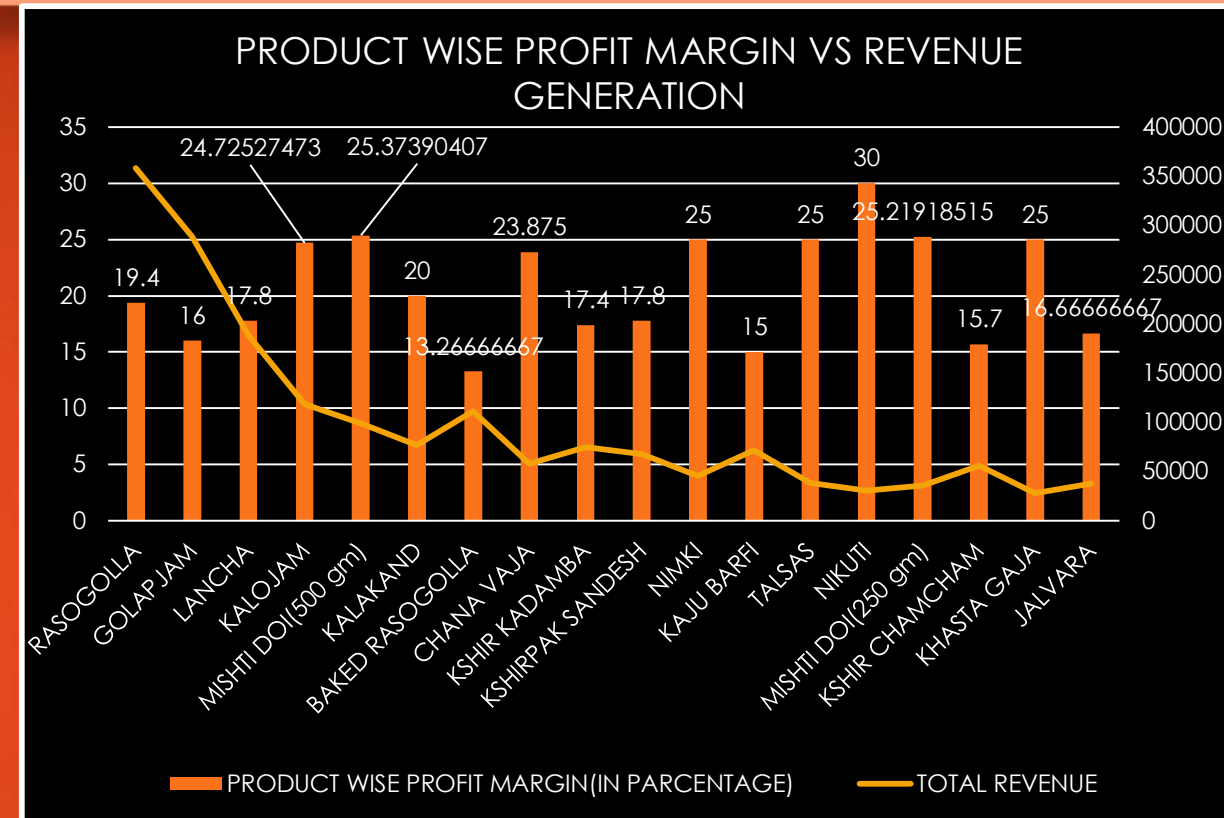
- **OVER VIEW:** Descriptive Statistics , Trend Analysis, Correlation Analysis, Comparative Analysis
- **Tools Used:** Google Sheets, Google Colab, Python Libraries (e.g. Pandas, NumPy, Matplotlib, Seaborn)

:FINDINGS:

PRODUCT WISE ANALYSIS FOR PRODUCTION MANAGEMENT

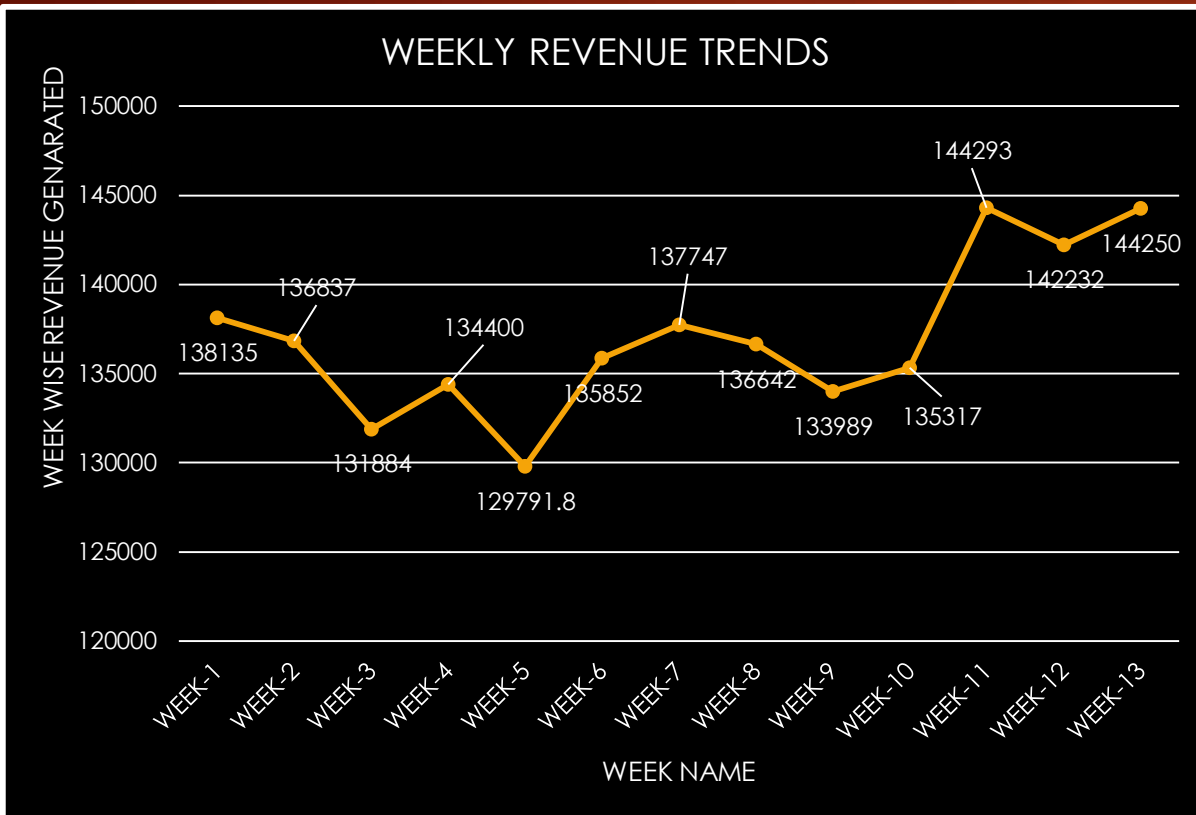


- **Rasogolla** and **Golapjam** see significantly higher sales on weekends.
- **Lancha**, **Kaloram**, **Nimki**, and **Kshir Kadamba** also perform well on weekends.
- **Jalvara**, **Kaju Barfi**, **Kshirpak Sandesh**, **Chana Vaja**, and **Mishti Doi** have stable sales throughout the week.

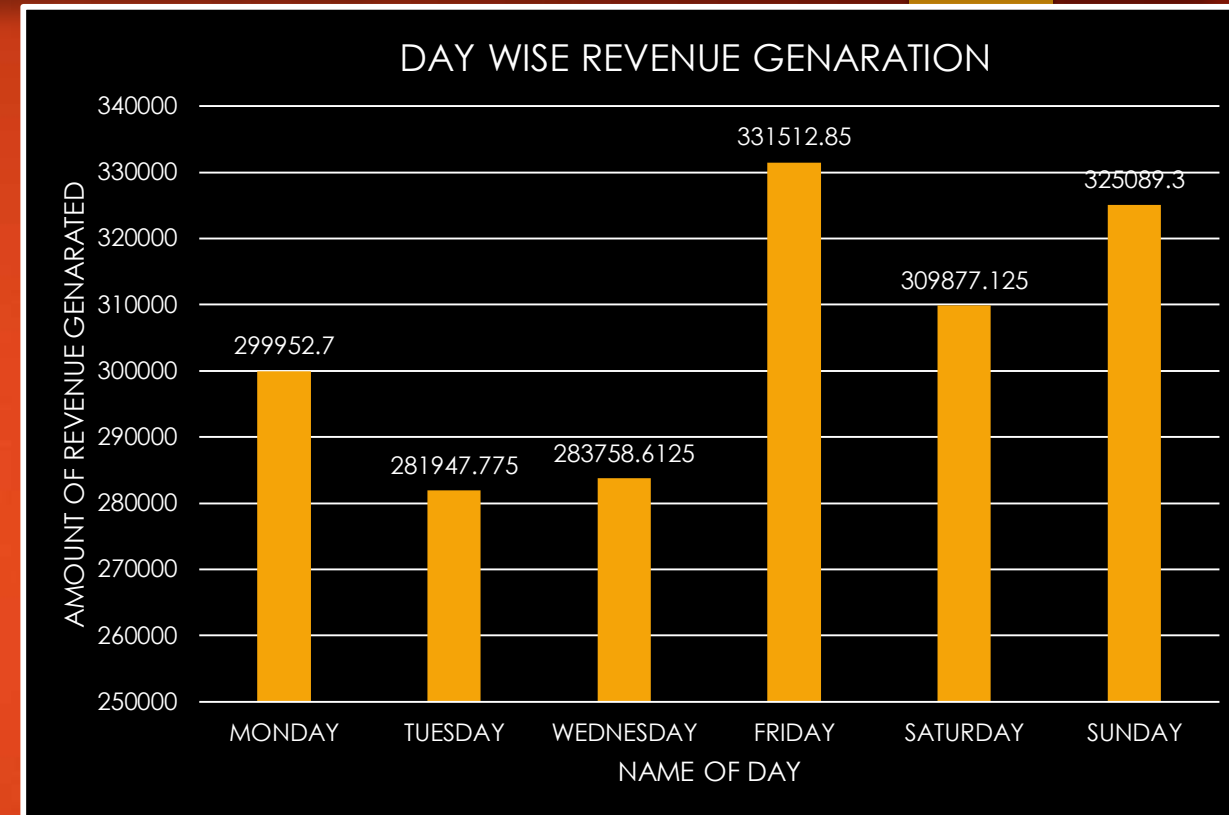


- Lowest and highest profit margin are 13.26% and 30% respectively for Baked Rasogolla and Nikuti.
- Most products have profit margins ranging from **15% to 25%.**
- For most of the products with profit margins above **20%** tend to have lower revenue generation.

:FINDINGS: REVENUE TRENDS ANALYSIS

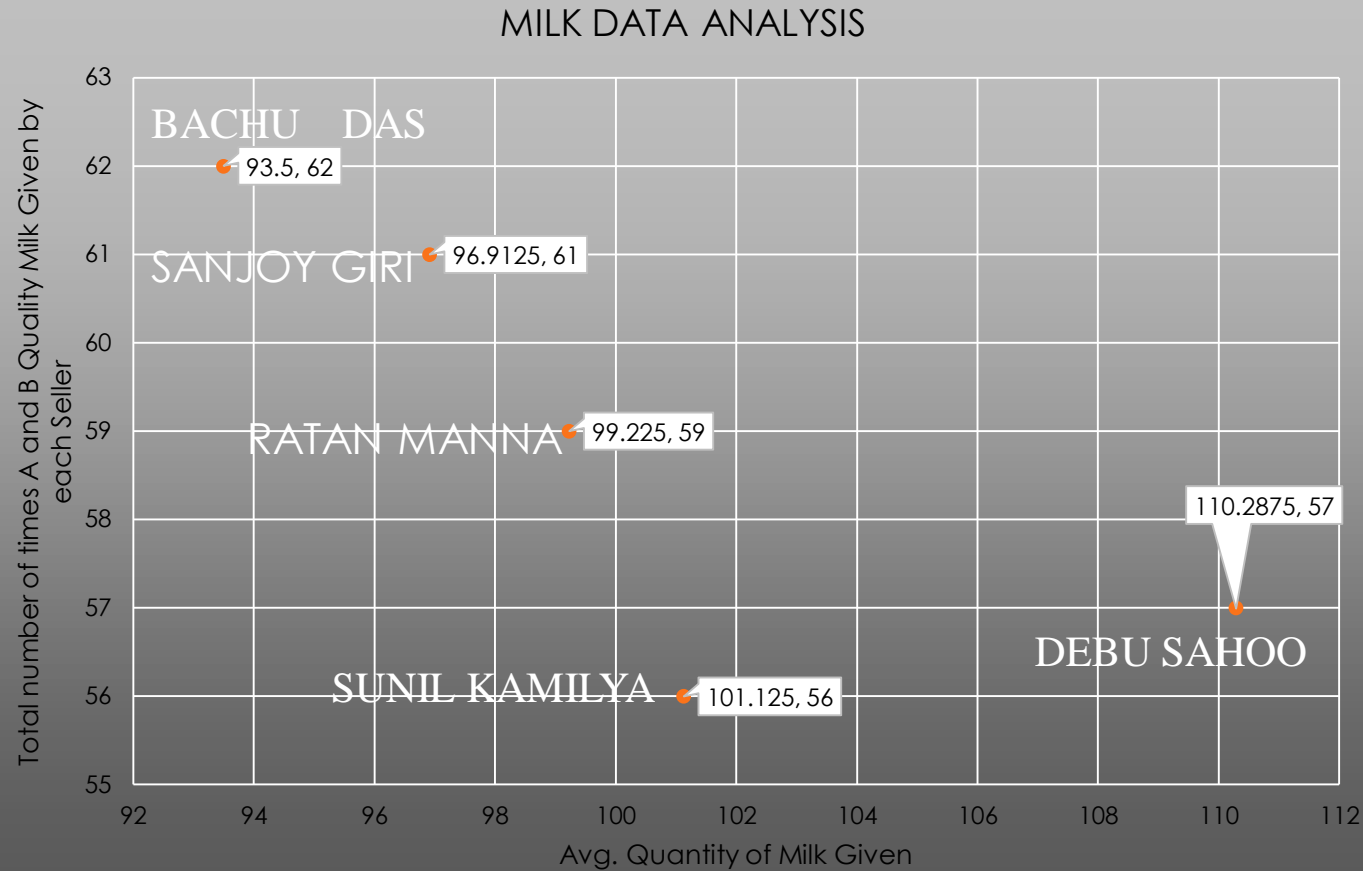


- Fluctuating revenue trends.
- The shop is generating weekly revenue of Rs.137028.4 on an average.
- Week-5 record lowest revenue of Rs.129791.8 and week-11 record highest revenue of Rs. 144293.



- There is a spike in sales towards the weekend.
- Friday is the highest revenue generating day which is about Rs. 331512.
- Sunday they generate almost similar amount of revenue as Friday which is Rs. 325089.

:FINDINGS: MILK DATA ANALYSIS

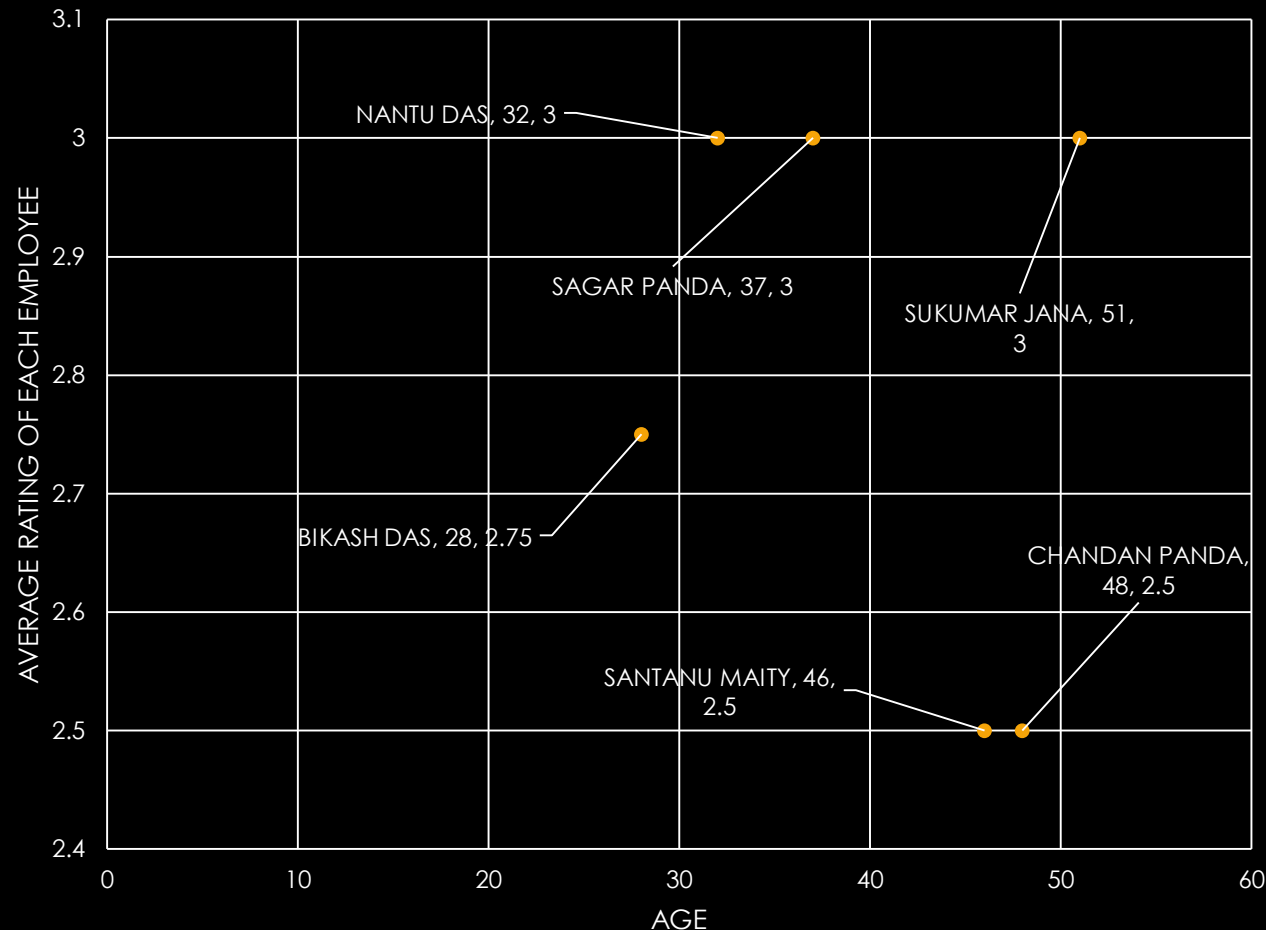


- **Debu Sahoo** provided the highest average daily milk quantity (110.28 liters), while **Bachu Das** provided the lowest (93.5 liters).
- **Bachu Das** supplied the best quality milk, delivering A and B quality 62 times.
- **Sanjoy Giri** and **Ratan Manna** had almost similar performance in both quantity and quality.
- **Sunil Kamilya** supplied 101.12 liters daily, but his milk quality was not satisfactory.

LACTOMETER READING	PRICE OF MILK	GRADE
3.9-4.5	45/LIT	A
3.3-3.8	38/LIT	B
2.8-3.2	33/LIT	C

:FINDINGS: WORKER DATA ANALYSIS

SCATTER PLOT BETWEEN AGE AND AVERAGE RATING OF EACH EMPLOYEE(OUT OF 5)



- The lowest rating is **2.5** for Santanu Maity, Chandan Panda, and the highest rating is **3** for Nantu Das, Sagar Panda, Sukumar Jana.
- Aged employees (over 45 years), like Santanu Maity and Chandan Panda, tend to have lower ratings.
- Younger employees (around 35 years), like Nantu Das and Sagar Panda, have higher ratings.
- Exceptionally, Sukumar Jana, aged 51 has a **3** rating, breaking the general trend of performance declining with age.

:RECOMMENDATIONS:

- Increase production on weekends (Friday, Saturday, Sunday) to meet higher demand and avoid stockouts.
- Reduce profit margin for low-revenue items (e.g., Nikuti, Khasta Gaja, Talsas etc.) around to 20% to boost their sales.
- Introduce new type of sweets and focus marketing on growing products.
- Try to reduce production cost by reduce wastage and by align production with demand trends.
- Introduce “Weekend Specials” and “Weekday Discounts” to drive sales during peak and slow periods.
- Negotiate with reliable suppliers for quality milk and diversify suppliers to ensure steady supply.
- Recruit efficient workers, encourage employees with incentives, and assign critical roles to high performers.
- Use customer feedback to improve product quality, pricing, and satisfaction.
- Regularly monitor product growth and explore expansion options like new branches or online delivery.

:CONCLUSION AND SUMMARY:

CONCLUSION:

- Some valuable results obtained from the analysis.
- Opportunities identified for growth and improvement.
- Obtain some data-driven strategies crucial for competitiveness.

SUMMARY:

- Key findings: Production, Revenue, Worker Details, Quality and Quantity of Milk.
- Trends and performance indicators highlighted.
- Actionable recommendations developed.

THANK YOU