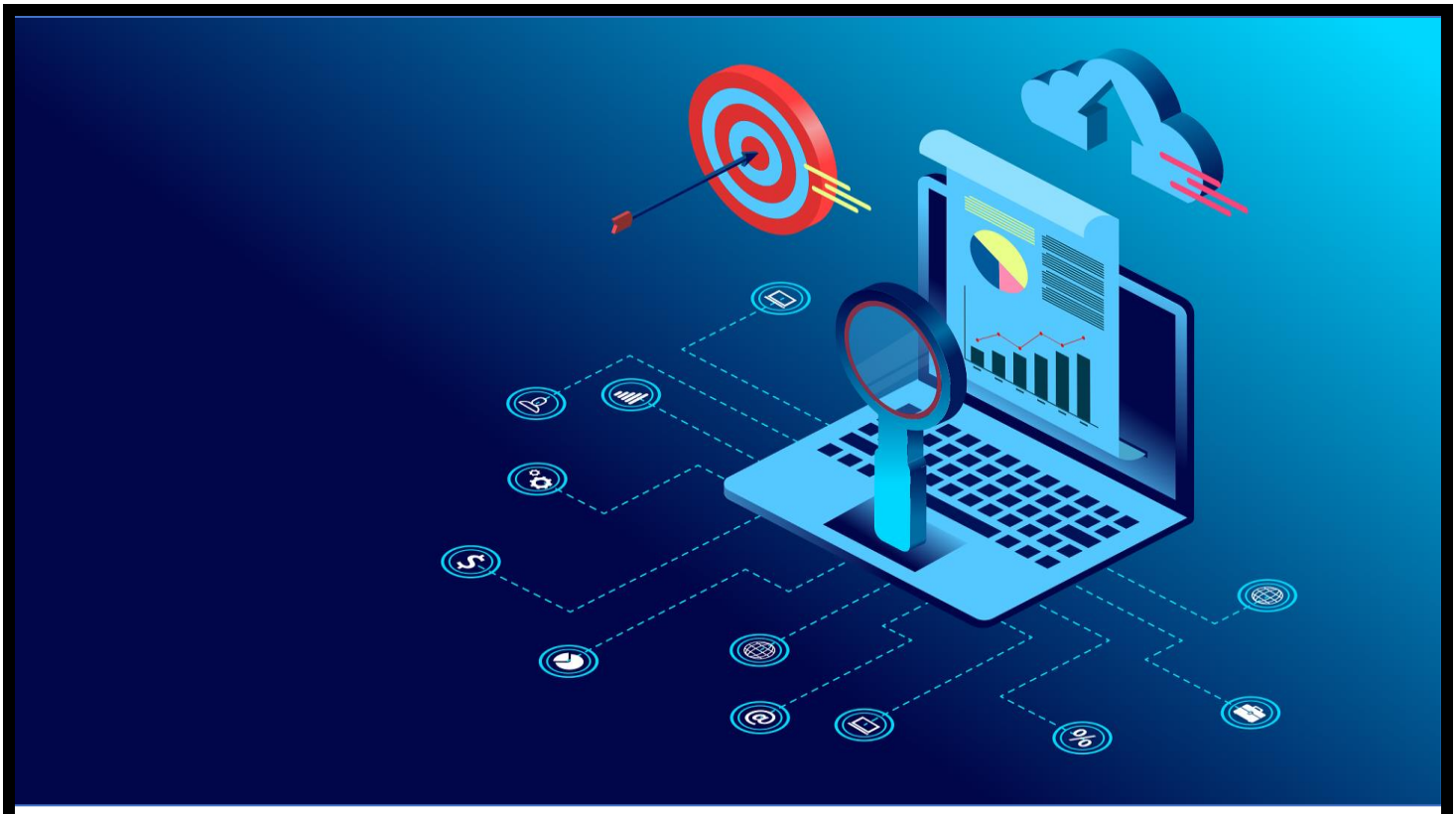

Enhancing Business Efficiency and Reducing Operational Costs of Visista Fashions

Mid Term report for the Business Data Management capstone Project

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Executive Summary

Now a days online shopping is a part of our lives. It is more convenient and easier for us; we can easily buy products without leaving our house. There are so many online business and "Visista Fashions" is one of them. "Visista Fashions" is a Kolkata based online business. The company offers a variety of women's clothing, men's clothing, and home product. Mr. Shuvendu Kundu and his brother Mr. Prosenjit Roy started this B2C online business during the pandemic.

The major issue "Visista Fashions" is facing inventory overloads. Sometimes they order bulk product if these products do not sell as expected, it creates overstock. Additionally, they order product from out of state and often come with defects. This disputed product also creates inventory overloads. This problem cause inventory damage, overstock and low profit for business.

The main objective is to implement a data driven approach to inventory management, where they can easily track all the product details and identify cost saving opportunities. By using tools like Excel and Python, the company can gain insights into inventory levels and optimizing stock levels. This approach will help them maintain stock levels, reducing overstock. It will also help in inventory management.

Proof of originality

To establish the authenticity of the documents listed below:

- NOC Letter from the Company: G-drive link [https://drive.google.com/file/d/1JJhXQHsiaqWsdcU2wCRYbKg5WEdO353i/view?usp=drive_link]
- Data Link for G-drive: [https://docs.google.com/spreadsheets/d/1lByFXpEkG3CvLaLDrtlGqev-dug_qn5nNYrWZezaKsY/edit?usp=sharing]
- Images of the product: G Drive Link [https://drive.google.com/drive/folders/16DAqMQPN_cHnznkfQ4SHn4c8yWxD1mK9?usp=sharing]
- Screenshot of the owner's email and received photo through WhatsApp

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Authorization Letter for Academic Research Inbox ×

Visista Group
to me, Prosenjit

Sun, Jul 28, 9:45 PM (12 days ago)

Hello Ms. Baishali Das,

Greetings for the day !!!

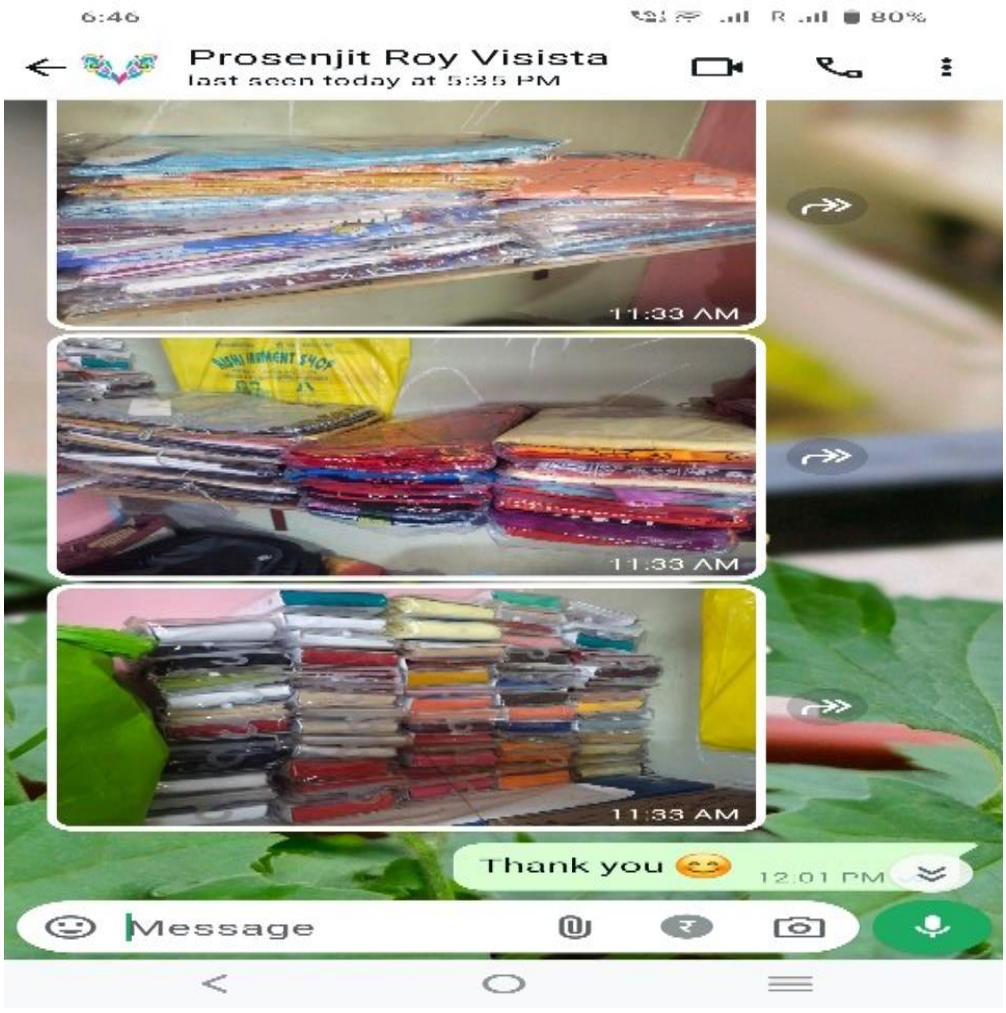
With the reference of our telephonic conversation regarding your Academic Research on Business Data Management, Data Analysis, Data Mining, and other academic research, we are pleased to enclose herewith an authorization letter to permit you to access our business data for all your academic research related purposes.

We are happy to be a part of your research and if you need any further assistance, please do not hesitate to contact us.

Wishing you the best of luck.

Thanks & Regards,
Shuvendu Kundu
Partner

VISISTA



Metadata

Metadata

The owner shared a compile tally pdf report. This report includes their sales details, stock details, which contains product category, product name, original price of the product, selling quantity, selling price and more.

Metadata for Sales

Element	Description
Company Name	Visista Fashion
Document type	Sales Data
Data format	Excel sheets
Period	1-Apr-2022 to 31-Mar-2023
Category	Category of the product being sold
Product	Specific name of the product sold
Quantity	Quantity of the Item Sold
Price (Rs.)	Price of the selling product
Revenue (Rs.)	Total revenue generated from the sales of product

The PDF file of stock details shared by the owner and from these details I organized the data into an excel sheet which helped me understand the performance and trends of the inventory.

Metadata for Inventory Management

Element	Description
Company Name	Visista Fashion
Document type	Inventory Management
Data format	Excel sheets
Period	1-Apr-2022 to 31-Mar-2023
Category	Category of the product
Product	Name of the product being managed in the inventory.
Opening balance	The initial count of items at the start of the period
Inward Quantity	Quantity of items purchased during the period
Outward Quantity	Quantity of items sold during the period
Purchased Price (Rs.)	Cost price per unit of the product

Expenditure (Rs.)	Purchasing stock during the period.
Selling Price (Rs.)	Selling price of the product
Revenue (Rs.)	Revenue generated from the sales during the period.
Closing balance	Quantity of stock remaining at the end of the period.

Descriptive Statistics

Descriptive Statistics:

After processing and cleaning up the data, this is a summary of the data set used for descriptive statistics. I try to sum it up by pointing out the descriptive stats below relevant for both sales and inventory data for the financial period 1st April 2022 to 31st March 2023.Descriptive data elements from both sales and inventory data.

- Total Opening stocks
- Total Inward quantity
- Total Outward quantity
- Total Expenditure
- Total Revenue
- Total closing balance
- Mean
- Standard error
- Standard deviation
- Median
- Maximum
- Minimum

Total opening stock or opening balance: 15, for the period from 1-Apr-2022 to 31-Mar-2023

Total expenditure: ₹ 2,89,232.29

Inward quantity: Inward quantity is the purchased quantity of the product from the supplier. Here are the descriptive statistics of Inward quantity for the period from 1-Apr-2022 to 31-Mar-2023

Inward quantity	
Total Inward quantity	932
Mean	7.22
Standard Error	1.00
Median	4
Standard Deviation	11.41
Sample Variance	130.18
Minimum	0
Maximum	86

Outward quantity: Outward quantity is the selling quantity of each product. Here are the descriptive statistics of outward quantity for the period from 1-Apr-2022 to 31-Mar-2023

Outward Quantity	
Total Outward quantity	536
Mean	4.70
Standard Error	0.61
Median	3
Standard Deviation	6.46
Sample Variance	41.75
Minimum	1
Maximum	43

The total outward quantity is 536, with an average of 4.70 units per entry. The standard deviation of 6.46 indicates that the quantity sold varies a lot. The median of 3 means that half the entries sold 3 or fewer units.

Selling price: Selling Price is the sell price of the product. Here are the descriptive statistics of selling price for the period from 1-Apr-2022 to 31-Mar-2023

Selling Price	
Mean	₹ 682.26
Standard Error	₹ 91.30
Median	₹ 480.48
Standard Deviation	₹ 974.83
Sample Variance	₹ 950284.96
Minimum	₹ 106.25
Maximum	₹ 8501

The above selling price data indicates that the average price of the product is ₹682.26 with substantial standard deviation of ₹974.83, highlighting high variability in selling price. The median is ₹480.48, which is lower than the average, indicating that there are some high prices that raise the overall average.

Revenue: Revenue is the total amount of money generated from sales during the period. Here are the descriptive statistics of revenue for the period from 1-Apr-2022 to 31-Mar-2023

Revenue	
Total Revenue	₹ 2,56,539.89
Mean	₹ 2250.35
Standard Error	₹ 251.40
Median	₹ 1270
Standard Deviation	₹ 2684.21
Sample Variance	₹ 7204972.86
Minimum	₹ 200
Maximum	₹ 18569.55

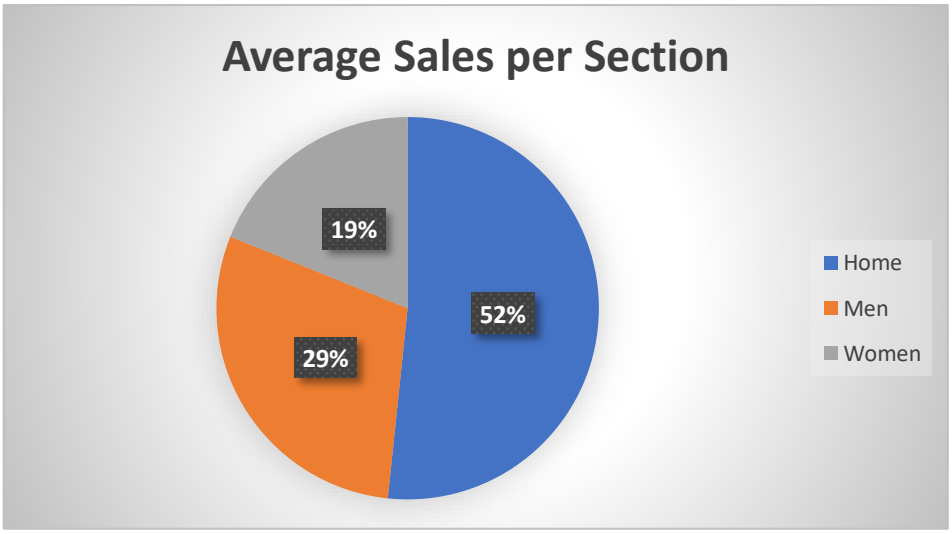
The total revenue is ₹ 2,56,539.89, with an average revenue per entry of ₹ 2250.35. The standard deviation is ₹ 2684.21, indicating that high variability in revenue, meaning some transactions exceed the average. Median is ₹ 1270, suggesting that many entries are below the average, but few high revenue values increase the overall average.

Analysis Process & Methods

The process of data analysis involves data collection, cleaning, organization, transformation, analysis and conclusions. The owner provided me with one year of sales data and stock data from 1st April 2022- 31st March 2023. The first step in this process was cleaning and organizing the data. The owner provided the data in pdf format from tally report, which needed to be converted into Excel format for cleaning and organization. The data was a combination of clean and mixed data, requiring preliminary cleaning for analysis. The sales data provided by the owner was mostly clean, required only minor cleaning and further feature analysis. From the stock data I created an inventory sheet which helped me understand the performance and trends of the inventory. The inventory sheet along with product details is still a work in progress.

The data analysis process involved various Microsoft Excel features, including the Excel Data Analysis ToolPak, Pivot tables, Pivot charts, conditional formatting, custom formulas, and Excel's add-ins. Next descriptive statistics analysis helped summarize and explore the data. Bar chart, Column chart, and Pie charts were used to visually represent revenue, Top selling product, and their respective proportions. These charts provide a clear and concise way to understand the performance and distribution of various metrics within the business. These analysis helps to identify trends, patterns, and areas of focus for decision-making. By utilizing these descriptive statistics and visualizations, I gained a better understanding of the data and its implications for the business. This analysis will help us to make informed decisions and optimize business strategies for improved performance and profitability.

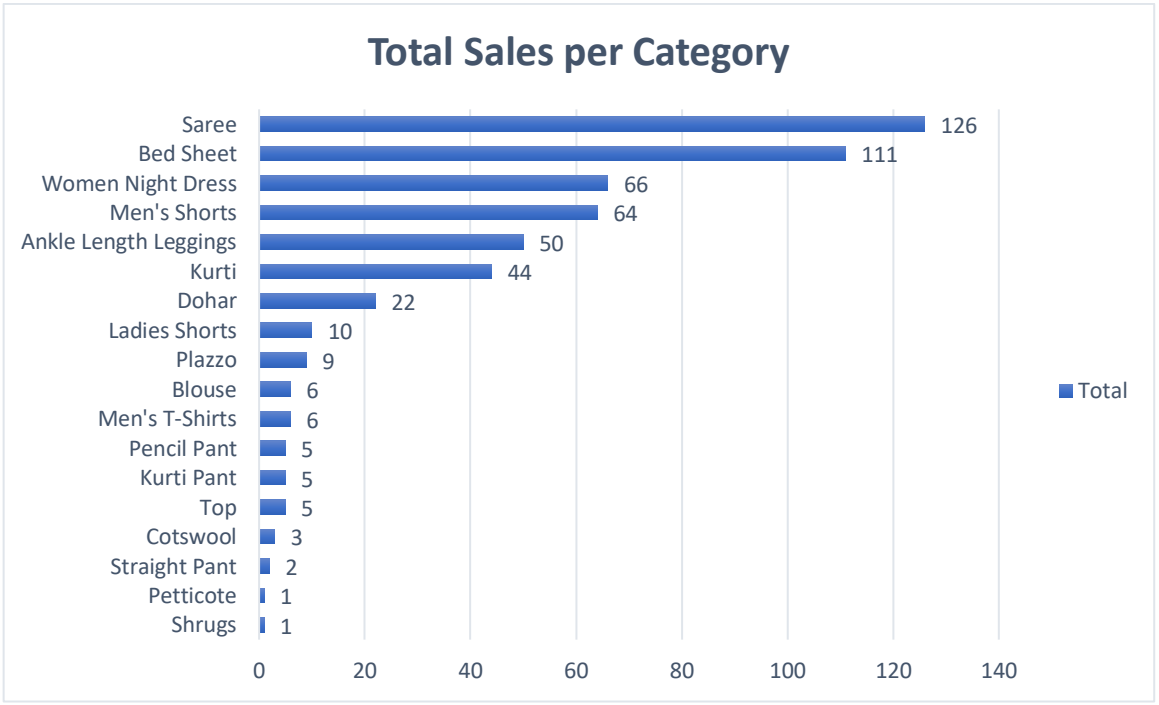
Result and Findings



This pie chart shows average sales per section. From this chart we can easily understand the largest portion of sales comes from the home section, which is 52% of total sales. It means that products under the home section are the most frequently purchased.

The Men's section contributes 29% of the total sales, women's section contributes only 19%.

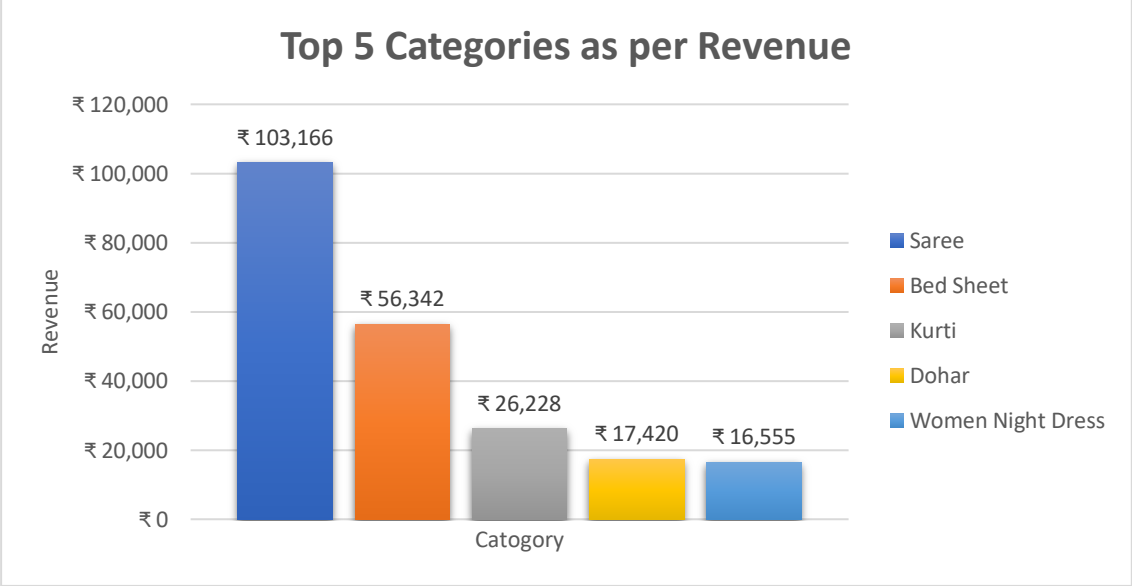
Overall, the chart provides a clear visual representation of which sections are contributing the most to the total sales, and the home section leading by a wide margin.



This is a total sales per category chart. From this chart we can find the top categories, moderate sales, lower sales and least popular categories.

- The categories with the highest sales are Saree (126 units) and Bed sheet (111 units), which are the top selling categories.
- Categories like Women night dress (66 units), Men's Short (64 units), Ankle Length Leggings (50 units) and Kurti (44 units) also have significant sales but less than the top categories
- Categories like Dohar, Ladies shorts, Plazzo, Blouse, Men's T-shirts, Pencil pant, Top have sales between 22-5 units.
- The categories like Cotswool, Straight pant, Petticoat have the lowest sales.

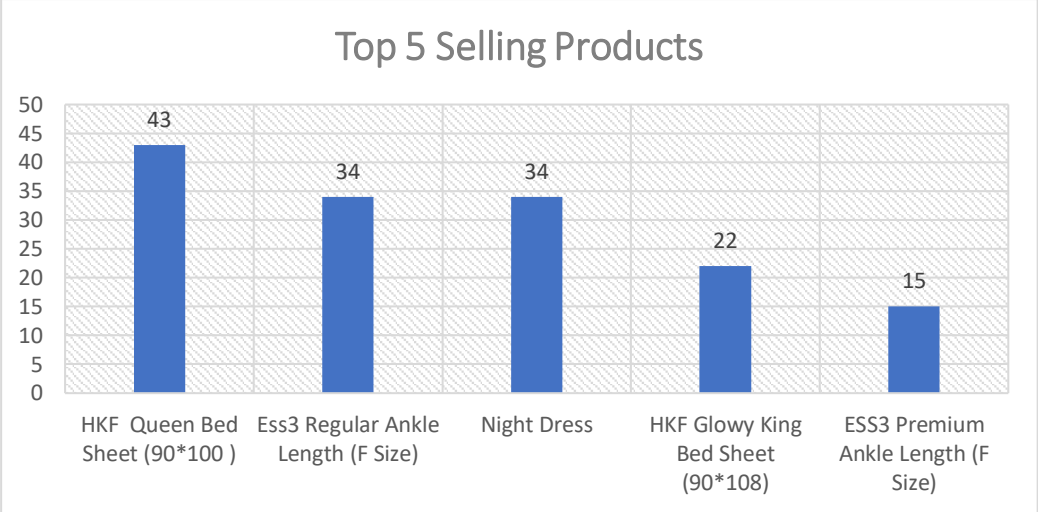
This chart indicates which product categories are performing well and which one has lower sales, which could be useful for inventory management and future marketing strategies.



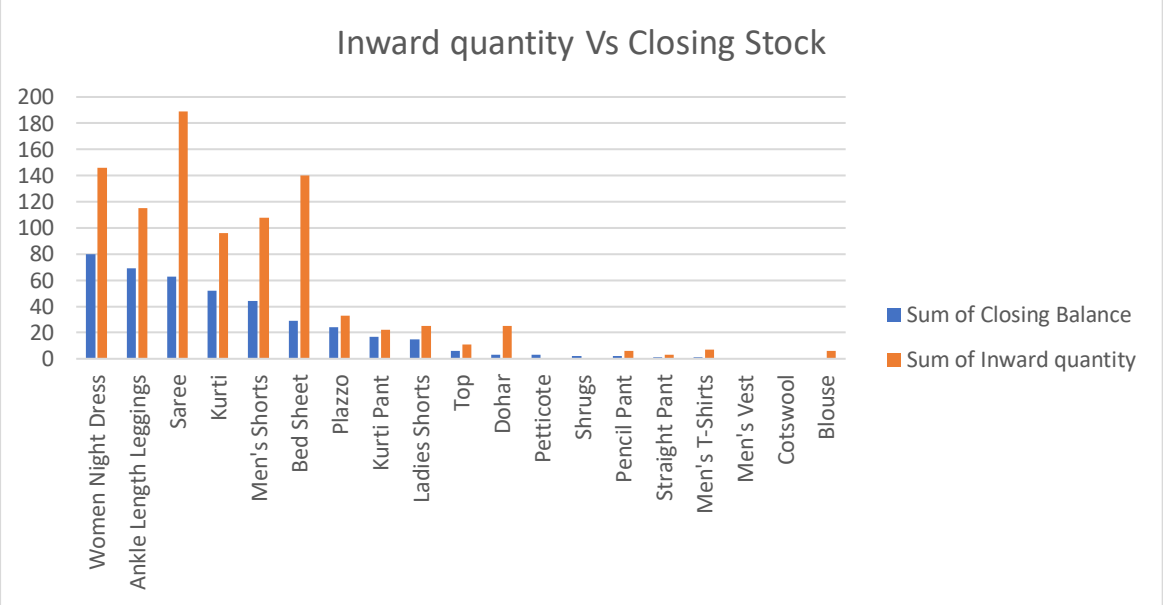
This bar chart shows the top 5 categories as per revenue. The saree category generates the highest revenue among all the categories, with substantial ₹1,03,166. This indicates that sarees are the most profitable product category.

Bed sheet is the second highest revenue generated category. The kurti category is the third highest, contributing ₹26,228 to the overall revenue. This suggests moderate profitability.

This chart highlights the most profitable product categories and provides valuable insights for focusing on high revenue categories to maximize profitability.



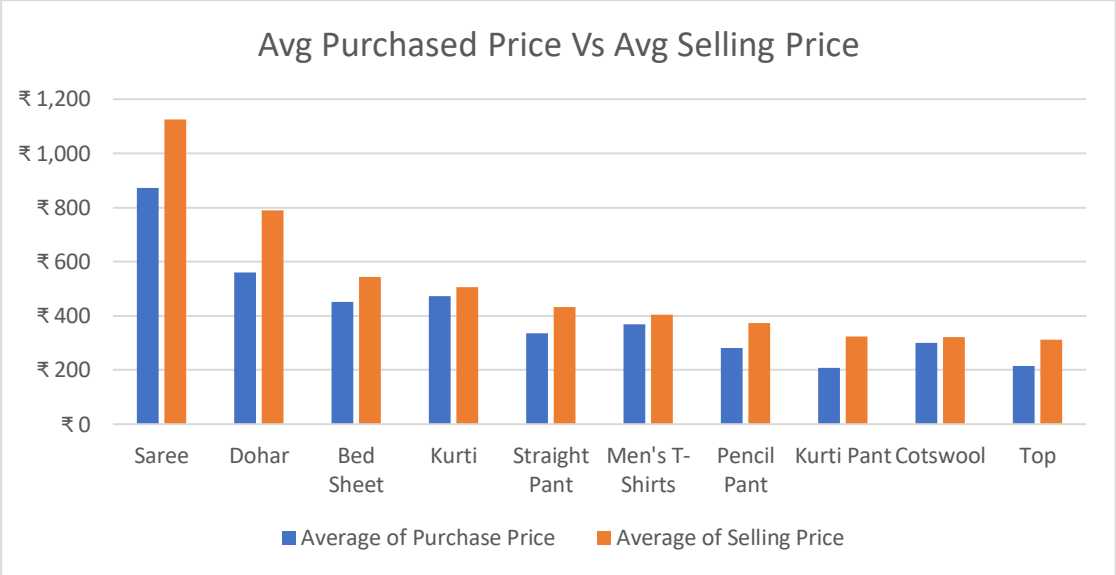
This chart shows the top 5 selling products. The HKF Queen Bed Sheet (90*100) is the highest selling product with 43 units sold. Whereas the Ess3 Regular Ankle Length (F Size) and Night Dress both sold 34 units each.



This chart shows Inward quantity vs Closing stock for each category.

- The women's nightdress category has an inward quantity of 146 units and a closing stock of around 80 units, which means more than half of the stock has been sold, indicating steady demand.
- Ankle length leggings inward quantity 115units and closing stock of 69 units, it indicates a significant portion of the stock has been sold.
- Saree, Kurti, Men’s short and Bed sheet indicate a significant reduction in stock, high demand product. Lower demand items like Dohar, Petticoat, Shrug, and others have minimal or no stock movement.

This chart effectively highlights which items are popular and moving quickly versus those that might need attention for better sales strategies to reduce overstock.



This chart represents Average purchased price vs Average selling price. From this chart we can observe that for most items, the average selling price (orange bars) is higher than the average purchase price (blue bars). Average selling is more for Saree and Dohar. Top and other such items have their selling price and purchase price almost equal, indicating a smaller profit.

Overall, the chart indicates how each clothing item's selling price compares to its purchase price and highlights potential profit margins.