Navigating the Challenges of Operating a Ready-to-wear Clothing Store

A Mid-term submission report for the BDM capstone project

Submitted by

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1 Executive Summary and Title :

For the "Divya Fashions" store located near Clock Tower in Sattenapalli, Andhra Pradesh, I'm focusing on conducting a thorough analysis of the sales and revenue data using Google Spreadsheets. As mentioned in the proposal, the store is facing challenges related to revenue and is experiencing losses due to dead stock. To address this, we will analyze the inventory data over a 6-month period. To prevent dead stock, keeping a close eye on inventory levels and trends is essential. Analyzing sales data can help to identify which products are selling quickly and which are not.

Due to the impact of COVID-19 and the rise of online shopping, the profitability of the store has been affected. To help overcome this, we will utilize Google Spreadsheets to analyze the data and create charts that will provide insights into the most in-demand clothing items. By identifying these trends, we can make recommendations to increase the store's reach and stock up on the products that are in high demand.

As mentioned earlier in the problem statement, In addition to sales and revenue analysis, inventory management is also a significant challenge for "Divya Fashions." To address this issue, we will conduct inventory analysis using Google Spreadsheets. This involves recording the quantity of each product and monitoring sales to gain insights into demand patterns. By analyzing the inventory data, we can identify slow-moving or dead stock and make informed decisions to optimize purchasing and avoid inventory-related problems.

The midterm report will include comprehensive details about the business background, the problem statement, objectives, the metadata and descriptive statistics, the analytical process we used, the results and findings, and the proposed way forward. This report includes the primary trends and conclusions I found during my analysis.

Note: Fixed variables costs are not included in the mid term, as the data is yet to clean thoroughly, It is done in the final submission.

Objectives to be achieved for the midterm submission :

- Identifying solution for problem statement 1: Inventory analysis will be done to keep track of their stock levels. I noticed that if this analysis is done, then it also helps for the store to stay organized and maximize profitability.
- Identifying solution for problem statement 2: Based on the data collected, time-series analysis will be conducted on product sales and revenue that impact profitability.

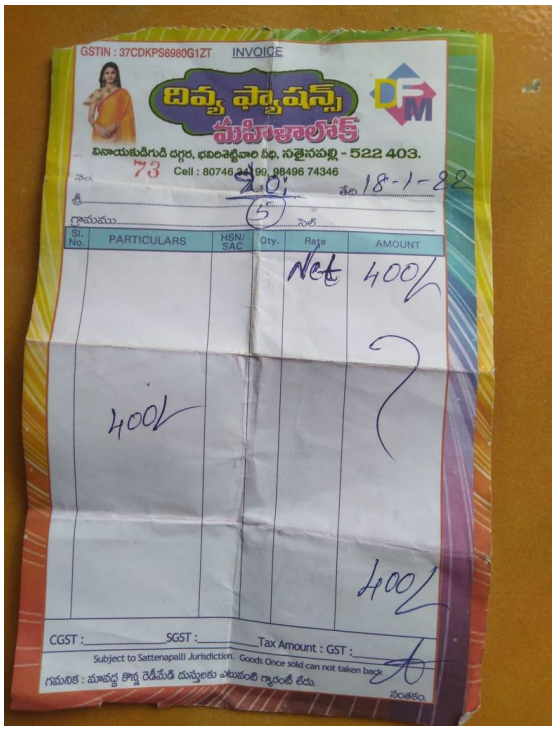
- Identifying solution for problem statement 3: To examine the Customer profitability Analysis, which can identify which type of cloth brands are high in demand and have long term sales when associated with other brands, so that the store can increase its reach out in the town.

2 Proof of originality of the Data :

Name: Divya Fashions
Owner: Mr. Narendra Kumar
Address: D-2, Clock tower center, Main Road, Sattenapalli, Andhra Pradesh 522403.

Main shop entrance

inside the shop where transactions will be done


GSTIN : 37CDKPS6980G1ZT INVOICE

దివ్య ఫ్యాషన్స్

మహిలాలోక్

వినాయకుడిగుడి దగ్గర, భవిలవెట్టివారి వీధి, సత్తెనపల్లి - 522 403.

Cell : 80746 [illegible]99, 98496 74346

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తేది 18-1-22

శ్రీ

గ్రామము సేల్

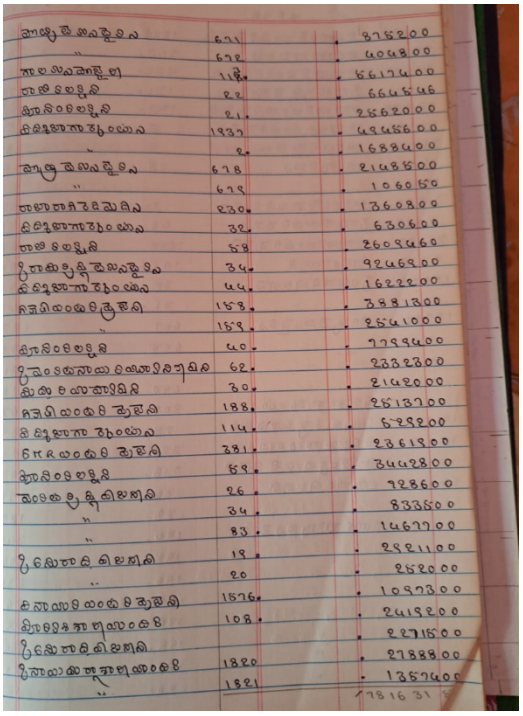
Sl. No.	PARTICULARS	HSN/ SAC	Qty.	Rate	AMOUNT
				Net	400/-
					400/-
					400/-

CGST : SGST : Tax Amount : GST :

Subject to Sattenapalli Jurisdiction. Goods Once sold can not taken back

గమనిక : మావద్ద కొన్న రెడీమేడ్ దుస్తులకు ఎటువంటి గ్యారంటీ లేదు.

సంతకం



Shop official bill

Store register(informal)

DIVYA FASHIONS

Date: 01.09.2023

To Whom it may concern,

Thisletter isto certifythat Mr./Ms./Mrs. Sure Siri hastaken data from our organization.We confirm that we have "No Objection" to him/her using our data for his/her BDM capstone project.

ThisNOC isbeing issued based on his/her Sure Siri request and can be used for the specificpurpose mentioned above.

Sincerely,

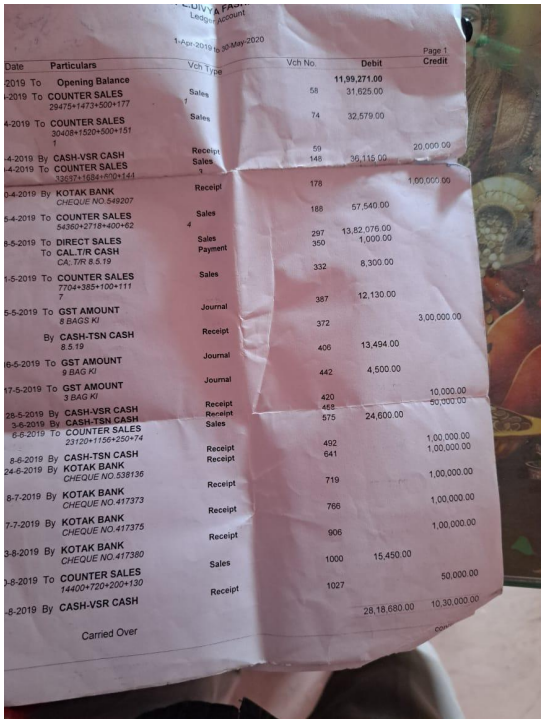
Mr. Narendra Kumar

GSTIN: 37BFTPS9128E2ZQ
DIVYA FASHIONS
Near Tower Clock,
SATTENAPALLI, Palnadu (Dist.)

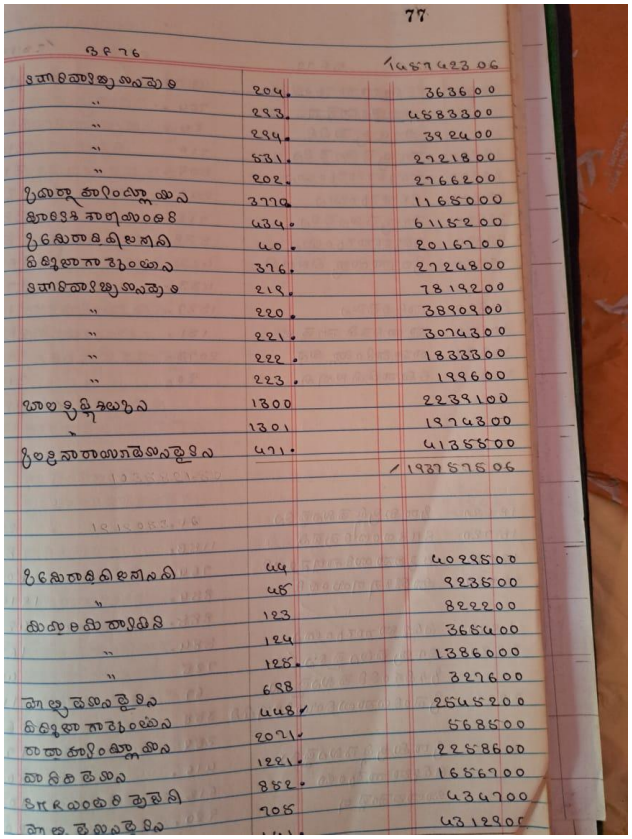
3 Metadata and Descriptive Statistics :

I diligently collected data spanning a six-month period(Nov 2022 to Apr 2023) through a meticulous process. I made three separate visits to the shop to ensure the comprehensiveness and accuracy of the data I gathered. During each visit, I carefully documented various aspects of the shop's operations and transactions, such as sales figures, inventory levels, and employee schedules. To organize and facilitate the analysis of this data, I meticulously stored it in a spreadsheet, structuring it in a way that would allow for easy cleaning and subsequent analysis. By taking these steps and making multiple visits.

Sales and revenue data is collected for the months of Nov(2022) to Apr(2023). Original sales data was kept in a register.



Date	Particulars	Vch Type	Vch No.	Debit	Credit
2019 To	Opening Balance			11,99,271.00	
-2019 To	COUNTER SALES 29475+1473+500+177	Sales	58	31,625.00	
4-2019 To	COUNTER SALES 30408+1520+500+151	Sales	74	32,579.00	
4-2019 By	CASH-VSR CASH	Receipt	59		20,000.00
4-2019 To	COUNTER SALES 13637+1684+600+141	Sales	148	30,115.00	
0-4-2019 By	KOTAK BANK CHEQUE NO.549207	Receipt	178		1,00,000.00
5-4-2019 To	COUNTER SALES 54360+2718+400+62	Sales	188	57,540.00	
8-5-2019 To	DIRECT SALES	Sales	297	13,82,076.00	
	To CAL.T/R CASH CA: T/R 8.5.19	Payment	350	1,000.00	
1-5-2019 To	COUNTER SALES 7704+385+100+111	Sales	332	8,300.00	
5-5-2019 To	GST AMOUNT 8 BAGS KI	Journal	387	12,130.00	
	By CASH-TSN CASH 8.5.19	Receipt	372		3,00,000.00
6-5-2019 To	GST AMOUNT 9 BAG KI	Journal	406	13,494.00	
7-5-2019 To	GST AMOUNT 3 BAG KI	Journal	442	4,500.00	
28-5-2019 By	CASH-VSR CASH	Receipt	420		10,000.00
3-6-2019 By	CASH-TSN CASH	Receipt	468		50,000.00
6-6-2019 To	COUNTER SALES 23120+1156+250+74	Sales	575	24,600.00	
8-6-2019 By	CASH-TSN CASH	Receipt	492		1,00,000.00
24-6-2019 By	KOTAK BANK CHEQUE NO.538136	Receipt	641		1,00,000.00
8-7-2019 By	KOTAK BANK CHEQUE NO.417373	Receipt	719		1,00,000.00
7-7-2019 By	KOTAK BANK CHEQUE NO.417375	Receipt	766		1,00,000.00
3-8-2019 By	KOTAK BANK CHEQUE NO.417380	Receipt	906		1,00,000.00
3-8-2019 To	COUNTER SALES 14400+720+200+130	Sales	1000	15,450.00	
8-2019 By	CASH-VSR CASH	Receipt	1027		50,000.00
	Carried Over			28,18,680.00	10,30,000.00



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	293.	4583300
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	531.	2721800
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	125.	1386000
	698	327600
	443	2545200
	2071.	568500
	1221.	2258600
	852.	1655700
	705	434700
		4312900

CLEANED DATA:

The data collected from their register's is entered into a google spreadsheet and cleaned thoroughly. The data entered into the spreadsheet as 5 individual sheets.

- Sales data - Here, the quantity of SKUs which was sold, selling price and revenue data was analyzed.
- Purchase data - Here, the quantity of SKUs which was purchased, purchase price and expenditure data was analyzed.
- Inventory data - Here, the availability of stock in the collected months , the quantity of inventory goods are entered.
- profit/loss analysis - Here, profit / loss margin analysis was performed based on the sales , inventory and purchase data.
- Key insights

Descriptive statistics:

Please use the below link to see cleaned data

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Here is the analysis of descriptive statistics performed using the data I gathered.
After analyzing the sales data, some of the insights i have found:

				Revenue				
men's wear	kids wear	under garments	women western	jeans wear	sports wear	lehangas	chudidhars	**Total Revenue**
10,800	15,600	15,200	26,400	11,988	5,850	17,500	9,000	112,338
45,000	76,800	6,750	33,615	45,360	15,400	77,000	36,000	335,925
10,000	46,000	5,700	17,982	15,000	13,189	75,000	20,900	203,771
4,750	28,000	4,000	6,993	2,300	12,000	20,000	14,000	92,043
8,550	9,000	7,200	4,995	6,000	8,800	14,000	7,840	66,385
21,600	27,950	5,200	8,800	4,400	0	6,400	3,300	77,650
100,700	203,350	44,050	98,785	85,048	55,239	209,900	91,040	888,112
16,783	33,892	7,342	16,464	14,175	9,207	34,983	15,173	148,019
							AVG REVENUE	148018.6667
							STD	104344.9115
							MIN	66,385
							MAX	335,925

1. Over the 6 month's period, the highest revenue was found in December.
2. The least earnings was in the month of march.
3. Based on descriptive statistics, a high standard deviation of revenue for a clothing store indicates significant variability in the store's income. As, the standard deviation is 1,48,018 INR, indicating that the income of the store fluctuates greatly.

Detailed Explanation of Analysis process/methods:

I collected 6 months' worth of data in Google Sheets, which was then cleaned, organized, and analyzed.

The main tool I used for this project was google spreadsheets. Once the raw data is entered into the spreadsheet, I performed basic data pre-processing tasks such as imputing missing values, data cleaning, correcting typing errors, and sorting the data. This prepares the data for analysis. During analysis, certain columns may be derived or removed as needed to ensure efficient analysis. spreadsheet features, such as plotting patterns, building pivot tables, and drawing insightful conclusions, are highly recommended for gaining valuable insights from the data.

Different statistical techniques were used to summarize and explore the data, such as calculating mean, average, profit, and inventory stocks. Visual representations like column, bar, line, and pie charts were used to show revenue, profit, purchase price, and their proportions.

Selection of the relevant data:

Navigating to the 'Insert' tab and selecting 'Chart,' followed by specifying that the column charts etc,should be placed ,edited and confirming the selection with an 'OK' click.

The resulting spreadsheet shows visually informative elements such as pie charts, bar graphs, and Pivot Tables, which contribute to a comprehensive data analysis presentation.

Here is the detailed explanation of some common analysis i used for data analysis which is cleaned and analyzed.

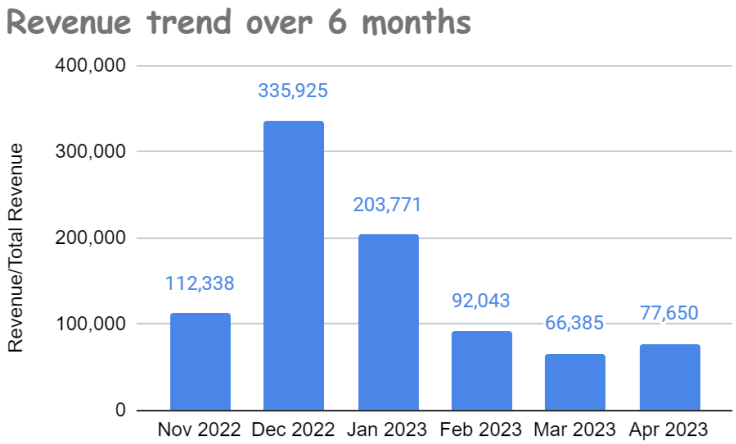
- As mentioned in problem statement 1, we need to solve how to manage inventory management. So, Inventory analysis is done in the spreadsheet by entering the quantity of inventory SKUs data of the store. A line chart and a bar chart is used.This helps identify patterns, such as seasonal fluctuations or increasing/decreasing demand for certain products. On the other hand, a bar chart is used to compare the inventory levels of different product categories, allowing for easy visual comparison and identifying areas that require attention, such as low stock or overstocking.Such that we can identify slow-moving or excess stock, and make informed decisions for purchasing and restocking.
- As mentioned in problem statement 2, profit/loss analysis will be done to visually represent the profit proportions of different SKUs, a pie chart is used. It divides a circular graph into slices, with each slice representing a specific SKU and its size

indicating the corresponding profit contribution. The larger the slice, the greater the profit generated by that SKU.

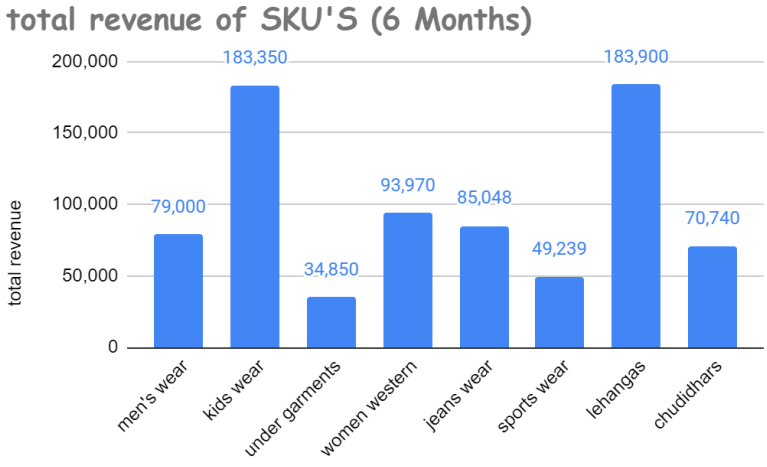
- To improve the store's reach in the town and attract more customers, we can utilize bar charts to identify the clothing types that are in high demand and have high sales. This information can then be used to recommend the store owner to prioritize purchasing those popular products. By understanding customer preferences and aligning the inventory accordingly, the store can enhance its appeal and increase footfall.

Results and Findings :

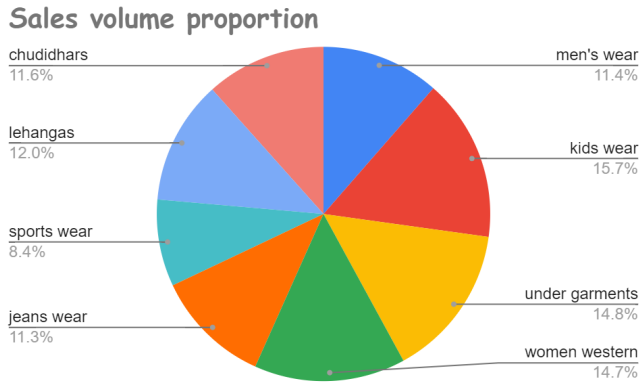
1. Volume Analysis(sales, purchase):

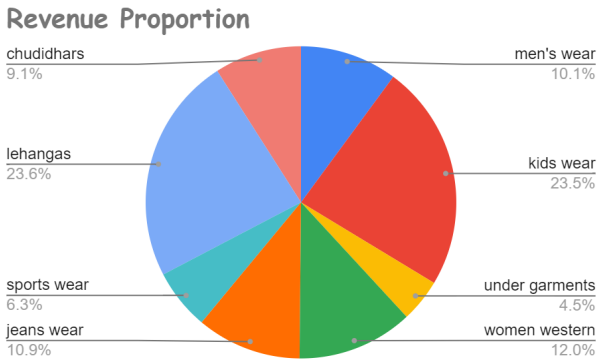


- The above analysis shows that the month of December(2022) has the highest revenue followed by january.
- Festive seasons like Christmas and pongal make those months have the highest revenue. While it can be seen that the shop is struggling to make revenue in non-festival months.
- The above analysis shows that the average monthly revenue stands at ₹148,019 with a standard deviation ₹104344.91 which is high,indicates sales fluctuates greatly.



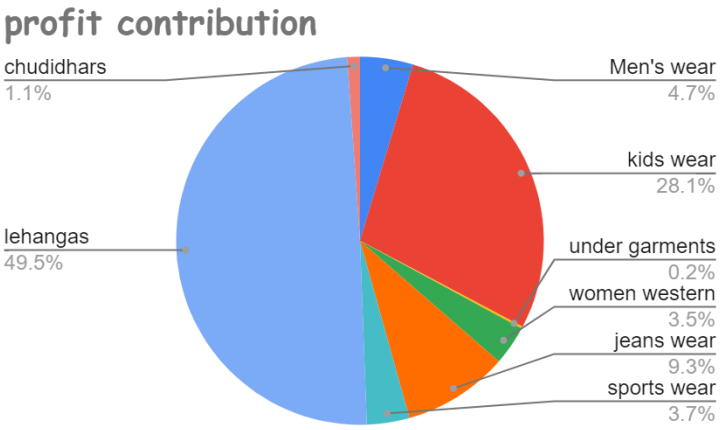
- Above analysis shows that kids wear and lehangas generates the highest revenue for the shop followed by women western wear as these contribute approx 60% of the total earnings made by the store.

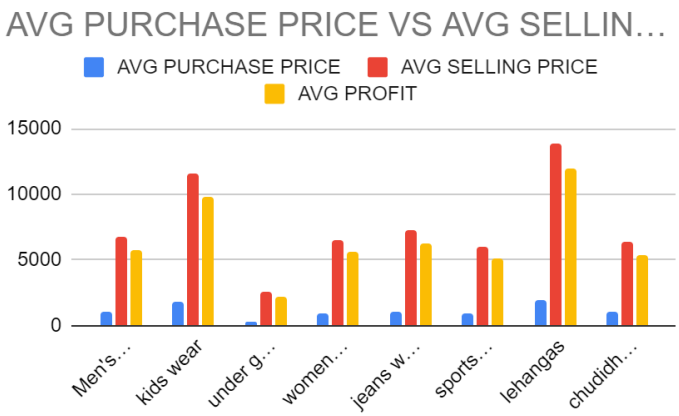




- From the above pie charts comparison, the revenue proportion of lehengas and kids wear is high compared to the sales proportion indicates that our bar chart is valid.

2. profit/loss analysis :

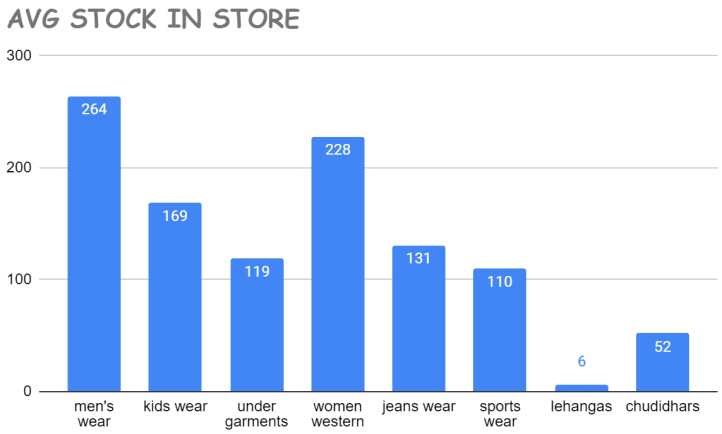


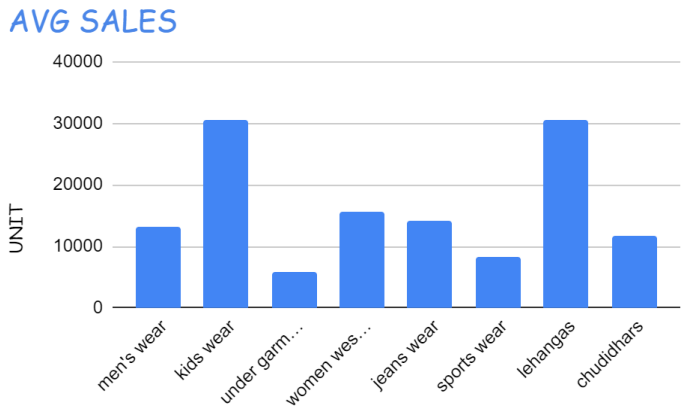


- Based on the graph, it's evident that lehengas and kids wear have the highest profit potential. Comparing this with the bar chart and profit volume proportion pie chart, it's clear that improving sales volume for kids wear and lehengas will contribute to increasing the shop's net profit.
- If we carefully observe, although women western produces more revenue, profit analysis of women western is low when compared to other SKUs like jeans wear,sportswear etc.

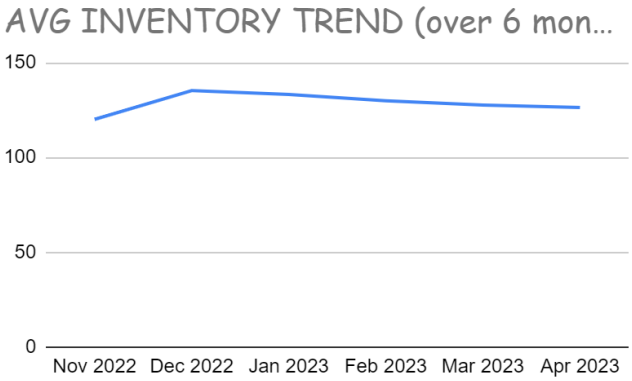
- Although the purchase prices women western and jeans wear are low, they produce the most profit. So, it's clear that the owner should also improve the volume of jeanswear also.

3. Inventory Analysis:





- Comparing the above charts, the avg stock of lehengas are very low and the avg sales of them are very high.so no irregularities.
- The store experiences the most deadstock with Men's wear and Women's Western wear. Additionally, the average sales for these categories are quite poor. To prevent dead stock, the owner should consider purchasing these products in lower quantities.



- From the above graph, Avg inventory trend is analyzed. It is shown that although the December month produces the highest revenue, maximum inventory products are left in that month, which clearly indicates poor planning.

4. Insights:

Under-garments and sportswear are evidently the lowest revenue-generating SKUs when compared to others. Therefore, it is advisable to maintain low procurement of these items to prevent the accumulation of deadstock.

As I examine the revenue chart, I notice a consistent upstick in revenue during the festive months of December and January . So, to avoid deadstock, they can train the employees,(for example: who sell more clothes they will get an extra salary per day), discounts, and buy one-get one offers of the stock which is not in sales.

By embracing these measures during non-festival periods, I find that they can maintain a healthier inventory turnover and ensure that the products continue to generate revenue effectively.