BDM Capstone Project [Jan 2025]

Beautique Data Sync Operation and Integration on Beauty Parlour and Boutique Business

by Priyanshu Yadav[23f1000018]

The Business and The Problems

About the Business

- **Name of the Business:** Saini Boutique and Beauty Parlour
- **Type of Business:** B2C Retail shop, offering parlour, tailoring, and cosmetics.
- **Location:** Balapur, Raebareli, Uttar Pradesh, India
- **Founder:** Saroj Saini
- **Background:** The foundation of the business was laid over nine years ago with a small home-based boutique. Later, it briefly merged with a cosmetic shop, but due to personal challenges, operations were paused.
  In 2019, the business was strategically revived as a merged entity—a home-based beauty parlour and boutique. This move transformed it into one of the leading service providers in Balapur, Raebareli.
  Today, the business is recognized for its quality, professional beauty services, and cc custom-fit clothing, serving the rural community with high customer satisfaction.

Problems

- **Long wait times** - Customers often face delays due to unorganized service scheduling and overlapping walk-ins.
- **Unused inventory** - products often expire unsold, unused, resulting in wastage and financial loss.
- **Manual record-** keeping and no data tracking - Without digital tools, the business lacks real-time performance visibility and data-driven decision-making.
- **Lack of Publicity of the Shop** - Being located in a rural, non-commercial area, the shop lacks regular footfall, causing reduced visibility and expired inventory during off-peak seasons.
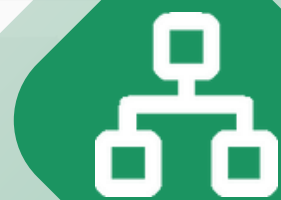
Data Cleaning and Preprocessing

Before going ahead with the analysis part it was necessary to **clean and preprocess the data**. A series of preprocessing operations were carried out on the dataset making the data eligible for the data analysis operations.

Data Cleaning
Duplicate bills, incorrect spellings, etc errors were rectified

Category Classification
grouped into three main categories: Parlour, Boutique, and Cosmetic, based on their functional role and business relevance.
This helped in targeted performance analysis and cross-category comparisons.

Quantity Standardisation
The quantities were adjusted to a per-unit basis to ensure consistent comparison.

Profitability Metric Engineering
engineered new columns like Cost Price, Selling Price per Unit, and Profit Percentage using custom mappings and formulas — crucial for revenue and margin analysis.
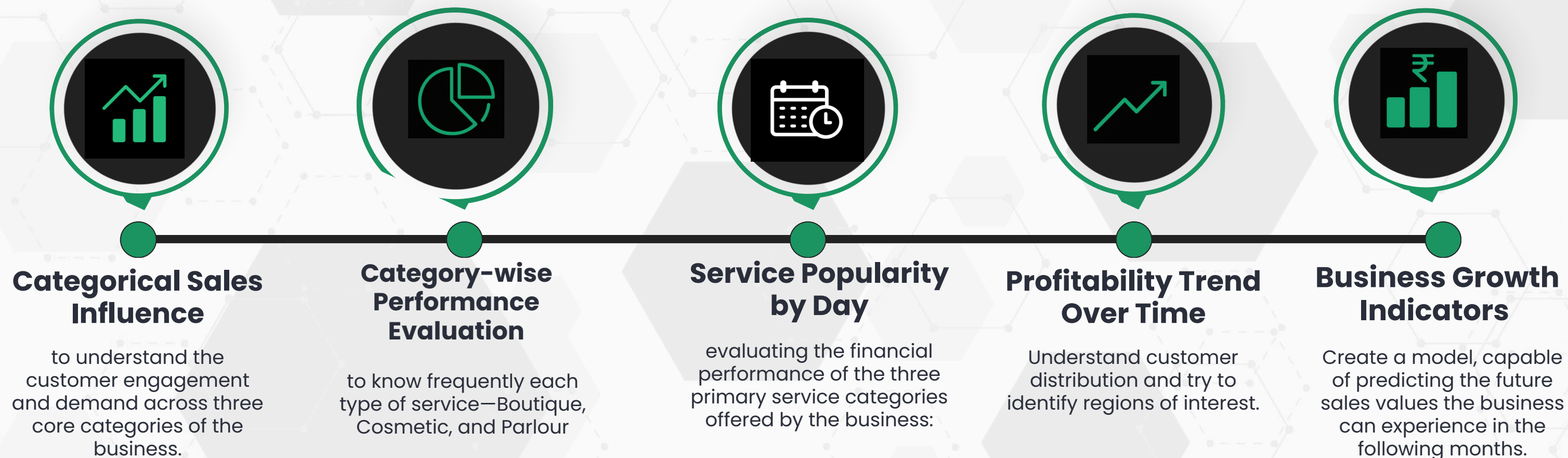
Data Collection

○ Sales data from daily transactions, categorized into Parlour services, Boutique services and cosmetic services provided ranging from Jan 2025 to March 2025

○ Manual data entry operation was caried on these bill copies to make it eligible for analysis.

Objective and the Methods

Objective: The aim of the project is to analyse the extracted data and draw out actionable insights that may help the business to boost up their sales and build a strong brand image in the market.

Methods of Analysis: After a rigorous data cleaning and preprocessing operation, 5 methods of analysis were deployed on the preprocessed dataset to uncover categorical sales influence, product performance, customer behaviour and future sales trends.

Categorical Sales Influence

to understand the customer engagement and demand across three core categories of the business.

Category-wise Performance Evaluation

to know frequently each type of service—Boutique, Cosmetic, and Parlour

Service Popularity by Day

evaluating the financial performance of the three primary service categories offered by the business:

Profitability Trend Over Time

Understand customer distribution and try to identify regions of interest.

Business Growth Indicators

Create a model, capable of predicting the future sales values the business can experience in the following months.

Categorical Influence on Sales

Explanation

This analysis aims to understand the **customer engagement and demand** across three core categories of the business:
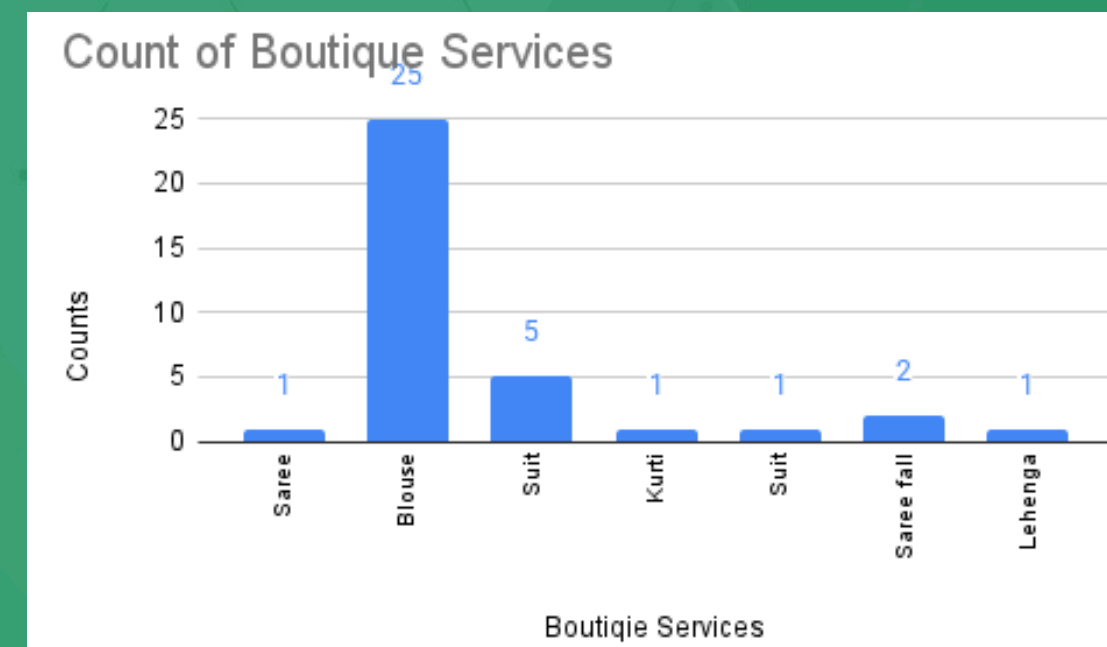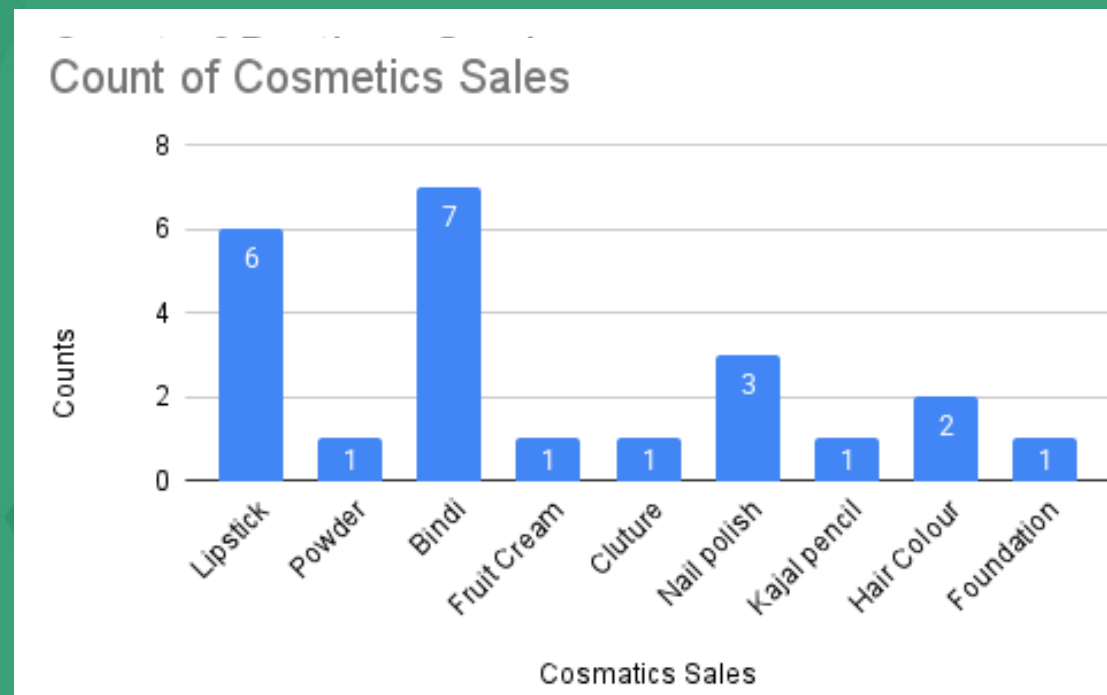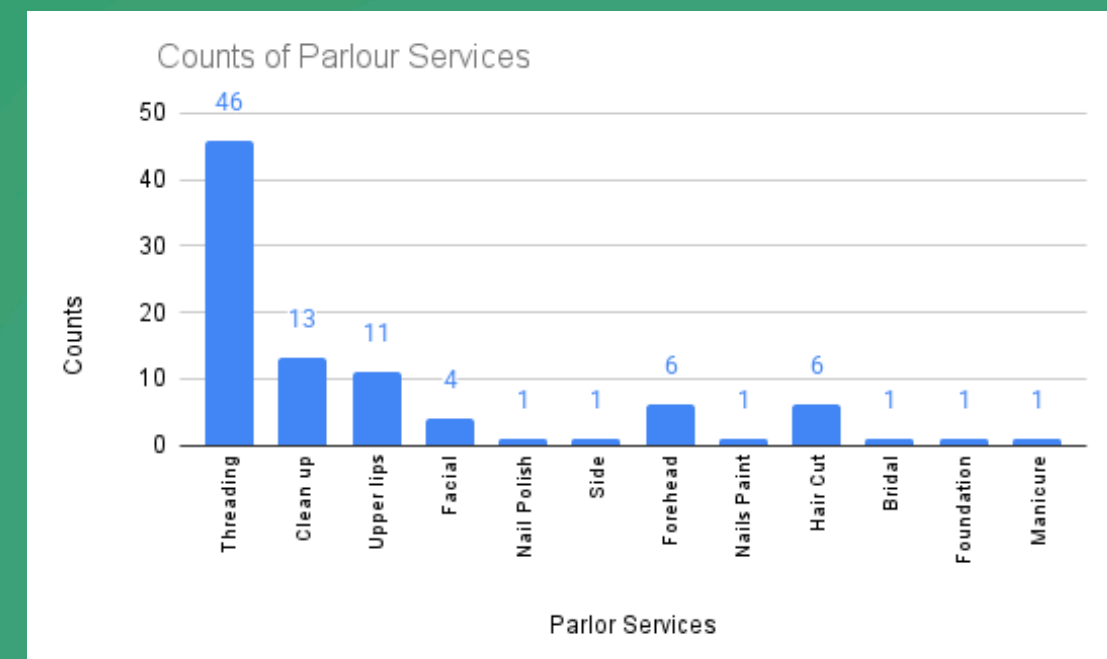
1. Parlour Services
2. Boutique (Tailoring) Services
3. Cosmetic Sales

By visualizing the frequency (count) of individual services/products availed in each category, we can:

- Detect customer behavior patterns
- Identify bestsellers and underperformers
- Guide future product/service strategy and marketing

Results and Findings

- *Threading* emerged as the most frequent parlour service, indicating high routine demand, while *blouse stitching* led in boutique usage.

- Cosmetic sales were minimal, with *Bindi and Lipstick* being the only notable contributors.

- This shows strong customer reliance on essential grooming and tailoring, but low interest in standalone cosmetic products.

- There is clear potential to *bundle cosmetics with top services* and promote lesser-used offerings through in-shop visibility or discounts.

Counts of Parlour Services

Count of Cosmetics Sales

Count of Boutique Services

Revenue Proportion by Service Type

Profit % Distribution by Service Type

Category-wise Performance Evaluation

Explanation

This analysis focuses on evaluating the **financial performance** of the three primary service categories offered by the business:
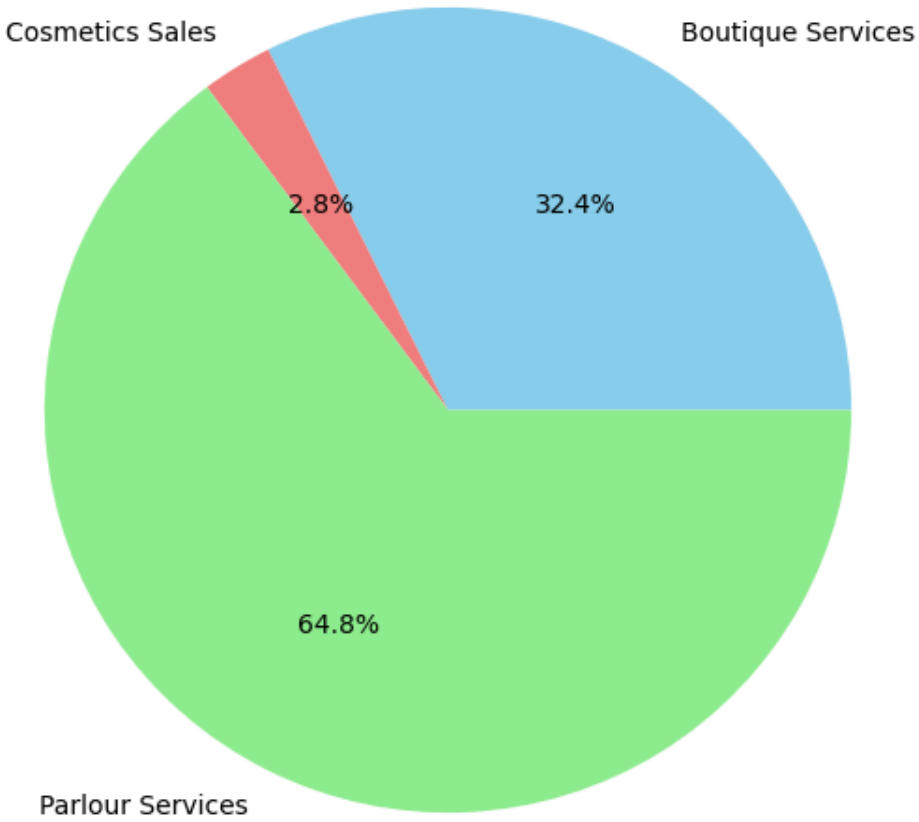

Two perspectives are visualized:
1. Revenue Contribution (Pie Chart): Shows how much each category contributes to overall earnings.
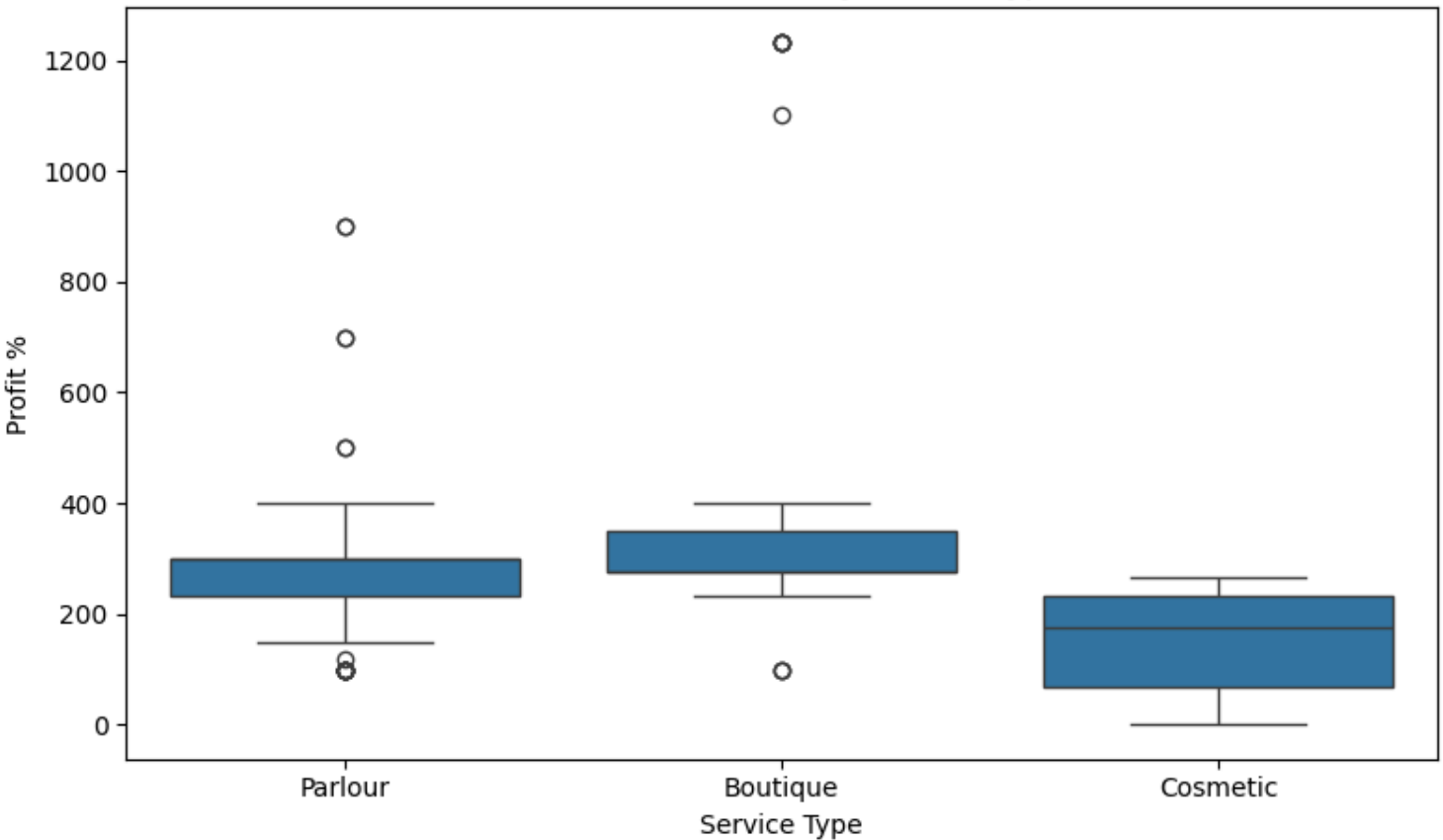2. Profit % Distribution (Box Plot): Highlights variability and average profit margins across the categories.

Results and Findings

○ *Parlour services contributed the highest revenue at **64.8%**, but with **variable profit margins**, indicating fluctuating efficiency.*

○ *Boutique services, while earning less, maintained **more stable and higher profitability**, suggesting better pricing control.*

○ *Cosmetic sales underperformed in both revenue (**2.8%**) and profit consistency, showing weak customer interest and margin volatility.*

○ *This highlights a need to **sustain parlour demand, promote boutique** offerings, and **revamp cosmetic sales strategies**.*
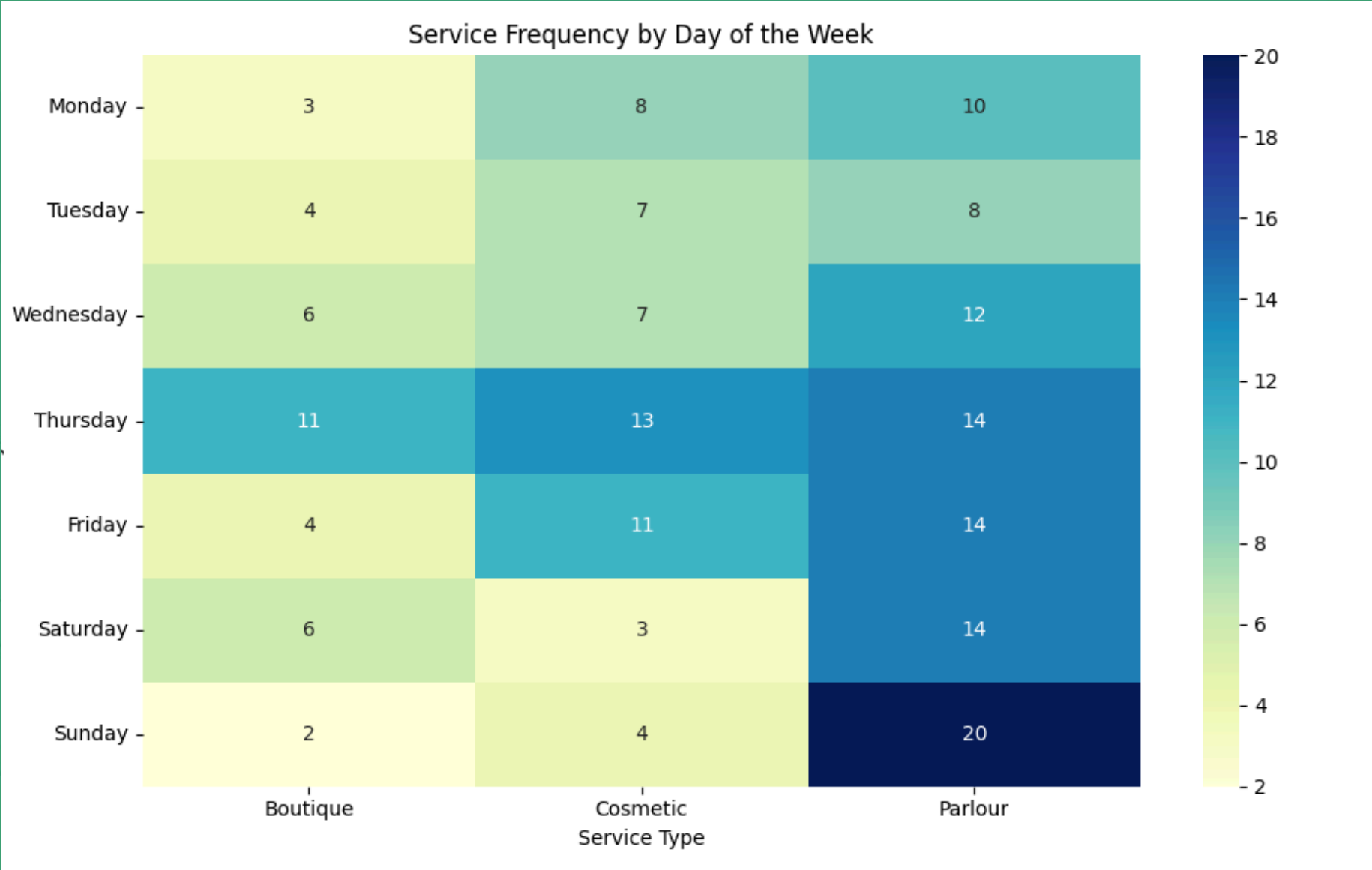
Service Popularity by Day

Explanation

This heatmap visualizes how frequently each type of service—**Boutique**, **Cosmetic**, and **Parlour**—was availed across different days of the week. The color intensity indicates the volume of transactions, with darker shades representing higher frequencies. This helps identify peak business days and service demand distribution.
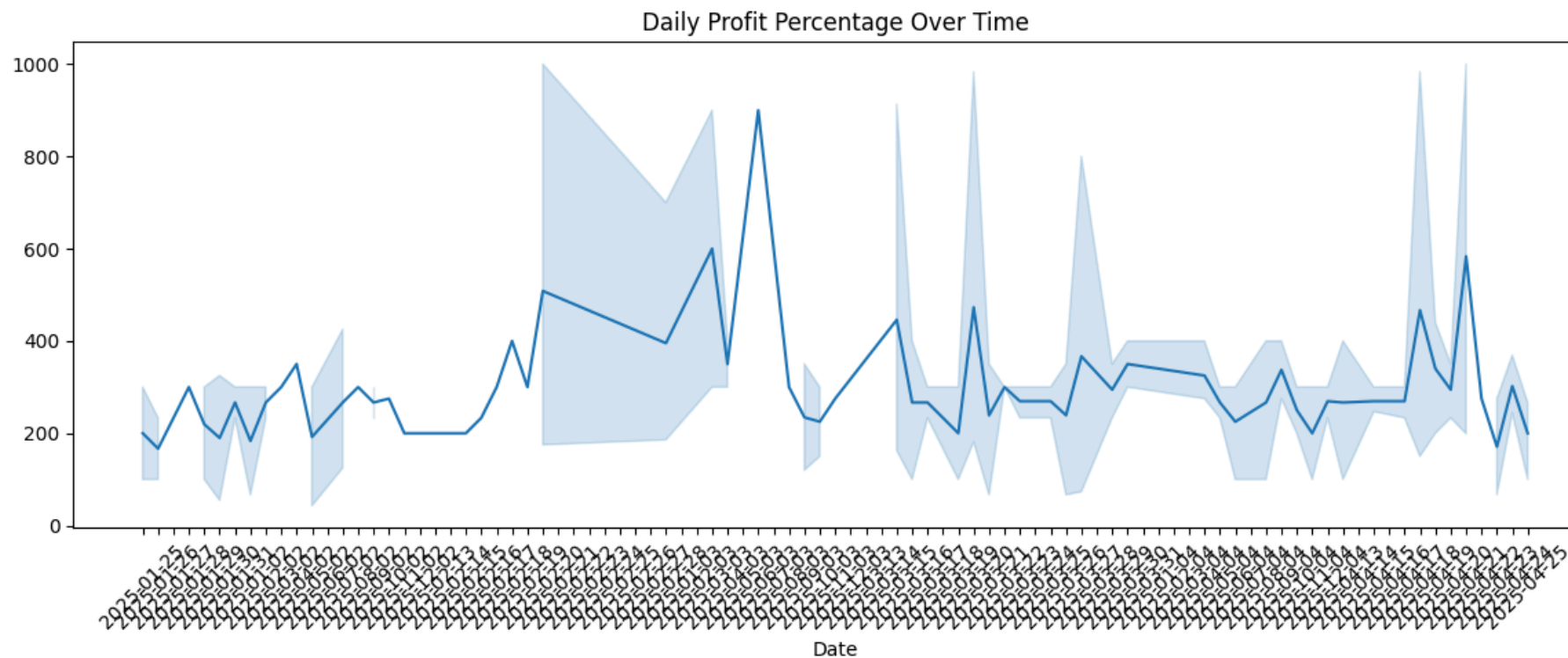
Results and Findings

- **Parlour services** dominate every day, peaking sharply on **Sundays(20)** and remaining high from **Wednesday to Saturday**

- **Thurday** is the overall busiest day with the high activity across all three types.

- **Cosmetic services** show steady demand midweek, especioally on Thursday and Friday

- **Boutique services** have relatively low but consistent demand, with a noticeable rise on Thursdays and Saturdays.

Service Frequency by Day of the Week

	Boutique	Cosmetic	Parlour
Monday	3	8	10
Tuesday	4	7	8
Wednesday	6	7	12
Thursday	11	13	14
Friday	4	11	14
Saturday	6	3	14
Sunday	2	4	20

Service Type

Profitability Trend Over Time

Daily Profit Percentage Over Time

Explanation

This line chart visualizes the **daily profit percentage** across the 3-month period, providing insights into the business's financial efficiency over time.

The shaded region represents **profit variability**, helping identify days with unusually high or low profit margins, potentially due to high-value transactions or minimal costs.

Results and Findings

- Daily profit percentages show **moderate stability,** averaging between **200% to 300%** for most days.

- Significant **spikes in profit** occurred periodically, driven by high-margin services like **bridal makeup** or **bundled bookings.**

- A few **sharp drops** hint at either low-revenue days or services sold near cost price.

- This fluctuation highlights the need for consistent high-margin offerings and better planning for low-performing days.

# Business Growth Indicators Over Three Months

Explanation

These line charts track the **revenue**, **cost price**, and **selling price** trends across a three-month period, highlighting the overall financial movement of the business.

By comparing these three indicators, we can assess **profitability patterns, pricing consistency**, and how sales **volume and value** evolved with time.

Results and Findings

- The **revenue trend** shows consistent growth with periodic spikes, especially during high-demand services like bridal packages.

- **Cost price** remained comparatively steady, indicating efficient inventory sourcing or service input control.

- **Selling price** followed a stable path with peaks aligning with revenue surges, suggesting strategic pricing during festive or peak periods.

- Together, the trends confirm that the business maintained **good cost control** while leveraging **high-value services** for revenue boosts.

Revenue Trend Over Three Month
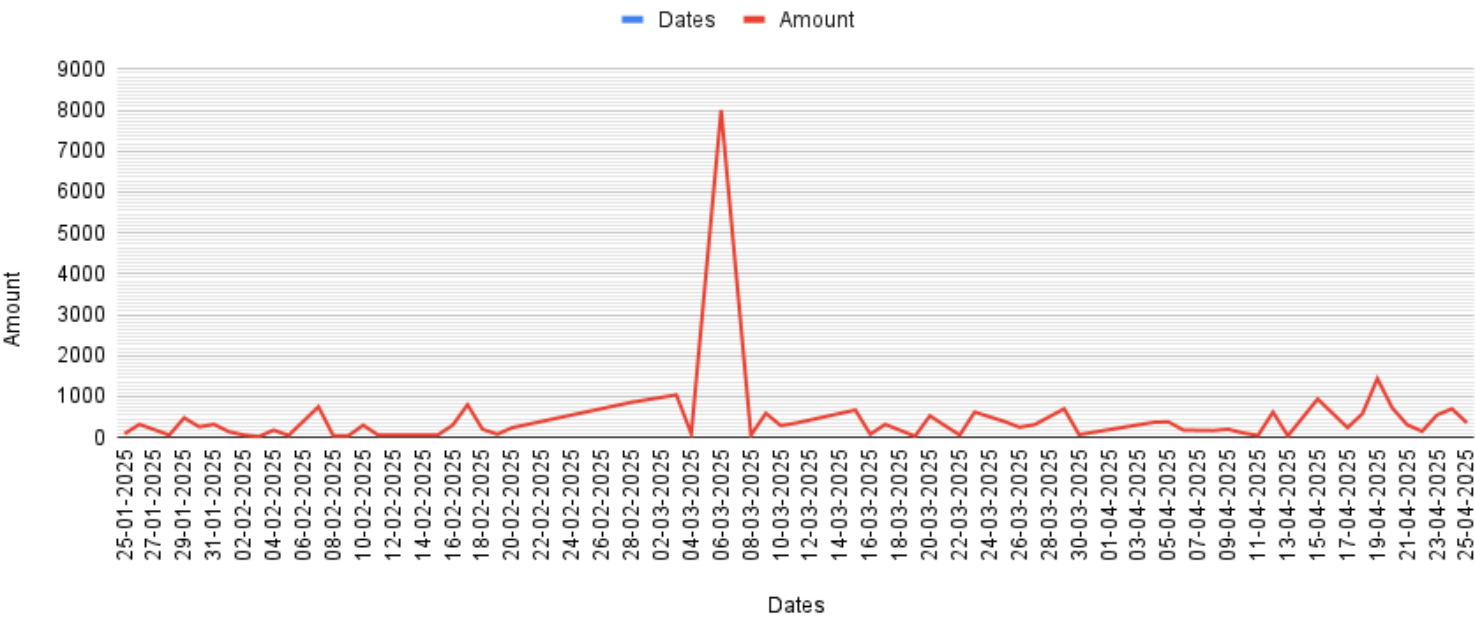
Cost Price Trend Over Three Month
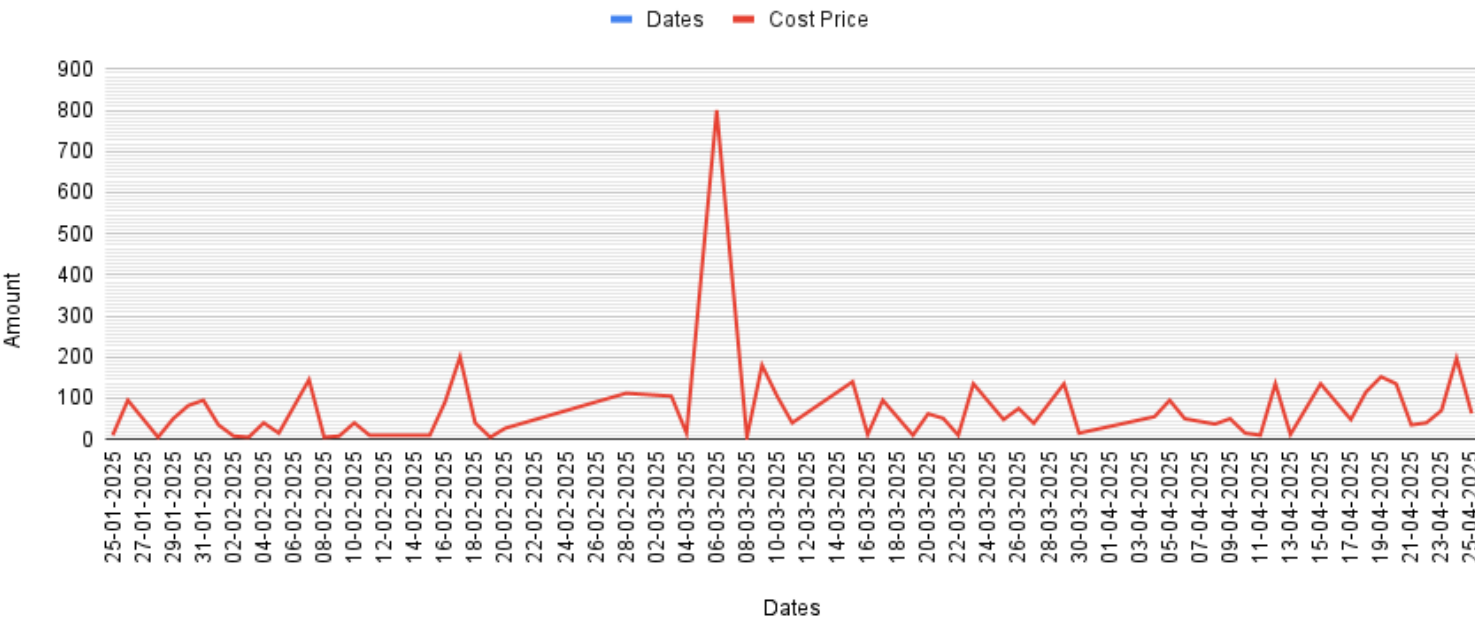
Selling Price Trend Over Three Month

Recommendations

1 Use a simple phone or Google Calendar system **to schedule appointments, reduce customer wait times, and manage staff better**. Introduce time-slot-based services during weekends and peak seasons.

2 Monitor cosmetic stock regularly using a basic **spreadsheet or inventory app** to avoid overstocking. Create **combo offers or discounted bundles** for slow-moving cosmetic items.

3 Implement a referral scheme where customers get a **discount for bringing friends**. Start a loyalty card system for frequent services like threading or blouse sewing.

4 *Continue **recording** daily sales and service counts digitally. **Review data** monthly to identify new trends, peak periods, and product performance.*

5 **Bridal packages** significantly increase revenue—**promote them** more via word-of-mouth, posters, and WhatsApp status during wedding seasons.

6 **Free home delivery services** can be provided in some region. Being right next door won't cost us much Instead, these services would create a positive brand image, helping in the promotion by word-of-mouth.

7 Collect basic customer **feedback** monthly to find service gaps.

8 Since cosmetic sales are underperforming, introduce **trial-size products** or create **impulse-buy displays** to improve visibility and conversions.