TEXTILE INDUSTRY

Submitted By:

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Business Data Management

(Mid-Term)

IITM Online BS Degree Program,

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Contents

Executive Summary

- The project focuses on a small Embroidery Company located in Surat, Gujrat. The business is B2B and deals in the segment of textiles.
- The major business issues that the organization is facing are related to the management of sales data and defects in manufacturing or design.
- The project also focused on improving the sales and marketing strategy of the company. The company sells various textile products like sarees, lehenga, etc.
- The issues will be addressed through a conversation with the owner and staff members.
- I visited this company a few months later. Because of various machines, the noise is coming 24 hrs. As the machine runs continuously, three artificers work on a single machine in different shifts. In this way, the unit will be able to provide outcomes 24 hrs a day.
- If we talk about the types of products, they basically take the design from the running market and make it somewhat similar to that. Sometimes they make their own design but there is risk in a new design in terms of demand in the market.
- The expected outcome helps the organization create proper sales data and management of the manufacturing process, which helps increase the organization's profitability.
- In the proof of originality section, I added a GST bill, a pictorial proof, a video link of my observation, and a meet video link with the manager of a company.
- In the metadata section, I describe all the data mentioned in my excel sheet.
- In the descriptive statistics section, I show all the calculations such as minimum, maximum, and average sales and purchases with respect to months and other companies and also show deviation of amount with respect to months.
- In the detailed explanation of the analysis process/method section, I added the data cleaning process and what other operations I perform on data. I also added what defects are present in the data such as manufacturing defects, machinery defects, and all.
- In the result and findings section, I show some graphs such as pie charts, bar charts, and trade lines and also represent some pictures of that farm.

Fig. 1: My first observation

Proof of originality of the Data

4/19/22, 9:06 AM Goods & Services Tax (GST) | User Dashboard

Skip to Main Content A+ A-

Goods and Services Tax

JAYSHANKAR SHAMBHUN
24ARDPM3248A1ZB

Dashboard > My Profile

Profile

Place of Business

Contacts

Other Business

GSTIN/UIN
24ARDPM3248A1ZB

Legal Name of Business
JAYSHANKAR SHAMBHUNATH MISHRA

Trade Name
DAKSH CREATION

Centre Jurisdiction
Commissionerate - SURAT,Division - DIVISION-I SURAT,Range - RANGE-IV

State Jurisdiction
State - Gujarat,Division - Division - 7,Range - Range - 16,Unit - Ghatak 61 (Surat) (Jurisdictional Office)

Date of Registration
29/08/2017

Constitution of Business
Proprietorship

Taxpayer Type
Regular

GSTIN / UIN Status
Active

Compliance Rating
NA

Field Visit Conducted?
No

Name of the Proprietor / Director(s) / Partner(s) / Promoter(s)

Nature of Business Activities

https://services.gst.gov.in/services/auth/myprofile 1/2

4/19/22, 9:06 AM Goods & Services Tax (GST) | User Dashboard

Nature Of Core Business Activity

Quick Links

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Site Last Updated on 04-04-2022 Designed & Developed by GSTN

Site best viewed at 1024 x 768 resolution in Internet Explorer 10+, Google Chrome 49+, Firefox 45+ and Safari 6+

- As proof of originality, I am attaching a screenshot of the GST registration certificate.
- It includes the legal name of the Business, Trade name, Central Jurisdiction, State Jurisdiction, Date of registration, Constitution of Business, Taxpayer Type, GST No.

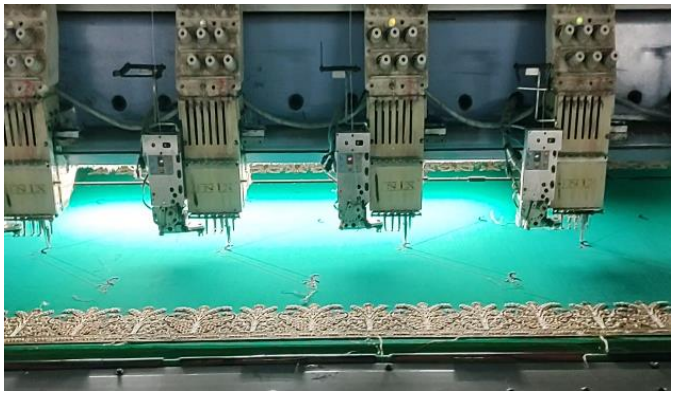

Fig. 2: Pictorial proof of my observation

Meeting Video link with the manager:
https://drive.google.com/file/d/1BdMh6-3H4FgJjRsTTZPanzbZB4PRByhY/view?usp=sharing

Video link of the introduction of the manager:
https://drive.google.com/file/d/1Ci8Qr9Rkn2Md_Xhsq4BuVLD2_j3Jt4r4/view?usp=sharing

Video clip link of my observation:
https://drive.google.com/file/d/1LeAxlhC8wb2nFhWorLq-bUW4cWfUo9Hd/view?usp=sharing

Metadata and Descriptive Statistics

Metadata:

Metadata is data (information) about data. Metadata is like the backstage pass to information—it's the data that provides context and details about other data. I have used the below mentioned metadata for analysis of the data for the business problems which can be inferred from the sales and purchase data of six months (From 1-9-2022 to 28-2-2023).

For presenting my data, I use fields like date to store sold and purchase data information, particulars to store trade names to whom the owner sold and purchased their products, items details to store details about products, quantity to store how much product sold, and purchased in that farm, unit to store unit of products such as kgs., meter and pcs., price to store price of product and amount which is product of price and product quantity.

Metadata	Type	Description
Date	Date	Indicates the date on which a particular product has been sold and purchased.
Particulars	String	Indicates the trade name from where the owner purchased the products and the trade name to whom the owner sold the products.
Items Details	Alphanumeric	Details about the sold and purchased items.
Quantity	Integer	Indicates the quantity/volume of the particular item sold and purchased.
Unit	String	Unit in which a particular product is sold or purchased.
Price	Float	Indicate the price of a particular item.
Amount	Float	Indicate the total amount of a particular item (Price*Quantity).

- **Link of Purchase Data:**
  https://docs.google.com/spreadsheets/d/1t5-VKY_SrLcClcOEd-Cwt-92G_Y3AIamQmf_Ak5zdFg/edit#gid=1854594896

- **Link of Sale Data:**
  https://docs.google.com/spreadsheets/d/13FCXJ_WDoFYrC6_-GUrjMotCaPfp0UZk/edit#gid=978729867

Descriptive Statistics:

Purchase data of Particulars:-

	A	B	C
1	Particulars of Purchase	Sum of Amount	Sum of Quantity
2	AASTHA REYON	93039.2	242.84
3	ALLIA FASHION	336	42
4	ANANT SIQUENCE	41012	2398
5	B S Impex	5800	20
6	BAPA SITARAM ENTERPRISE	7766.76	26.33
7	Bharat Maerials	538521.93	3953.85
8	DHARMAN ENTERPRISE	230773.41	627.14
9	HEVMOR MOBILE	17372.04	2
10	KAJAL FABRICS	4545	454.5
11	KESHARINANDAN SPER	98243.79	1595
12	Khodal Fashion	56840	406
13	M.F.ENTERPRISE	7000	1
14	MAHI CREATION	13920	40
15	Mamta Telecom	16948.31	1
16	Maruti Jari	350989	1583.09
17	NILKANTH JARI	21242.77	68.24
18	PAL TEXTILE	434019.25	13001.75
19	PRAGATI TRADERS	43740	6000
20	PURAV AUTOMOBILES	3800	286
21	Purv Enterprise	30997	51898.1
22	RADHA RANI FABRICS	22133.5	809.75
23	Raj Fashion	753466	1750
24	Ramdev Enterprise	42314.96	204.86
25	RAMDEV THREAD & JARI	4236.61	8.26
26	REAL ENTERPRISE	85277.57	279.38
27	Sai Art	185715	500
28	SANJAY FAN HOUSE	1257.62	7
29	SHREE NIDHI JARI	16540.18	429
30	SHREE RADHE ENTERPRISE	8974.05	43.59
31	Shree Yamuna Enterprise	6153.5	96.5
32	VALAM JARI	219468.47	736.41
33	ZEE CREATION	8328	193
34	Grand Total	3370771.92	87704.59

Calculation:

Purchase	Amount	Particular of Amount	Quantity	Particular of Quantity
Maximum	753466	Raj Fashion	51898.1	Purv Enterprise
Minimum	336	Allia Fashion	1	M.F.ENTERPRISE and Mamta Telecom
Average	105336.6		2740.768438	
Standard Deviation	178494.7		9315.771539	

1. The average product purchase amount with respect to particulars is 105336.62 and the standard deviation is 178494.66, which would mean that most amounts in the group were within the weight range of -73158.04 or 283831.28.
2. The maximum amount of products purchased from the particular Raj Fashion, is 753466.
3. The minimum amount of products purchased from the particular Allia Fashion, is 336.
4. The average product purchase quantity with respect to particulars is 2740.77 and the standard deviation is 9315.77, which would mean that most amounts in the group were within the weight range of -6575 to 12056.54.
5. The maximum quantity of products purchased from the particular Purv Enterprise, is 51898.1.
6. The minimum quantity of products purchased from the particular M.F.ENTERPRISE and Mamta Telecom, is 1.

Graphs:

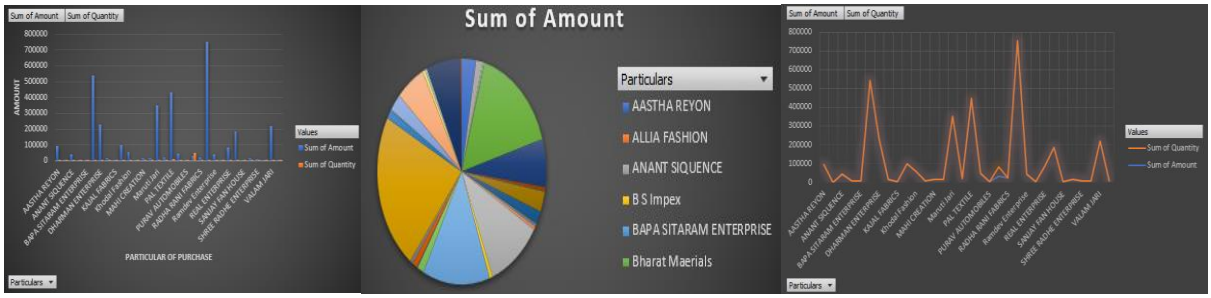

Fig. 3: Graphs of purchase data for particulars

Purchase data of Months:-

Row Labels	Sum of Amount	Sum of Quantity
Jan	473114.69	7185.31
Feb	223349.63	2289.23
Sep	597379.3	25529.13
Oct	487080.19	19164.58
Nov	642224.24	10604.5
Dec	947623.87	22931.84
Grand Total	**3370771.92**	**87704.59**

Calculation:

Purchase	Amount	Month for Amount	Quantity	Month for Quantity
Maximum	947623.87	Dec	25529.13	Sep
Minimum	223349.63	Feb	2289.23	Feb
Average	561795.32		14617.43167	
Standard Deviation	238575.2672		9297.265338	

1. The average product purchase amount with respect to months is 561795.32 and the standard deviation is 238575.27, which would mean that most amount in the group was within the weight range of 323220.05 to 800370.59.
2. The maximum amount of products purchased in the month of December, is 947623.87.
3. The minimum amount of products purchased in the month of February, is 223349.63.
4. The average product purchase quantity with respect to months is 14617.43 and the standard deviation is 9297.27, which would mean that most amount in the group was within the weight range of 5320.16 to 23914.7.
5. The maximum quantity of products purchased in the month of September, is 25529.13.
6. The minimum quantity of products purchased in the month of February, is 2289.23.

Graphs:

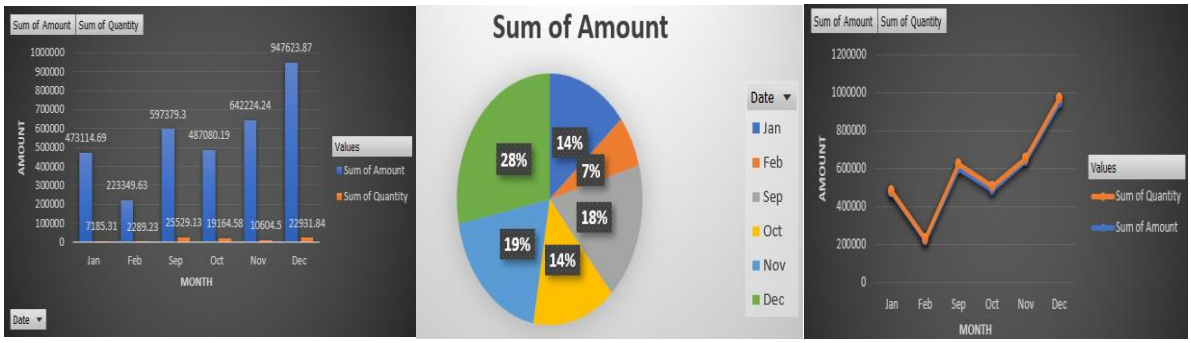

Fig. 4: Graph of purchase data for months

Link of Calculations and Graph for Purchase Data:

https://docs.google.com/spreadsheets/d/1wOK7wGFrO3CjSY4vKVCuiHdV8LgItlaZ/edit?usp=sharing&ouid=101858785136143279364&rtpof=true&sd=true

Sales data of Particulars:-

Row Labels	Sum of Amount	Sum of Quantity
ANAYA DESIGNER	7764178.75	8855
HET CREATION	554610	210
Grand Total	**8318788.75**	**9065**

Calculations:

Sales	Amount	Particular of Amount	Quantity	Particular of Quantity
Maximum	7764178.75	Anaya Designer	8855	Anaya Designer
Minimum	554610	Het Creation	210	Het Creation
Average	4159394.375		4532.5	
Standard Deviation	5097934.953		6112.938123	

1. The average product sale amount with respect to particulars is 4159394.38 and the standard deviation is 5097934, which would mean that most amounts in the group were within the weight range of -938539.62 to 9257328.38.
2. The maximum amount of product sales to the particular Anaya Designer which is 7764178.75.
3. The minimum amount of product sales to the particular Het Creation which is 554610.
4. The average product sale quantity with respect to particulars is 4532.5 and the standard deviation is 6112.94, which would mean that most amounts in the group were within the weight range of -1580.94 to 10644.94.
5. The maximum amount of product sales to the particular Anaya Designer which is 8855.
6. The minimum amount of product sales to the particular Het Creation which is 210.

Graphs:

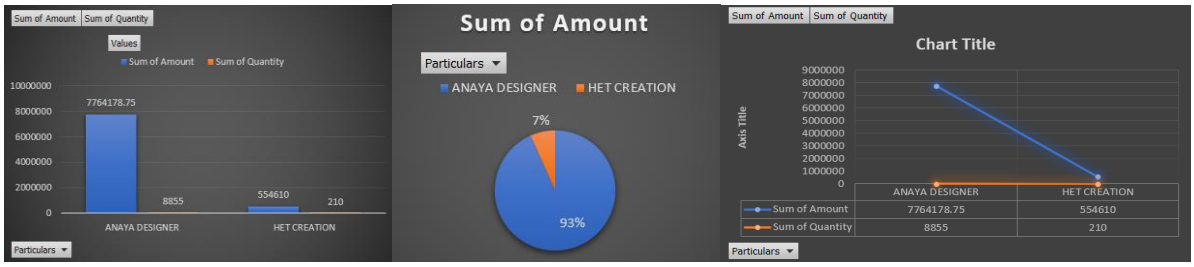

Fig. 5: Graph of sales data for particulars

Sales data of Months:-

Row Labels	Sum of Amount	Sum of Quantity
Jan	407497	329
Feb	554610	210
Sep	2282553.55	2403
Oct	1433199.25	1419
Nov	1703906.85	1619
Dec	1937022.1	3085
Grand Total	**8318788.75**	**9065**

Calculations:

Sales	Amount	Amount in Month	Quantity	Quantity in Month
Maximum	2282553.55	Sep	3085	Nov
Minimum	407497	Jan	210	Feb
Average	1386464.792		1510.833333	
Standard Deviation	756227.785		1129.866615	

1. The average product sales amount with respect to months is 1386464.79 and the standard deviation is 756227.79, which would mean that most amount in the group was within the weight range of 630237 to 2142692.58.

2. The maximum amount of product sales in the month of September, is 2282553.55.
3. The minimum amount of product sales in the month of January, is 407497.
4. The average product sales quantity with respect to months is 1510.83 and the standard deviation is 1129.87, which would mean that most amount in the group was within the weight range of 380.96 to 2640.7.
5. The maximum quantity of product sales in the month of November, is 3085.
6. The minimum quantity of product sales in the month of February, is 210.

Graphs:

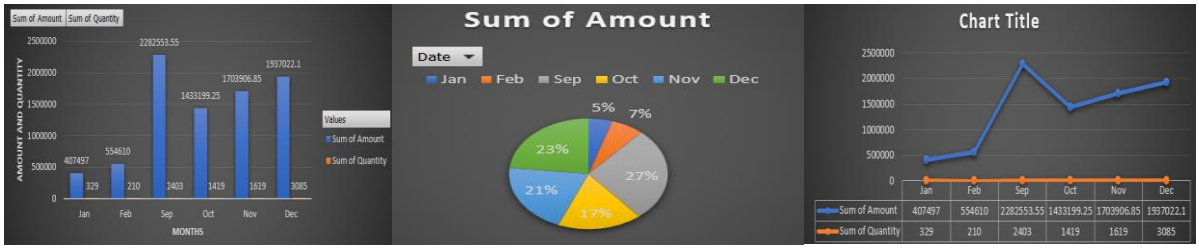

Fig. 6: Graph of sales data for months

Link of Calculations and Graph for Sales Data:

https://docs.google.com/spreadsheets/d/12eLDTrO_eY7uiMK8psKK581djR07C-Un/edit?usp=sharing&ouid=101858785136143279364&rtpof=true&sd=true

Detailed Explanation of Analysis Process/Method

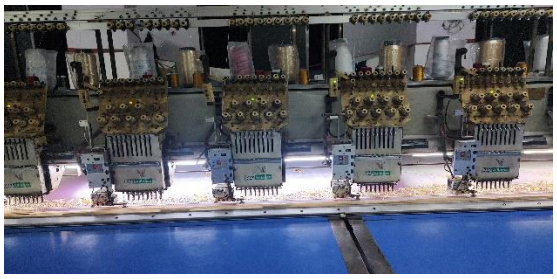

Fig. 7: Zoom View of the machines

After a discussion with the owner, I got the sales and purchase data for six months ((From 1-9-2022 to 28-2-2023)) through their tally database. I visited this company a few months later, I had a talk with the worker, designer, and engineer of the company and they helped me to understand the challenges they face in the day-to-day business of the company. On the basis of the conversation with the owner and all staff members, I made some descriptive statistics on major problems faced by the owner and staff members. The major problems are given below:

- The first problem that I observed is the defect in products. This problem is raised because of machine defects and because of these defects, all produced products from that machine come back from the market. This defect makes a waste of time and money for the owner as well as the worker.
- The second problem that I observed is sales data management. This problem is raised because sometimes they will write it in a sale diary and sometimes in an Excel sheet, but lack of knowledge about an Excel sheet they are unable to manage it properly.
- The third problem that I observed is the design dislike problem. This problem is raised because of the lack of knowledge of the designer. Sometimes design doesn't like by the customer and because of that all product again comes to the industry. This defect makes a waste of time and money for the owner, designer as well as the worker.
- The fourth problem that I observed is the seasonal effect on sales. Seasonal effect in the textile industry is also a big factor. This textile industry mainly focuses on the wedding season. People tend to buy additional sarees and lehenga in the wedding season. That's why there is an increase in revenue during the wedding season.
- The fifth problem that I observed is the seasonal reduction in sales. In some seasons, sales unexpectedly go down. This type of moderation comes every year. Sometimes this is because of rain, in the rainy season, customers unexpectedly stop visiting shops.

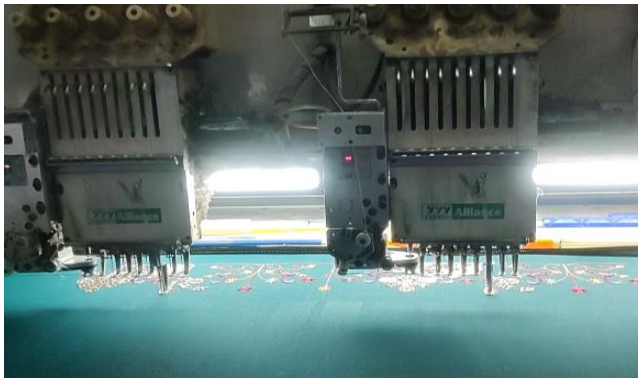

Fig. 8: This is a snapshot of my observation

To analyse data this data I use some calculation such as max, min, average and standard deviation of months and particulars with respect to sales and purchase data.

From this calculation, I observe that the company had maximum sales in the month of November with quantity 3085 and earned the maximum amount of 2282553.55 in the month of September, and minimum sales in the month of February with quantity 210 and earned minimum amount of 407496 in the month of January.

I also observed that the company had a maximum purchase in the month of September with the quantity of 25529.13 and spend a maximum amount of 947623.87 in the month of December, and a minimum purchase in the month of February with a quantity of 2289.23 and spent minimum amount of 223349.63 in the month of February.

Purchase Data

Month	Total Quantity	Total Amount
Sep	25529.13	5,97,379.30
Oct	19164.58	4,87,080.19
Nov	10604.5	6,42,224.24
Dec	22931.84	9,47,623.87
Jan	7185.31	4,73,114.69
Feb	2289.23	2,23,349.63
Total	87704.59	33,70,771.92

Sales Data

Mont	Total Quantity	Total Amount
Sep	2403	22,82,553.55
Oct	1419	14,33,199.25
Nov	1619	17,03,906.85
Dec	3085	19,37,022.10
Jan	329	4,07,497.00
Feb	210	5,54,610.00
Total	9065	83,18,788.75

From the above data, we easily observe that the total quantity that they purchase from other businesses is more than the total they sell to other shopkeepers and the total amount of purchase data is far less than the sales data, so from this observation I want to convey you that this company is in profit. This company's revenue is approx. 2.5 times more than the purchase amount.

Fig. 9: Trade line graph of sales and purchase data

This is the trade line difference between the Sales Data and Purchase Data. From this data this is clearly shown that as well as Sales goes down purchase also goes down and as well as the sales goes up purchase also goes up, this means that the owner has the very good skill to run their company properly.

Data Cleaning

- The cleaning of Raw data is a very crucial part before building any data model or analysing the problems on which we are focusing to optimize business revenue.

- There was some unimportant data that were not useful for analysing objectives like Bill no., GSTIN/UIN, etc. so I eliminated them to focus only on the main objective data.
- The tally data also had many blank spaces between the useful data which were hindering while drawing pivot tables of the data or while drawing important graphs like pie charts, bar charts, and trade lines. So, I eliminated these blank spaces to work more efficiently.

Result and Findings

From the sales and purchase data of the company, I calculated the below mentioned descriptive statistics using Microsoft Excel software and graphs to describe the objective problems. Firstly, I want to inform you that this company doesn't purchase and sell products daily.

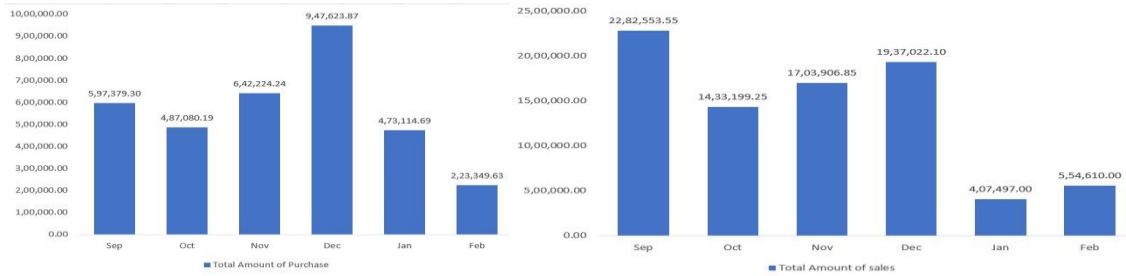

Fig. 10: Bar charts of sales and purchase data

From the above bar chart, you can easily analyse that in the month of January and February, the company has very low sales and purchase data because March and April are not the wedding season so the customer avoids buying sarees and lehengas and when customer avoid buying products than producing products is worst so company also avoid to product products.

I'm not showing here the April and May month data, but by my conversation with the owner, I observed that there was a very much increase in sales data in these months because May and June are the wedding season so more customers buy the products and because of this increment in sales, purchase data are also increasing.

Here, I'm also not showing the July and August months data, but during my previous visit to this company, I observed that there is a sudden decrease in this market because this is the recession period of the textile industry.

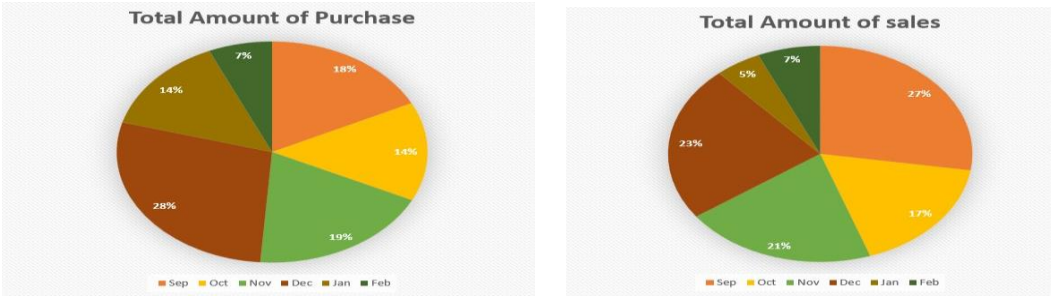

Fig. 11: Pie charts of sales and purchase data

The above pie chart shows the percentage contribution of every month in the gross total of purchase and sales data generated in six months (sep-feb).

Fig. 12: Bar charts of sales and purchase data

In the above bar chart, it is shown that the purchase data are more from the sales data in the month of September but purchase data are less from sales data in the month of January, so we can conclude that January is the worst month for this company whereas September is the best month for this company.

One thing I want to tell you is that, from the data, we just make conclusions about the sales and the purchase but behind that, a far area is hidden which is also known as expenses. Simply means, in this company, machinery cost, labour cost, electricity bill, staff member's salary, etc. So, because of this stuff, the profit significantly goes downwards.

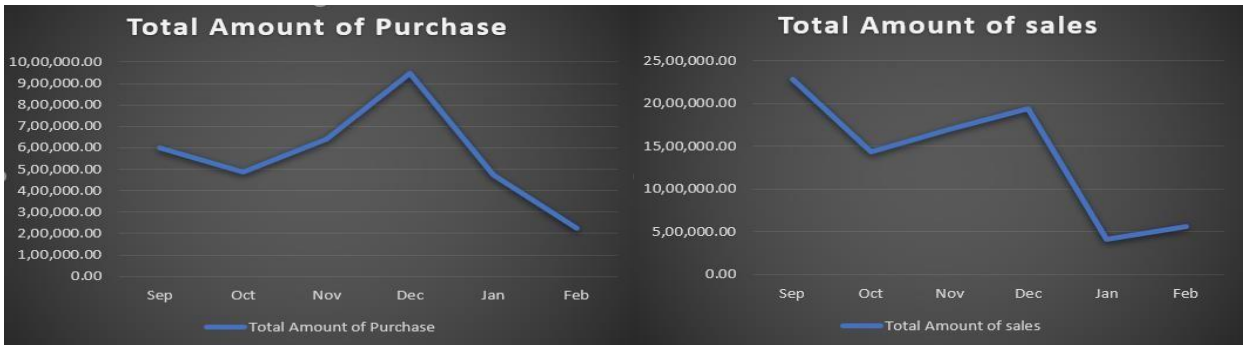

Fig. 13: Trade line of sales and purchase data

- From all these data, we easily conclude that the month of September to December is the best months for this company whereas January and February are the worst months.
- And, on my conversation, I also conclude that March to June is the best months for this company whereas July and August are the worst months.
- During the wedding season, the textile market unexpectedly grows and during this period, this company tries to produce more and more products to satisfy their buyer desires, this company makes more profit in these seasons.
- After the conversation with the staff members, one main thing I observed was that the in this field there is no scope for leaving, which simply means the labour can't take any leave.

Fig. 14: This picture shows the saree design work

- From this picture, we can observe that at one time many of the machine run simultaneously. This makes it easy to work in this company.
- The first major demerit of this company is a defect in the product so for that I suggest to them the profit which they earn is used in repairing the machine which has a defect.
- The second major demerit of this company is sales data management so for that I suggest that they can hire an account engineer so they manage their data properly.
- The third major demerit of this company is design dislike in the market so for that I suggest that in the place of producing many more products at one time, they can firstly try with some few products so it takes account that this product is like by the customer or not.

Thank You