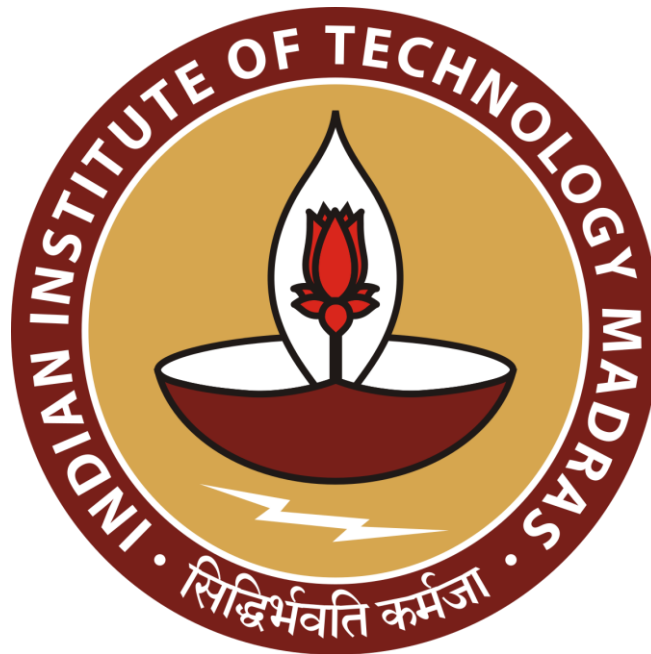


DATA-DRIVEN DECISION MAKING FOR DOLL STORE SUCCESS

FINAL REPORT FOR BDM CAPSTONE PROJECT

SUBMITTED BY

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EXECUTIVE SUMMARY

A business data management capstone project aims to use data management principles and techniques to solve a practical business issue. This project addresses the problems confronting a doll store on a busy commercial street in Thrissur, Kerala. To address these issues, a data-driven approach is proposed, with a focus on collecting and analyzing sales and purchase data to identify customer preferences, popular items, and areas for improvement.

The company sells to both businesses and individuals. Stockouts, increased market prices during seasons, and a decline in buyers are among the major issues confronting the company. Due to the inability of Indian manufacturers to meet the demand, stockouts occur more frequently during the seasonal demand.

The report provides details on the methodology used for the analysis, the findings, and the data-driven decisions that were made in response to them. These include suggestions to improve the marketing approach of certain products and solutions to stock shortages. The project also emphasizes the significance of growing the purchasing companies to meet seasonal demand.

The project proposes collecting and analyzing sales and purchase data for three months to ensure data-driven decision-making. Analytical techniques can be used to identify trends in consumer preferences and top products, enabling targeted marketing campaigns and price optimization. Additionally, data analysis will assist in identifying peak customer demand periods, allowing the business to allocate resources wisely and improve customer satisfaction.

ANALYSIS PROCESS/METHOD

Here is a detailed explanation of the analysis process:

- **Problem definition:**

Issues with insufficient inventory and fewer customers were noted. As a result of stockouts brought on by rising demand, market prices increased. Furthermore, a lack of growth in sales of specific products was identified.

- **Data Collection:**

To conduct the analysis, sales and purchase data from March, April, and May were gathered. The data included daily sales in PDF format.

- **Data Cleaning:**

The shop sells teddy bears and other similar products in a variety of price ranges. Such similar data was grouped together to facilitate analysis. Unnecessary rows and columns were removed.

- **Data Visualization:**

Data is presented in a more accessible and understandable format using visual representations such as graphs, charts, and tables. Trend growth is depicted using bar charts, pie charts, and line charts.

- **Analysis:**

The analysis looked for patterns and trends in the data. This involves identifying the months with the most and least purchases as well as sales. The average sales and purchase rates were also determined.

- **Recommendations:**

The analysis resulted in recommendations for future actions. This involved summarizing the key findings of the analysis. Dolls, for example, sell the least among wholesale customers. By lowering prices and stocking the products that customers prefer, sales can be increased. This includes putting into practice a data-driven strategy to address the issue faced by the company.

- **Documentation:**

Finally, a comprehensive report detailing the outcomes, conclusions, and suggestions are produced. To improve the report's readability and impact, visual aids like graphs and tables are included. The analysis procedure, methods, and key insights are presented in the report in an understandable and structured way.

RESULTS AND FINDINGS

Sample data:

KERALA DOLL HOUSE							
10/993/1, NEW CHURCH ROAD,							
THRISSUR - 680 001							
MOB : 8606356789							
Contact : 8606356789							
Purchase Register							
1-Apr-23 to 30-Apr-23							
Page 1							
Date	Particulars	Vch Type			Vch No.	Debit Amount	Credit Amount
1-Apr-23	PARADISE NX	Purchase			1		3,360.00
	INTERSTATE PURCHASES@12%					3,000.00	
	DOLL	100 pcs	30.00/pcs	3,000.00			
	IGST@12%					360.00	
5-Apr-23	BALAJI SOFT TOYS	Purchase			2		6,216.00
	INTERSTATE PURCHASES@12%					5,550.00	
	TEDDY DOLL	300 pcs	10.00/pcs	3,000.00			
	TEDDY DOLL	150 pcs	17.00/pcs	2,550.00			
	IGST@12%					666.00	
6-Apr-23	D - SELLERS	Purchase			3		2,150.00
	PURCHASES@12%					1,920.00	
	TEDDY DOLL	120 pcs	16.00/pcs	1,920.00			
	CGST@6%					115.20	
	SGST@6%					115.20	
	Round Off					(-)0.40	
6-Apr-23	DIAMOND DOLL HOUSE	Purchase			4		10,617.60
	INTERSTATE PURCHASES@12%					9,480.00	
	TEDDY DOLL	180 pcs	30.00/pcs	5,400.00			
	TEDDY DOLL	102 pcs	40.00/pcs	4,080.00			
	IGST@12%					1,137.60	
6-Apr-23	LIZA TOYS	Purchase			5		12,902.00
	INTERSTATE PURCHASES@12%					11,520.00	
	TEDDY DOLL	500 pcs	10.00/pcs	5,000.00			
	TEDDY DOLL	652 pcs	10.00/pcs	6,520.00			
	IGST@12%					1,382.40	
	Round Off					(-)0.40	
7-Apr-23	DIAMOND DOLL HOUSE	Purchase			6		6,048.00
	INTERSTATE PURCHASES@12%					5,400.00	
	TEDDY DOLL	180 pcs	30.00/pcs	5,400.00			
	IGST@12%					648.00	
8-Apr-23	MAHADEV SOFT TOY	Purchase			7		19,880.00
	INTERSTATE PURCHASES@12%					17,750.00	
	TEDDY DOLL (AL)	200 pcs	25.00/pcs	5,000.00			
	TEDDY DOLL (AL)	100 pcs	50.00/pcs	5,000.00			
	TEDDY DOLL (AL)	50 pcs	80.00/pcs	4,000.00			
	TEDDY DOLL (AL)	25 pcs	150.00/pcs	3,750.00			
	IGST@12%					2,130.00	
Carried Over							
						61,173.60	

Figure 1

Cleaned Data:

Purchase			
Month	Particular	Quantity	Amount
March	Teddy doll	388	46,142
	Doll	2146	91,600
	Toys	1170	25,706
April	Teddy doll	7327	1,79,205
	Doll	100	3,360
May	Teddy doll	1961	91,099

Table 1

B2B Sales			
Month	Particular	Quantity	Amount
March	Teddy doll	407	67,262
	Doll	21	4000
April	Teddy doll	947	2,13,574
	Doll	13	2622
May	Teddy doll	339	79,575

Table 2

B2C Sales			
Month	Particulars	Quantity	Amount
March	Doll	592	2,43,702
April	Doll	297	1,72,985
	Teddy doll	5	2230
May	Doll	460	2,59,846
	Teddy doll	134	12,650
	Toys	30	5,490

Table 3

PROFIT		
Month	Amount	
March	1,51,516	
April	2,08,846	
May	2,66,462	

Table 4

B2C TOTAL	
Particulars	Amount
Doll	6,76,533.00
Teddy doll	14,880.00
Toys	5,490.00

Table 5

B2B TOTAL	
Particular	Amount
Doll	6,622.00
Teddy doll	3,60,411.00
Toys	0

Table 6

- The sample data that was provided by the company is shown in Figure 1.
- It contains the date, specific, quantity, price per unit, debit amount, and credit amount.
- Tables 1–6 show the cleaned data after removing unnecessary columns and grouping similar information together.
- Tables 5 and 6 show the retail and wholesale item-by-item sales, respectively.
- Since the company sells a variety of the same product at various price points, quantity is not taken into account for analysis. As a result, quantity does not seem to matter in the profit analysis.

Analysis of purchase data:

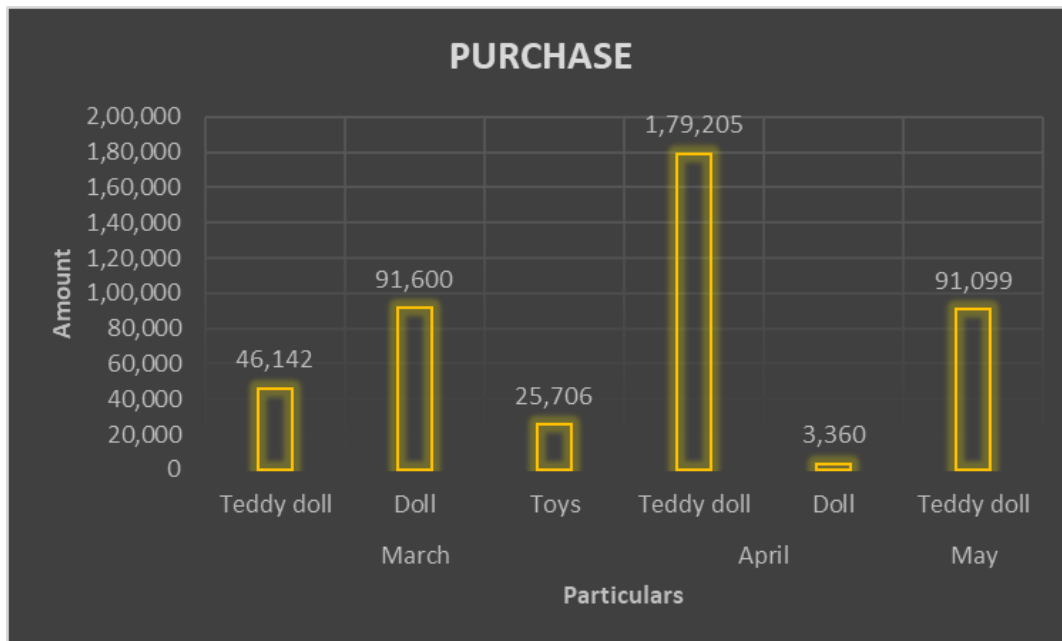


Figure 2

- Purchase data includes the monthly amount spent on each item, such as teddy dolls, dolls, and toys.
- It has been discovered that the company spends more money buying teddy bears. Toys represent the least expensive investment, totaling Rs. 25,706.
- Compared to other months, April saw the most purchases at a total of Rs. 2,08,271.
- The average monthly purchase is Rs. 1,45,704.

Analysis of B2B sales data:

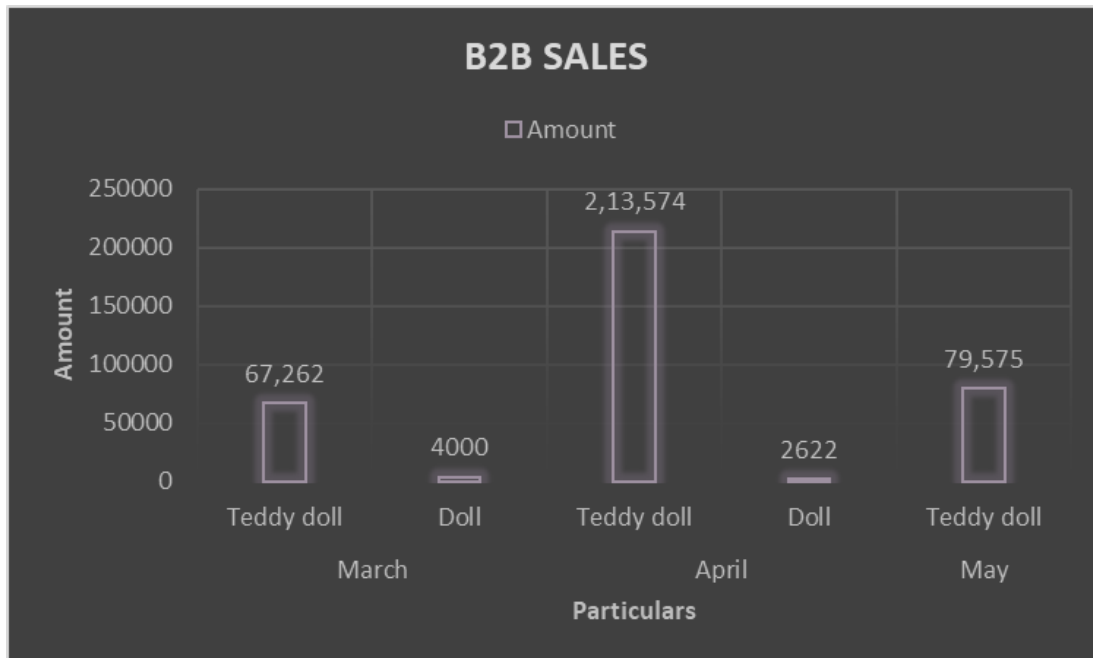


Figure 3

- The monthly B2B sales of goods like toys, dolls, and teddy dolls are shown in Figure 3.
- Teddy dolls are the most popular product among wholesale customers, accounting for 98% of total B2B sales.
- Since wholesale clients do not purchase toys, the expected growth is not occurring.
- The highest month for sales was April, totaling Rs. 2,16,196.
- The lowest sales were in March, totaling Rs. 71,262.
- Sales of dolls, which make up about 2% of all B2B sales, are the lowest.

Analysis of B2C sales data:

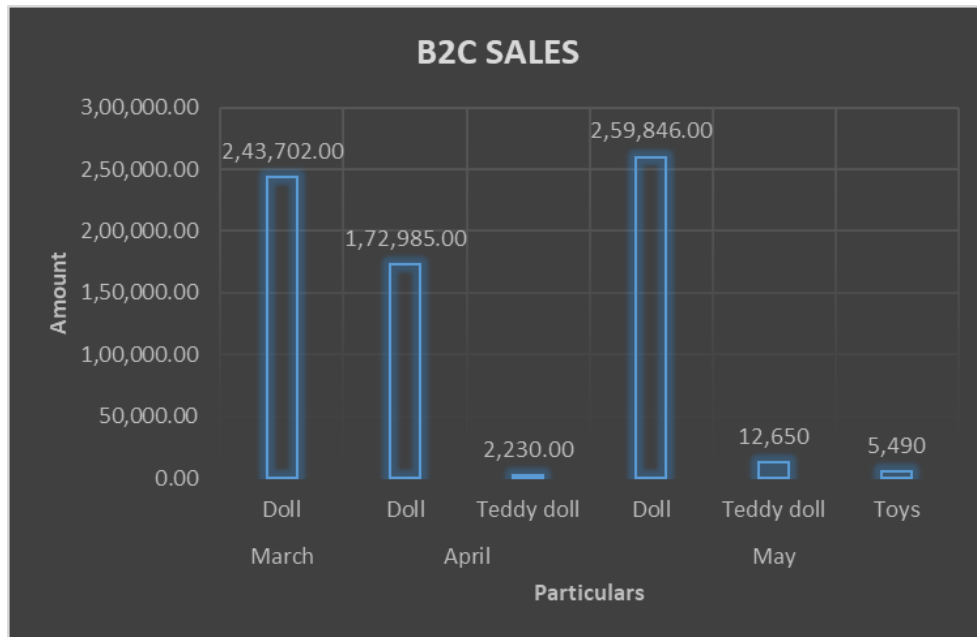


Figure 4

- The highest sales were recorded in May, totaling Rs. 2,77,986, followed by March, which had sales of Rs. 2,43,702.
- The lowest sales were recorded in April.
- B2C sales growth is not consistently linear.

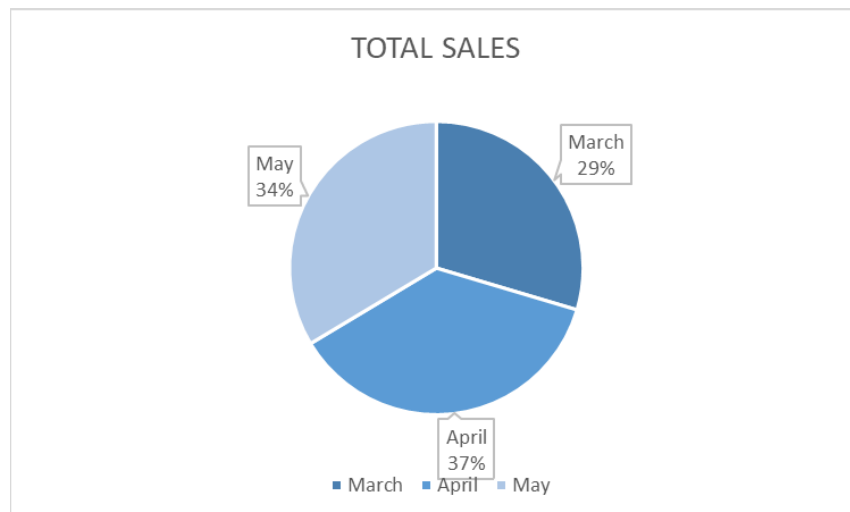


Figure 5

- Figure 5 displays the average monthly total sales.

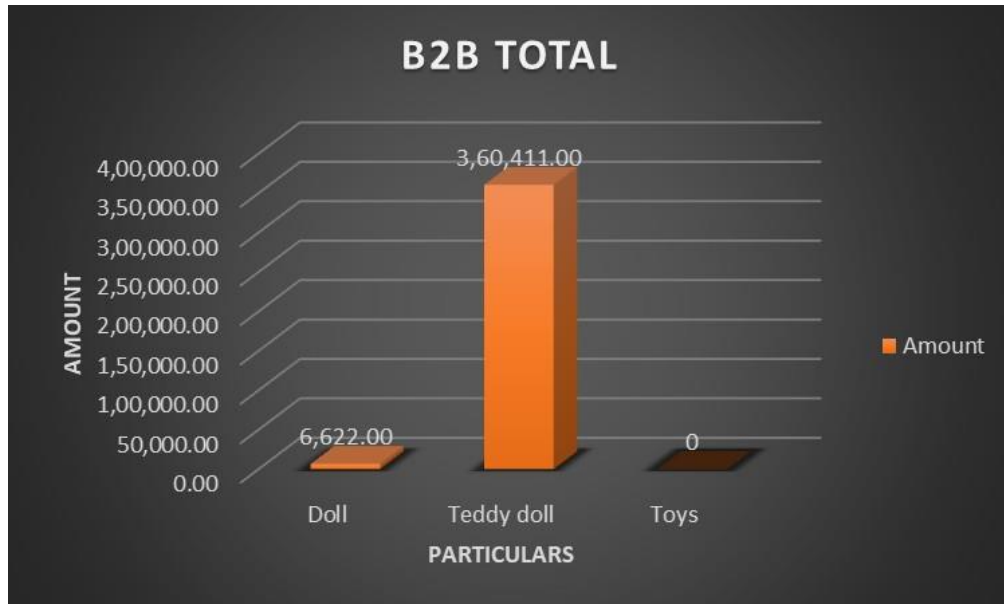


Figure 6

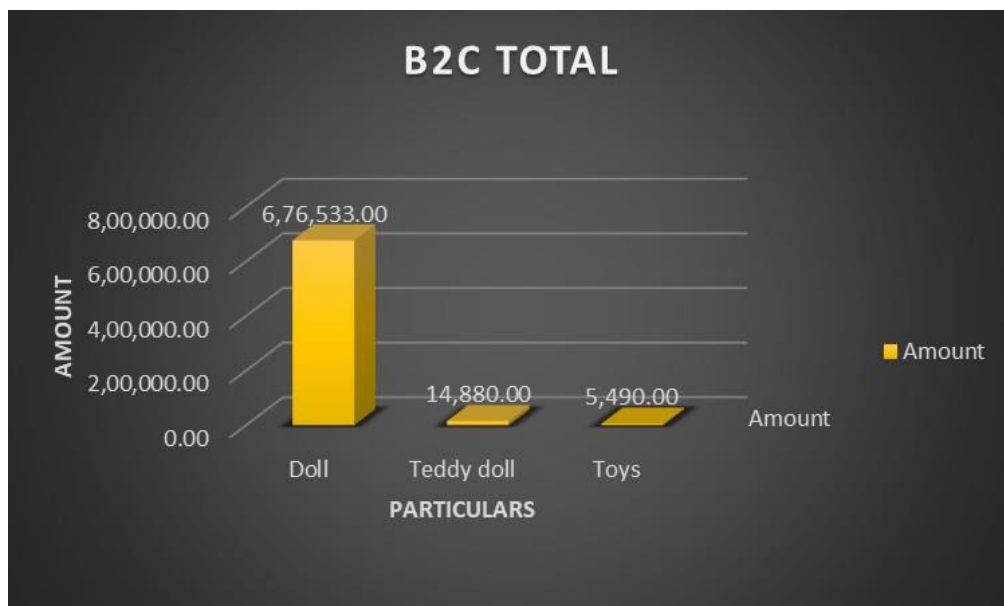


Figure 7

- Teddy doll sales are higher among wholesale customers, as shown in Figure 6.
- However, it can be seen from Figure 7 that dolls are the most popular item among retailers.

Profit analysis:

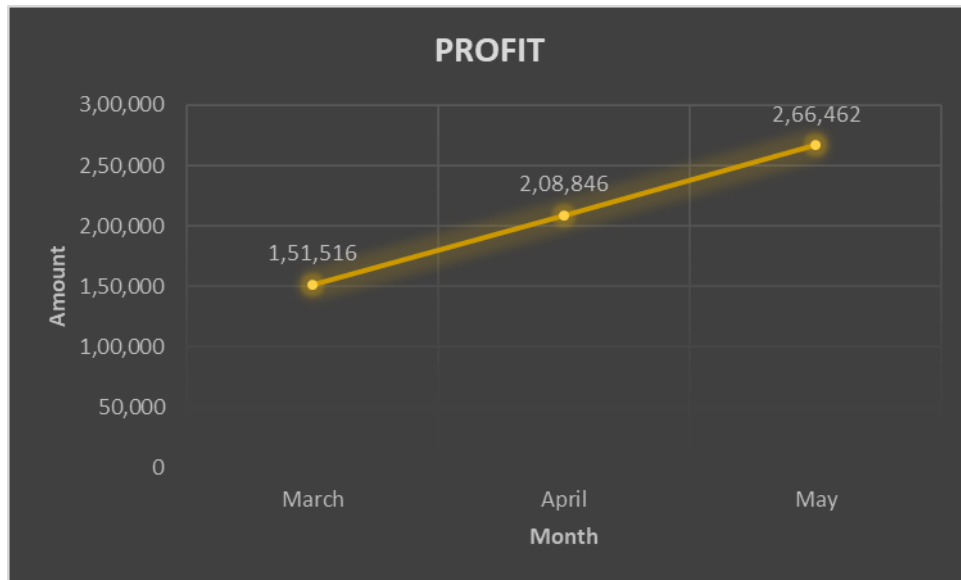


Figure 8

- Profit growth is increasing in a linear fashion.
- However, given that it is peak season, April and May were anticipated to grow more.
- Additionally, because March marks the end of the fiscal year, profits are low.
- Thus, even though the graph is linearly increasing, it is not behaving as predicted.

Trend analysis:

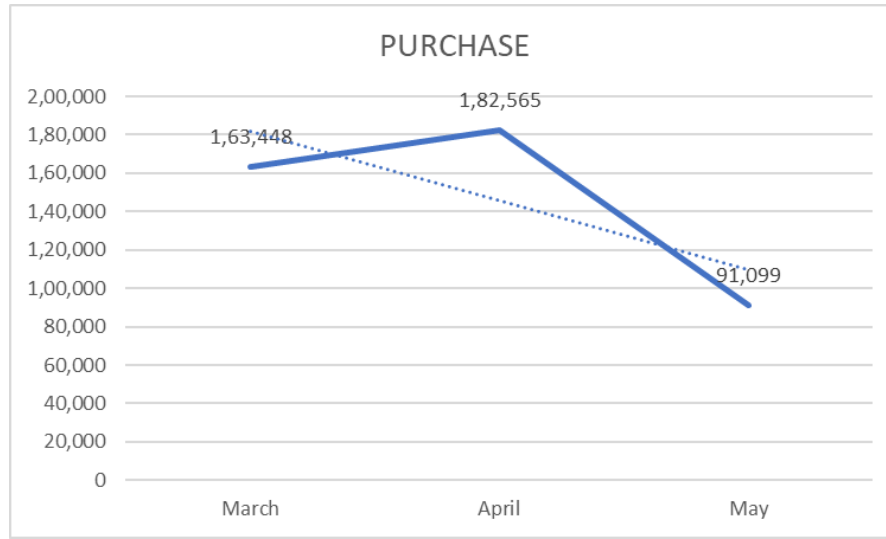


Figure 9

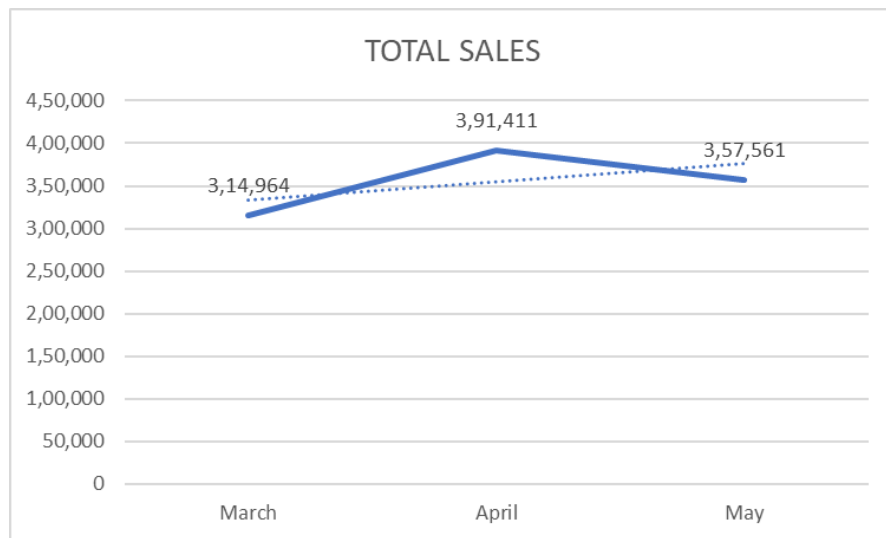


Figure 10

- The purchase and sales trends are shown in Figures 9 and 10, respectively.
- While the trend for sales is an increase, it is a linear decrease for purchases.
- Average sales are Rs. 3,54,645 and average purchases are Rs. 1,45,704.

INTERPRETATION OF RESULTS

Summary of Analysis:

- Dolls are the most popular among retail customers, while teddy bears are the most popular among wholesale customers.
- With a total of Rs. 3,14,964, March saw the lowest sale. Buyers have less money at the end of the fiscal year, according to observations.
- However, April had the highest number of sales, totaling Rs. 3,91,411. This is due to the fact that it is the holiday season, which is a time when children frequently receive gifts.
- In order to meet the demands of the holiday season, April also had the highest volume of purchases.
- On the other hand, toy sales are not rising as predicted.

Problem Analysis:

- The business also imports a variety of goods, particularly from China.
- Although recent years have seen a decline in material imports to India. Due to this, toy and other material production had to be set up by Indian manufacturers.
- However, Indian producers are currently unable to keep up with demand for their products. This clarifies the issues with **inventory shortages and rising market prices.**
- The COVID-19 pandemic has had a significant impact on the market. It has caused economic uncertainty, job losses, and supply chain disruptions, which have led to a **decrease in consumer spending.**

RECOMMENDATIONS

Stock shortage

- **Demand forecasting:** It enables the business to more accurately forecast the amount of inventory they will need on hand to satisfy demand. This can be done by looking at trends and seasonality, as well as historical sales data.
- **Increase inventory levels:** The company can increase inventory levels in the run-up to the peak season. This will aid in ensuring that they have enough inventory to meet demand and avoid stockouts.
- **Alternate suppliers:** If the primary suppliers are unable to meet the demand, alternate suppliers can be used. Increasing the number of suppliers can help reduce delays and production issues.
- **Offer backorders:** The company can also let customers place backorders for items that are currently out of stock. This ensures that the product will be delivered to the customer once it is back in stock.

Decrease in buyers

- **Improve marketing:** The company needs to step up its sales and marketing initiatives. This could include using different channels or creating more targeted campaigns.
- **Price optimization:** Lowering prices will draw more customers. However, it is important to ensure that the company continues to make a profit after lowering its prices.

- **Discounts and promotions:** To attract more customers, the store can offer discounts and promotions. This can be an effective method of getting people to try their products or services for the first time.
- **Reevaluate the target market:** If the company's target market is no longer interested in its products or services, it may be necessary to reevaluate its target market. This could include changing the demographics of their target market or focusing on a different segment of the market.
- **Keep up with trends:** This will allow them to ensure that their products or services are meeting the needs of their target market. Introducing innovative products aids in staying ahead of the competition.

Increased market prices

- **Use of demand planning software:** Demand planning software can assist companies in more precise demand forecasting and efficient inventory management. Increased customer satisfaction and a decrease in price gouging may result from this.
- **Finding best prices:** Search for the best deals on products and services by doing some comparison shopping. Using online price comparison tools or comparing prices at various suppliers may be involved in this.
- **Purchase in bulk:** Purchasing in bulk can help you save money on items that are in high demand.
- **Look for discounts and coupons:** The business can do this to find savings on products and services.
- **Think about substitutes:** The company might be able to locate substitutes for their current products that are less expensive.

Additional recommendations

- **Analyze their competition:** Businesses should investigate what their competitors are doing differently. They might gain insight from this on how to enhance their own goods or services or how to market them more successfully.
- **Provide top-notch customer service:** Sales can be improved by providing excellent customer service, which is frequently overlooked. This includes being responsive to their needs, resolving their issues quickly, and going above and beyond to make them happy.
- **Provide quality:** Ensure that the goods and services are of high quality and reasonably priced. Assist clients with their problems.
- **Keep track of your outcomes:** Keeping track of your outcomes is crucial for determining what is and is not working. This will aid in the adjustment of sales strategies as needed.
- **Provide a warranty:** Providing a warranty on your products is an excellent way to demonstrate to customers that you are confident in their quality. Customers will feel safer knowing they are covered if something goes wrong with the product.
- **Better investment strategy:** A better investment plan would be to set aside seasonal months' profits and use them to stock up on more in-demand goods. This can help profits grow linearly.