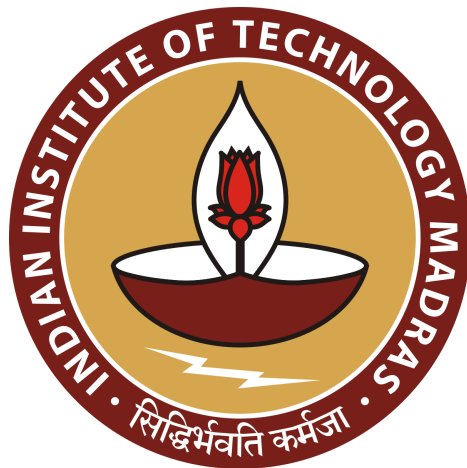


A Sales Analysis of a Men's Suiting and Shirting Store



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Executive Summary

Dey Brothers is a well-known retailer for men's suiting and shirting in Kolkata, established in 1965. The owner of the shop maintains a large inventory to ensure customer satisfaction, including fabrics of different materials and prices, from various famous brands like Raymond, Vimal and other reputed brands. However, he invests a significant amount of money to maintain this diverse stock of fabrics, which results in a large amount of unsold stock. Unfortunately, the owner doesn't use any inventory tracking software to monitor inventory, which makes it more difficult.

To help the owner improve sales, we will perform a sales analysis of last year's daily sales. We will first manually enter all the data from carbon copy bills into Excel and then start our analysis. This analysis will help us identify the maximum revenue-generating stock-keeping unit (SKU), the most sold SKU, and which SKU generates the most profit. We will use various graphical tools like line charts, pie charts, Pareto charts, bar charts, etc., to present our findings effectively. Additionally, the analysis will help the owner determine which types of cloth and trendy designs will sell the most and ensure that the shop remains competitive in the market.

We aim to complete this project by March 22nd, and the results will help the owner improve revenue, reduce the amount of unsold stock, and increase profits.



Dey Brothers is a Suiting Shirting Retailer for men located in Rashbehari Avenue, Kolkata. Dipankar Dey is the owner of this business which was established in the year 1965. This shop mainly deals in Men's Shirting and Suiting Cloth. They maintain a wide range of suiting shirting cloth in low as well as high price points, including brands like Raymond, Vimal, Arvind, and many other reputed brands. Three salespersons and one tailor make up the total staff at Dey Brothers. The shop enjoys a strong local reputation for high customer satisfaction.

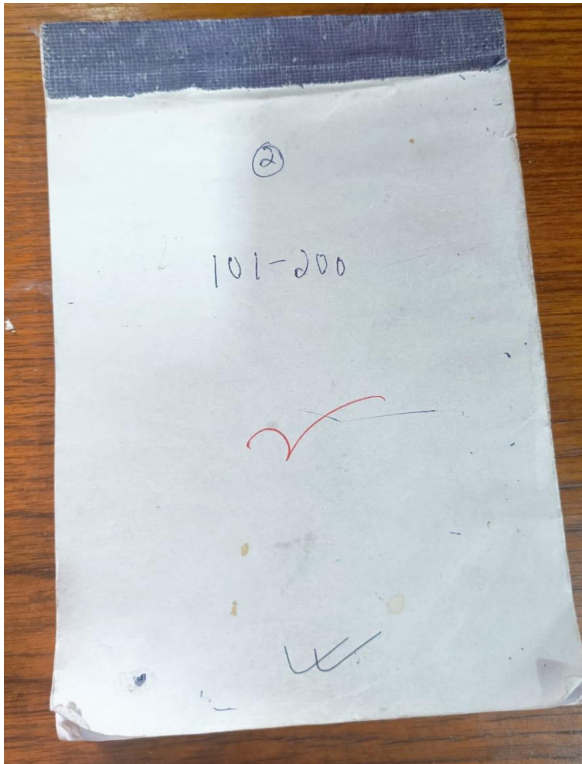
The shop owner is interested in planning his purchases according to sales analysis done to maximize sales and revenue generation along with his profits.

- To identify the SKUs which are generating maximum revenue and to find the ones which are selling the most.
- To maximize overall Profit depending on sales analysis and profit from each SKU data
- To identify which type of cloth generates most profit overall in suiting and shirting

Fig-1



Fig-1 shows the letter from Dey Brothers as a proof of originality of data.



TAX INVOICE/CASH MEMO
DEY BROTHERS
 152C RASH BEHARI AVENUE KOLKATA-700029, WEST BENGAL
 GSTIN/UIN: 19AACFD4544L1Z8
 Mob : 983066757

Invoice No. DB/GST/ 10 Dated: 20.5.22
 Delivery Note Buyer's Order No. Dated:
 Buyers
 Add:
 GSTIN/UIN: Place of Supply:

Sl No.	Description of Goods/Item	HSN/SAC	Quantity Mts	Rate Per	Amount
	clav		1.25	750.	937
	OUTPUT SGST				
	OUTPUT SGST				
	ROUND OFF				
	TOTAL				937

Amount Chargeable (in words) E. & O.E.
 Buyer's PAN :
 Company's PAN : AACFD4544L
 Declaration
 We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.
 For DEY BROTHERS
 Authorised Signatory

Fig-2

Fig-2 shows the bill register from where our data was collected (as a proof of originality of data.)



Fig-3**Fig-4**

Fig-3 is the picture of the Suiting Cloth section of the shop. Fig-4 is the picture of the Shirting Cloth section of the shop.

Detailed Explanation of Analysis Method

1. We manually entered the daily billing data into Ms Excel and organized the data, including preprocessing tasks like sorting and checking for typing errors. We collected the purchase price (Purchase Price/meter) of each SKU and entered it into Excel. After completing these tasks, we began our analysis. The link for the data - <https://docs.google.com/spreadsheets/d/1hLEOxnjLbX1EACiqq73OOOsiwvZ8iIxP/edit?usp=sharing&oid=104730558840056645302&rtpof=true&sd=true>

2. Using the SUM formula, we calculated the total revenue generated in the three months and monthly sales. We also utilized a pivot table to determine the percentage of revenue generated by each sector, namely Cotton Suiting, Cotton Shirting, Linen Shirting, PV Cotton Suiting, and PV Cotton Shirting. We then used that information to create our pie charts.
3. We made a new column which contains the week numbers starting from the first week of April to the end of June. We used that column in our pivot table to obtain the revenue generated in each week. We then used that data to create a line chart for further analysis.
4. Then we created 5 sheets for the 5 different sectors and named them:-
 - a. Cotton Suiting Cloth
 - b. Cotton Shirting Cloth
 - c. PV Cotton Suiting Cloth
 - d. PV Cotton Shirting Cloth
 - e. Linen Shirting Cloth
5. To handle the issue of multiple items representing the same price point (e.g. ₹350, ₹360, ₹385), we opted to use a weighted average approach. We calculated the average price for such closely priced rates falling under the same category. (Formula- $\sum (\text{rate} \times \text{total meters purchased for that rate}) / \text{summation of total meters of the rates used in above summation}$)
6. We used pivot tables to calculate various metrics for each sheet that had different SKUs identified by rates(weighted average rates), including their purchase rate, total meters sold, revenue generated from each SKU. We generated a separate column for profit per meter from each SKU (calculated as rate minus purchase price), profit percentage (calculated as profit divided by rate), and total profit (calculated as profit percentage multiplied by revenue from that SKU).
7. With the help of these sheets we created graphs for comparing Revenue and profit for each category. We made different graphs like pareto charts, bar charts in this case.
8. We also made a revenue tree map using revenue generated from each SKU.

Results and Findings

Total Revenue vs. Months

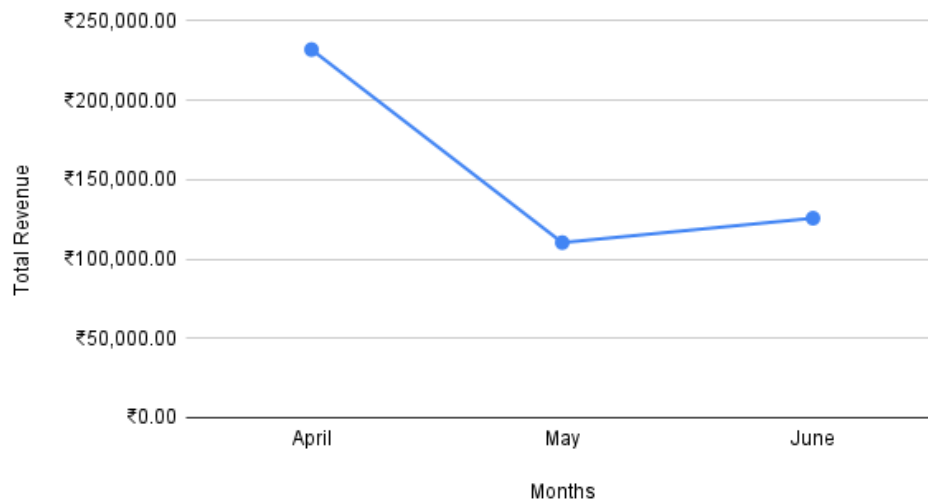


Fig-5

In **fig-5**, the graph of Total Revenue versus Months shows that the highest sales in FY 2022-2023 occurred in April, while May had the lowest sales. Sales experienced a significant drop in May, and June's sales were quite similar to that of May.

Weekly Sales Line Chart

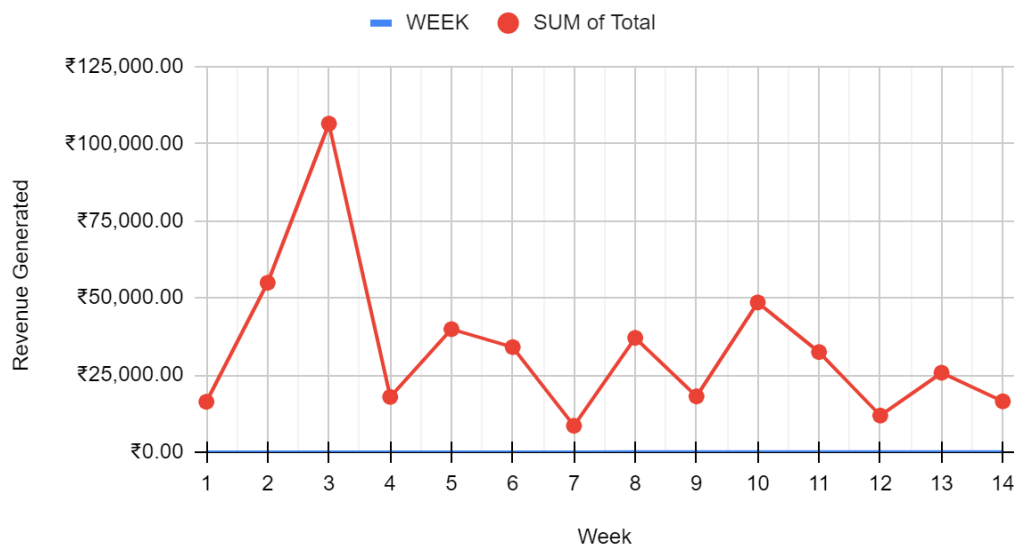


Fig-6

Fig-6 presents a weekly sales line chart starting from the first week of April 2022. The chart shows that the highest sales were in week 3, followed by weeks 2 and 10. Typically, the weekly sales range between ₹25,000-₹35,000..

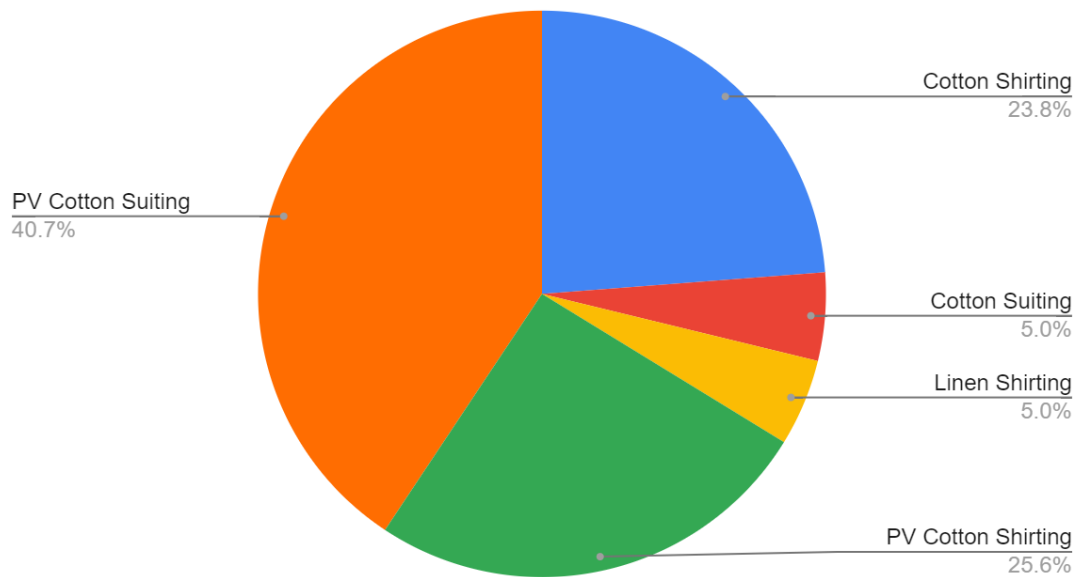
Revenue from each Sector**Fig-7**

Fig-7 shows a pie chart created to analyze the percentage of revenue generated by each sector. PV Cotton Suiting sector has generated the highest revenue (40.7%), followed by PV Cotton Shirting sector (25.6%) and Cotton Shirting sector (23.8%).

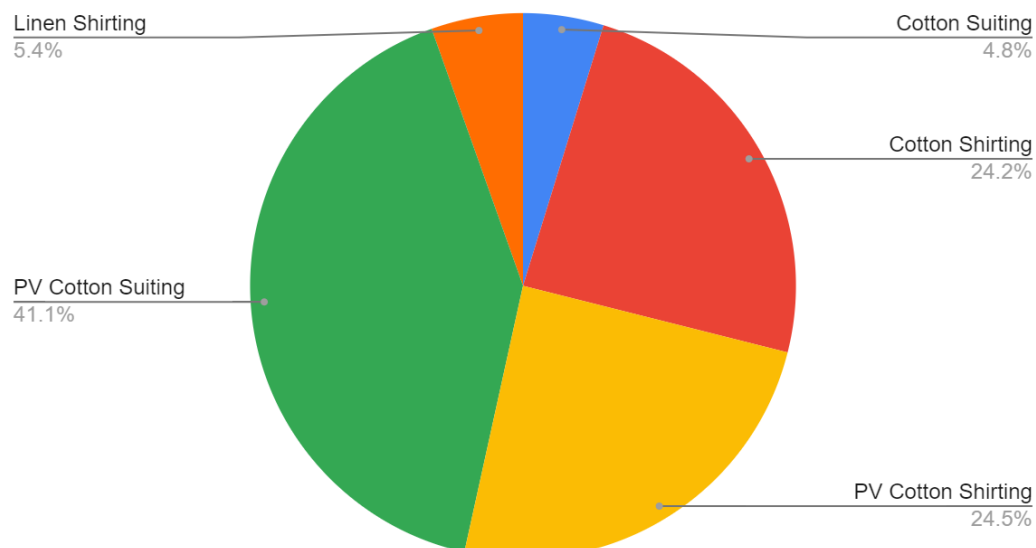
Profit from Sector

Fig-8

Fig-8 illustrates a pie chart created to analyze the percentage of total profit generated from each sector. The chart shows that the PV Cotton Suiting sector has the highest profit percentage at 41.1%, followed by PV Cotton Shirting sector (24.5%) and Cotton Shirting sector (24.2%).

We will now analyze the performance of SKUs under each sector.

PV Cotton Suiting

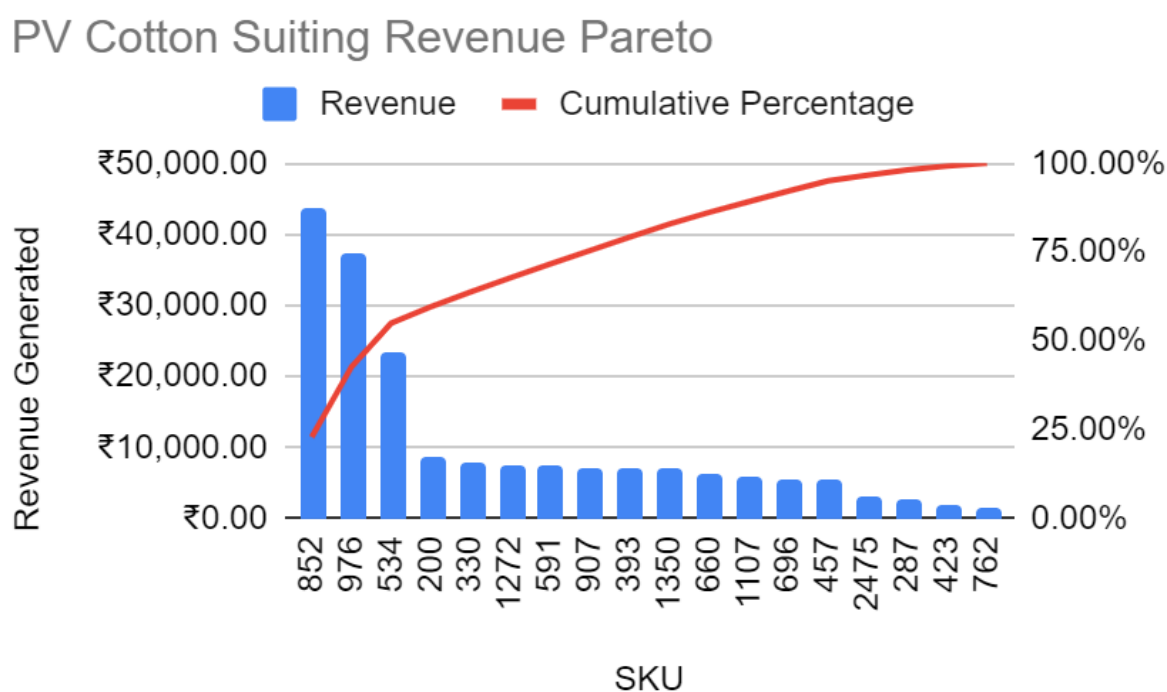
**Fig-9**

Fig-9 presents a Revenue Pareto for this sector, and it shows that PV Cotton Suiting is not following the Pareto Principle.

In Fig-10, we have presented a bar chart for the PV Cotton Suiting category that displays the revenue and profit generated by each SKU. The chart indicates that the SKUs priced around

₹852/meter and ₹ 976/meter have generated the highest revenue, followed by SKUs priced around ₹534/meter. In terms of profit, SKUs priced around ₹852/meter and ₹976/meter (both quite similar) have generated the highest profits.

PV Cotton Suiting Cloth (Revenue and Profit)

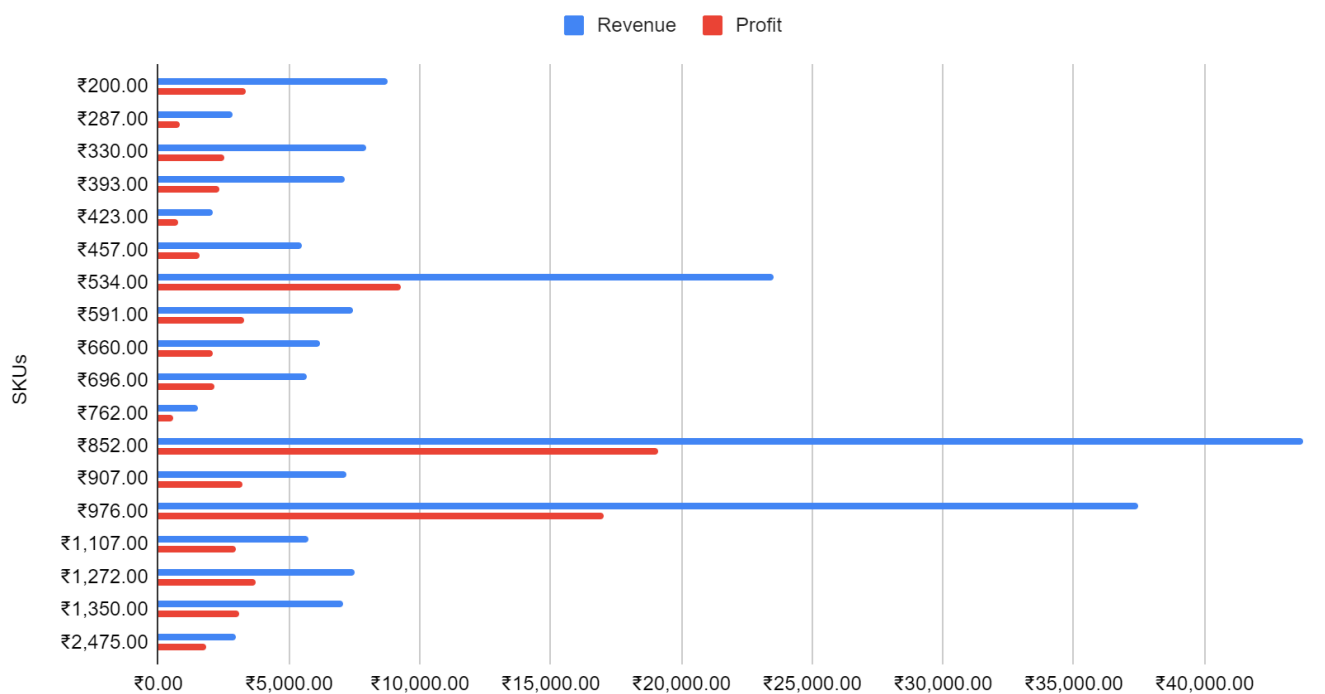


Fig-10

2.Cotton Suiting

Cotton Suiting Revenue Pareto

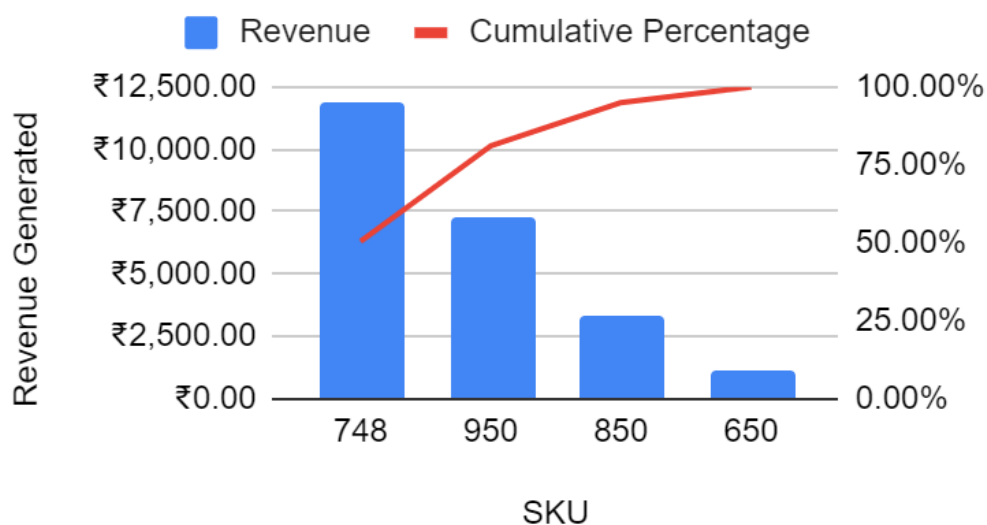
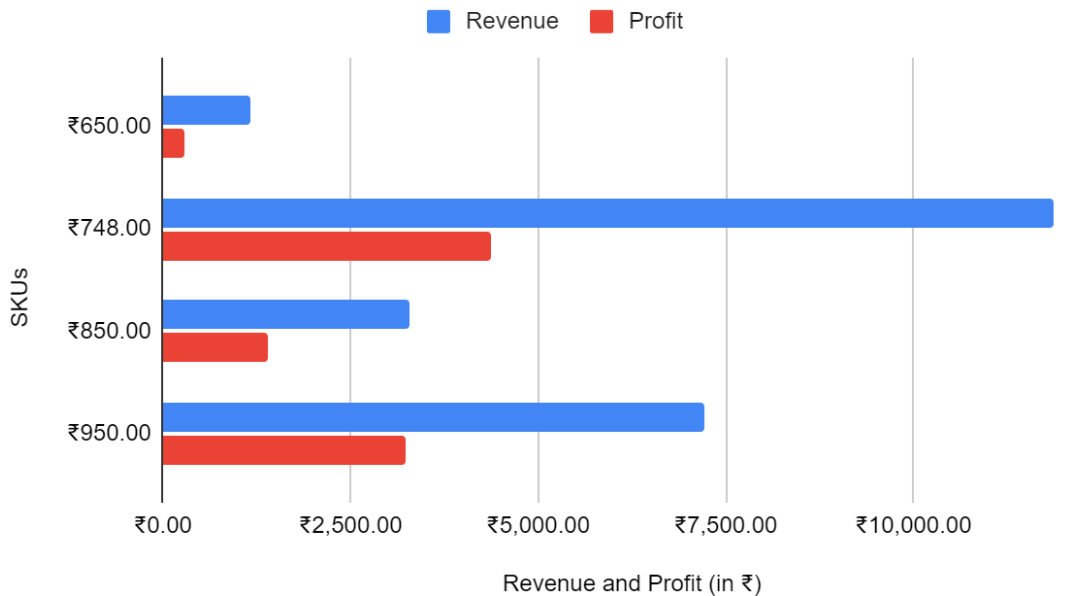


Fig-11

Fig-11 displays a Revenue Pareto chart for this sector, and it shows that Cotton Suiting is not following the Pareto Principle.

Cotton Suiting (Revenue and Profit)

**Fig-12**

In fig-8, we presented a bar chart for the Cotton Suiting category that displays the revenue and profit. The chart indicates that SKUs priced around ₹748/meter have generated the highest revenue and profit, followed by SKUs priced around ₹950/meter. However, SKUs priced around ₹650/meter are not performing well in this category.

3.PV Cotton Shirting

PV Cotton Shirting Revenue Pareto

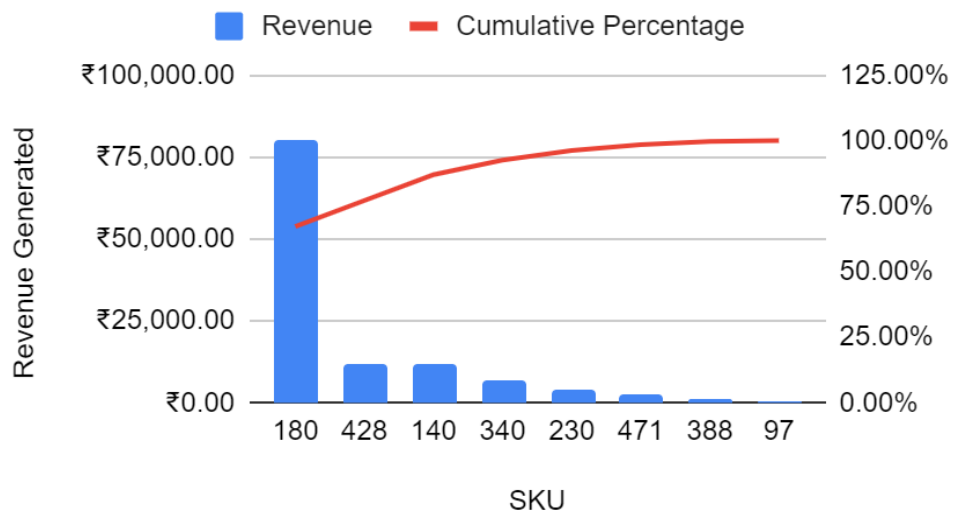
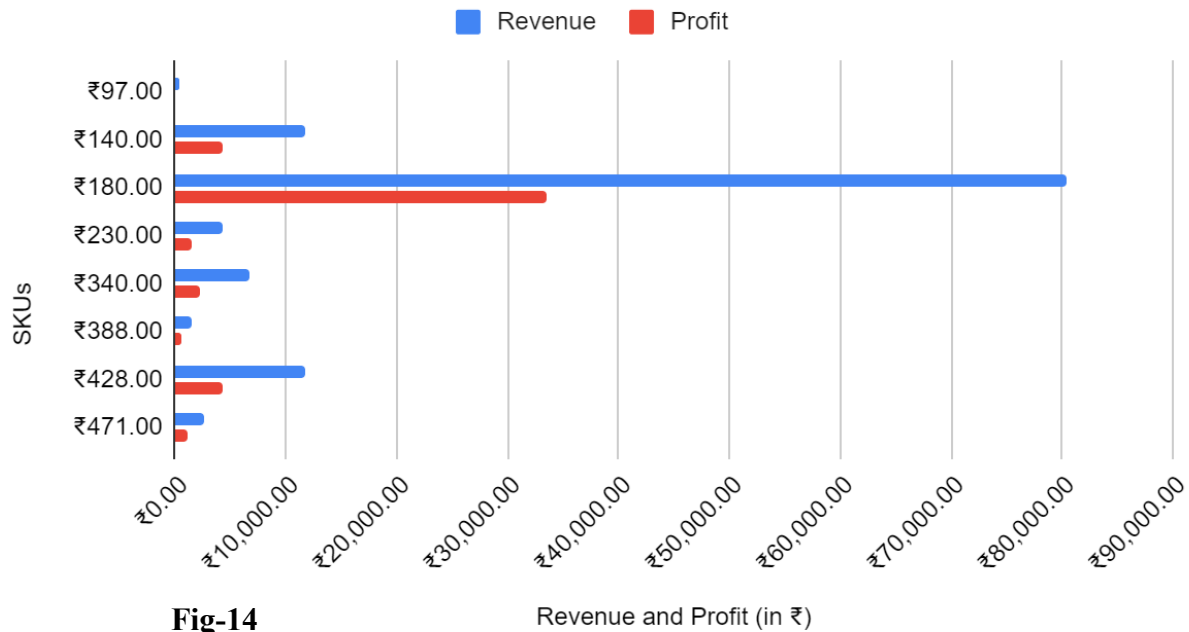


Fig-13

Fig-13 displays a Revenue Pareto chart for this sector, and it shows that PV Cotton Shirting is following the Pareto Principle. SKUs priced around ₹180/meter and ₹428/meter are contributing to 80% of the revenue generated by this sector.

PV Cotton Shirting (Revenue and Profit)

**Fig-14**

In fig-14, We presented a bar chart for the PV Cotton Shirting Category that displays the revenue and profit. Based on the chart, it is evident that SKUs priced around ₹180/meter are selling the most and have generated the highest revenue and profit in that category. However, other price points are not performing well in comparison.

4.Cotton Shirting

Cotton Shirting Revenue Pareto

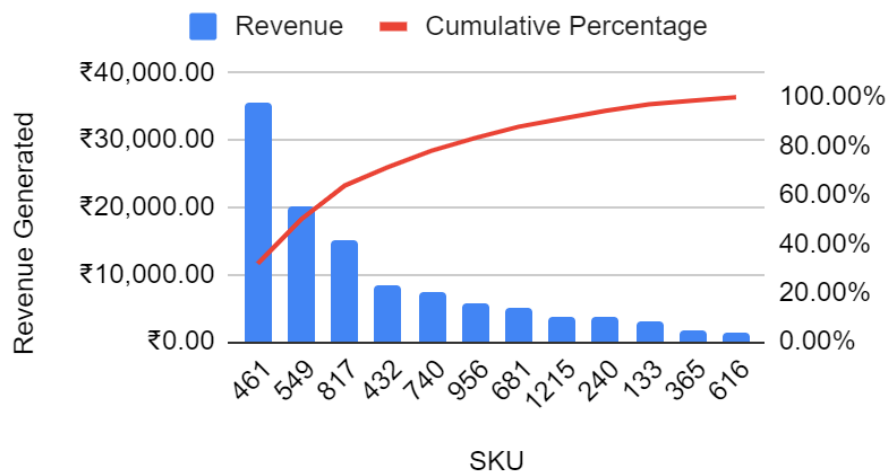
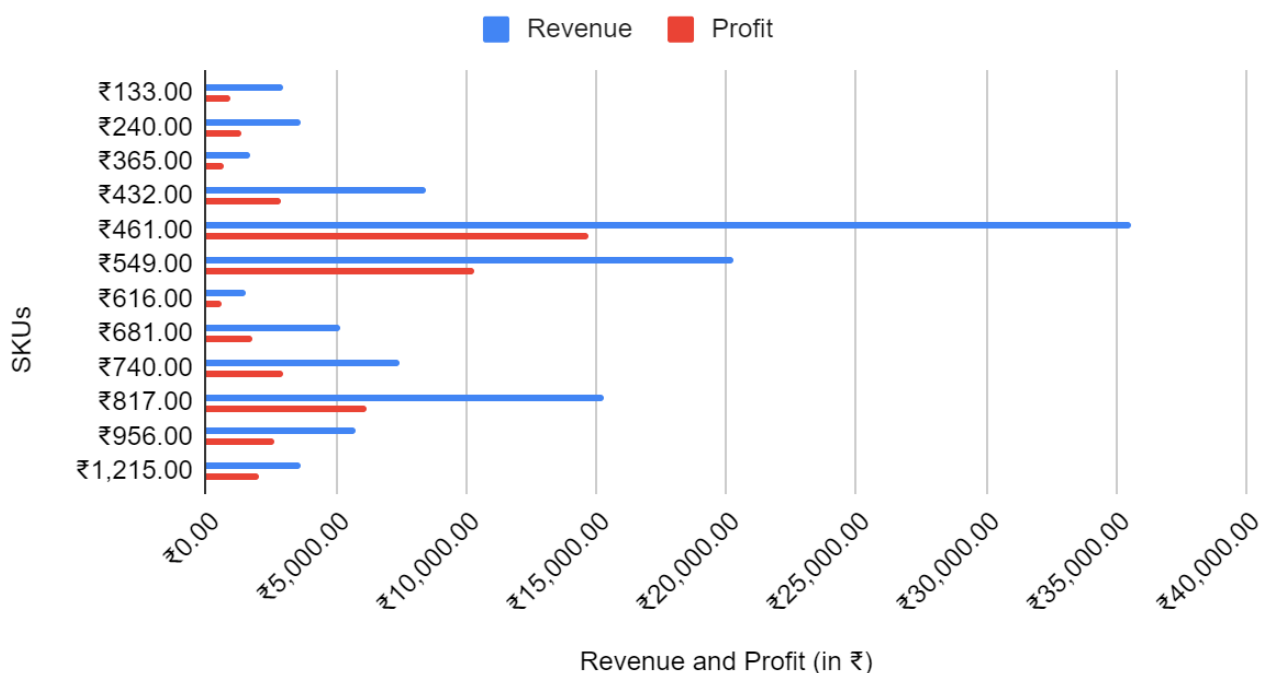


Fig-15

Fig-15 shows a Revenue Pareto chart for this sector, and it indicates that Cotton Shirting is not following the Pareto Principle.

Cotton Shirting (Revenue and Profit)

**Fig-16**

In fig-16, We presented a bar chart for the Cotton Shirting Category that displays the revenue and profit. The chart clearly shows that SKUs priced around ₹461/meter are the most revenue-generating products, followed by ₹549/meter and ₹817/meter. The revenue generation of other price points are very low. In terms of profit, SKUs priced around ₹461/meter and ₹549/meter generated (which are quite similar) have generated the highest profits.

5.Linen Shirting

Linen Shirting Revenue Pareto

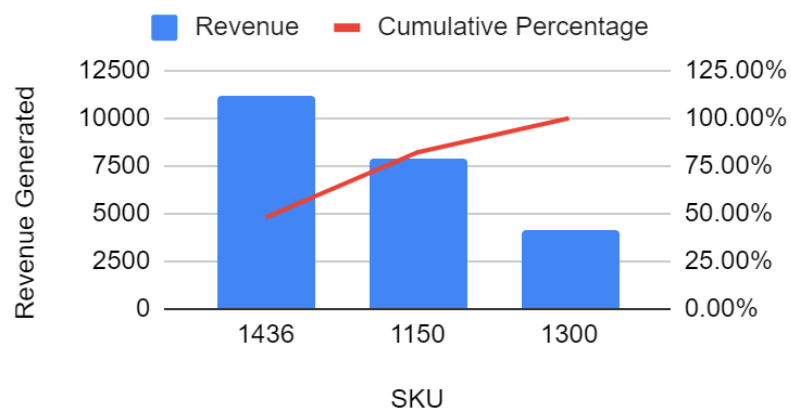
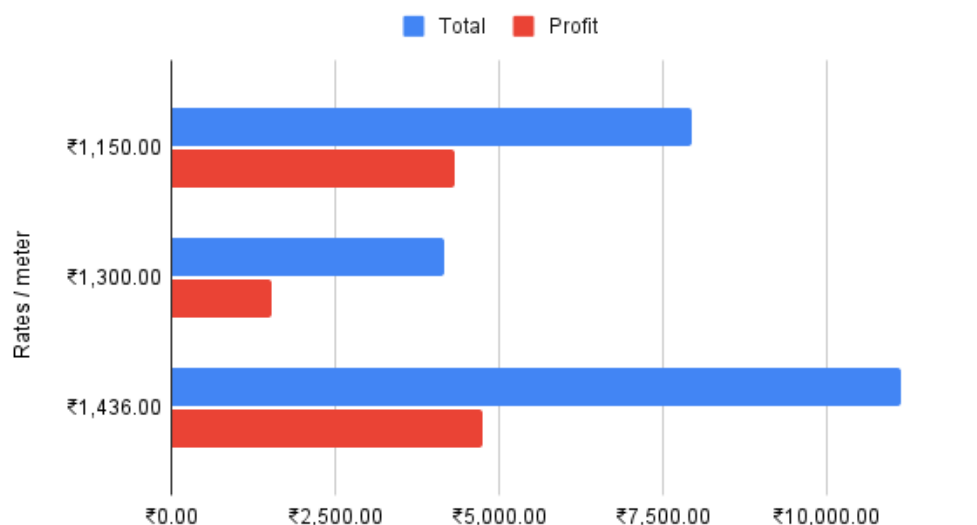


Fig-17

Fig-17 displays a Revenue Pareto chart for this sector, and it shows that Linen Shirting is not following the Pareto Principle.

Linen Shirting (Revenue and Profit)**Fig-18**

In Fig-18, we created a bar chart for the Linen Shirting Category, which displays the revenue and profit. Based on the chart, we can see that the SKUs priced around ₹1436/meter generated the highest revenue, and ₹1150/meter was also quite similar to ₹1436/meter in terms of revenue. However, SKUs priced around ₹1300 did not perform well in comparison. In terms of profit, both SKUs priced around ₹1436/meter and ₹1150/meter generated almost the same profit.

In Fig19 (below), the revenue tree map provides a visual representation of the percentage of revenue generated by each SKU in the 5 different sectors. The size of each rectangle in the tree map corresponds to the relative percentage of revenue generated by that SKU.

The analysis of the revenue tree map reveals that the PV Cotton Shirting SKU priced around 180/meter has generated the most revenue compared to all other SKUs in the five sectors. This SKU has a large rectangle with a deep shade of red, indicating a high percentage of revenue. The next two highest revenue-generating SKUs are both under the PV Cotton Suiting sector, priced

around 852/meter and 976/meter. These two SKUs are also represented by large rectangles with dark orange color-coding, indicating a significant contribution to the revenue.

Revenue Tree Map

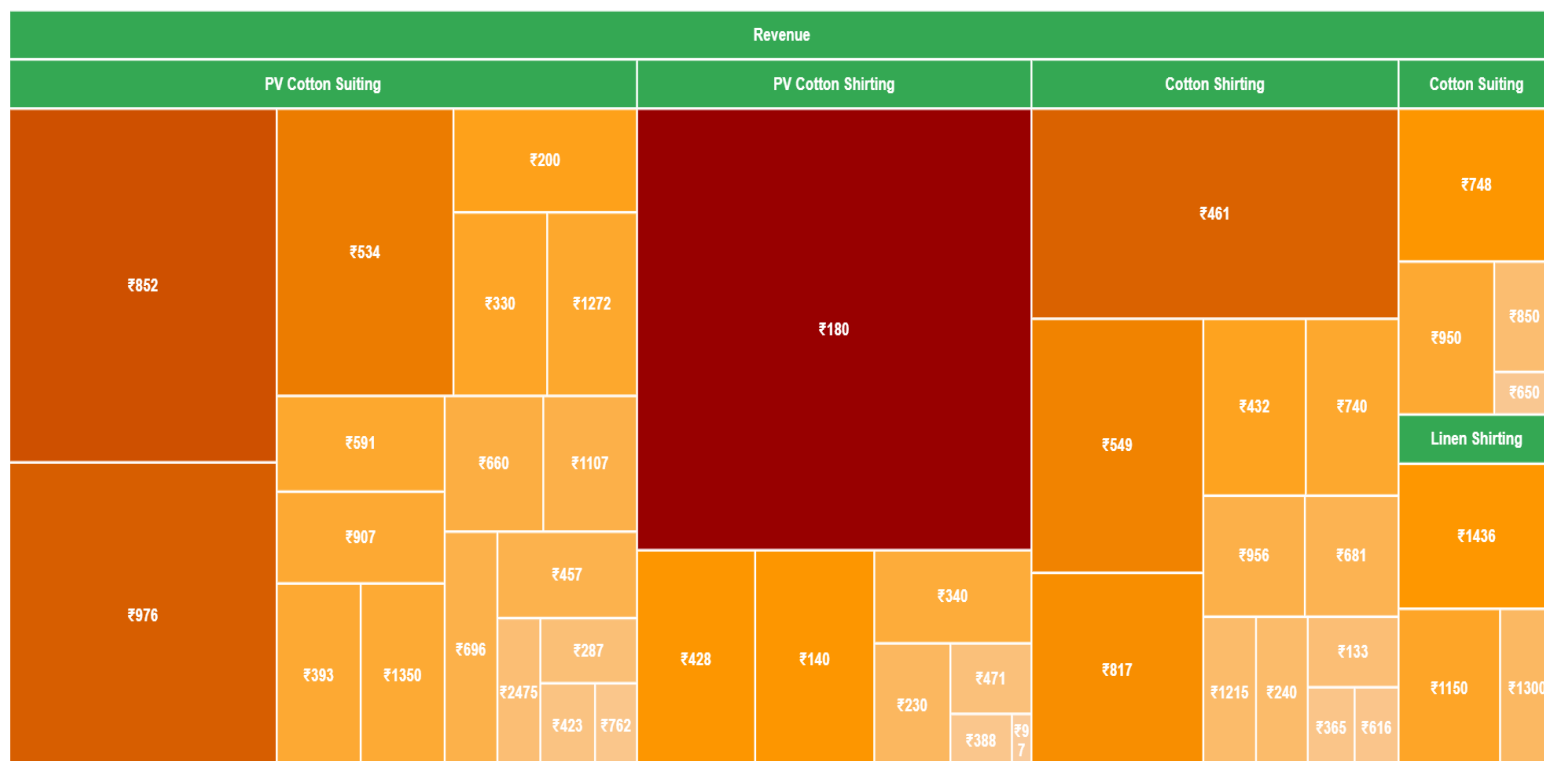


Fig-19

Interpretation of Results and Recommendation

Interpretation of Results

- Fig-5 displayed a total Revenue vs Months line chart, and it was observed that April 2022 had significantly higher sales compared to May and June. This was mainly due to the Bengali festival "Pohela Boishakh," which is the Bengali New Year. On this day, people wear new clothes and gift clothes to their relatives, which is the reason for the high sales in April.

2. Fig-6 displays the weekly sales starting from the first week of April, and it is observed that the sales were very high in the 2nd and 3rd week, which is due to the Bengali New Year. After the 3rd week, the rest of the week's sales were concentrated around the region of ₹25000-₹35000. The sales in the 7th week and 12th week were the lowest.
3. In fig-7 and fig-8, it is found that PV Cotton Suiting generates the highest revenue as well as profit(40.7%). The share of total revenue for PV Cotton Shirting (25.6%) is higher than Cotton Shirting's share of total revenue (23.8%), but their share of total profit is quite similar. The share of total revenue and profit for Linen Shirting and Cotton Suiting are almost similar.
4. Fig-9 shows that the pareto principle is not being followed by the SKUs under PV Cotton Suiting as 50% of the items are contributing to only 20% of the revenue from that sector. However, we can see that the top 3 revenue generating SKUs, which are priced around ₹852/meter, ₹976/meter, and ₹534/meter, are responsible for around 60% of the total revenue. Additionally, from fig-10, we can infer that these 3 SKUs have also generated the highest profits for the PV Cotton Suiting sector.
5. Fig-11 shows that the SKUs under Cotton Suiting do not follow the Pareto principle as 50% of the items generate 80% of the revenue. However, it is also observed that the highest revenue generating SKU, ₹748/meter, contributes to around 60% of the total revenue. Fig-12 helps in observing that the ₹748/meter SKU generates the highest profit for that sector. The profit generation of the 960/meter SKU is also quite similar to that of the ₹748/meter SKU.
6. In fig-13, we can observe that the SKUs under PV Cotton Shirting are following the pareto principle as the 80% revenue from that sector comes from 20% of the items. We can see that the SKU priced around ₹180/meter alone contributes to generating 75% of the revenue, while all other SKUs are not performing well. Additionally, Fig-14 clearly displays that this SKU has generated the most profits. On the other hand, SKUs priced at ₹97/meter and ₹340/meter are not performing well.
7. Fig-15 shows that the SKUs under Cotton Suiting do not follow the pareto principle, as 50% of the items contribute to 80% of the revenue. However, we can see that the top two highest revenue generating SKUs, ₹461/meter and ₹549/meter, account for around 60% of the total revenue. Fig-16 indicates that although the SKU priced around ₹461/meter

generates double the revenue of ₹549/meter, their profit generation is quite similar. SKUs priced around ₹365/meter and ₹616/meter are not performing well.

8. Fig-17 shows that the SKUs under Linen Shirting are not following the Pareto principle as 67% of the items are responsible for 80% of the revenue. The SKU priced at ₹1436/meter alone generates 50% of the revenue. However, when we examine their profit generation with the aid of Fig-18, we discover that the 2nd highest revenue generating SKU, ₹1150/meter, has generated nearly the same profit as ₹1436/meter.
9. In fig-19, we can observe a Revenue Tree map that presents the relative revenue generation of all the SKUs. The most significant revenue generator is the PV Cotton Shirting Sku priced around ₹180/meter, even though it is lower priced compared to all other SKUs. This indicates that most of the customers who visit the shop to buy shirting cloth prefer this SKU. Following this, the ₹461/meter and ₹549/meter SKUs are also popular. In the suiting category, the most preferred SKUs are ₹852/meter and ₹976/meter.

Recommendation

1. The first 2-3 weeks of April experience a significant increase in sales due to the Bengali New Year. It is recommended that the shop owner opens the shop on all days of the week, including Sundays, as many people prefer to shop on Sundays. Additionally, extending the shop's operating hours (e.g., 10 am to 9.30 pm) during those weeks may help to boost sales.
2. To increase revenue and lower costs, the owner can focus on the best-selling SKUs in each category, such as
 - PV Cotton Suiting- ₹852/meter, ₹976/meter and ₹534/meter
 - PV Cotton Shirting - ₹180/meter
 - Cotton Suiting- ₹748/meter and ₹950/meter
 - Cotton Shirting- ₹461/meter, ₹549/meter and ₹817/meter
 - Linen Shirting - ₹1436/meter and ₹1150/meter.
3. In May and June, discounts can be offered on SKUs in all sectors that are not performing well to clear out the stock and generate capital for further business investments.

4. The owner can increase sales of Linen Shirting Cloth, which has a high profit percentage, by selling it at a lower price, especially for the SKU priced around ₹1300/meter.
5. To keep up with current fashion trends, the owner can purchase trendy designs for SKUs priced around ₹852/meter and ₹976/meter under PV Cotton Suiting, as these are the most selling items for Suiting. The owner can also purchase trendy designs in SKU priced around ₹180/meter under PV Cotton Shirting and ₹461/meter under Cotton Shirting, as these are the most selling items for Shirting.