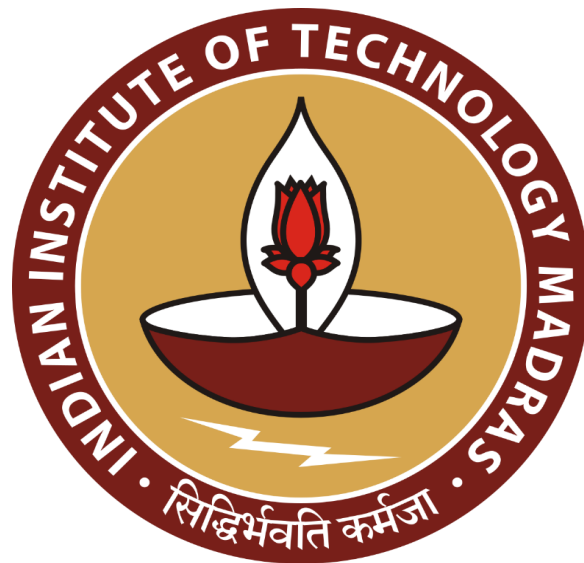


BDM Capstone Project

Mid-Term Submission



Case Study of a R. P. Medical Agency

Submitted by- Shruti Sinha

Roll-22f3003063

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Declaration Statement

I am working on a Project titled “**Expiry/ breakage management for wholesale pharmacy**”. I extend my appreciation to **[R. P. Medical Agency]**, for providing the necessary resources that enabled me to conduct my project.

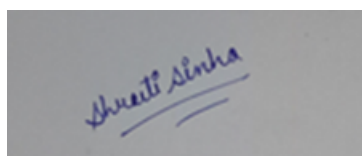
I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfilment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.



Signature of Candidate: **(Digital Signature)**

Name: SHRUTI SINHA

Date: 10-04-2024

Executive Summary and Title

Medicines sales happen based on prescription by doctors. Hence, in pharmaceutical industry doctors are considered the end consumer and not the patient/customer purchasing the medicine. The business that is chosen is a wholesaler supplying medicines to retailers and purchasing from Clearing and forwarding agent. R.P. Medical Agency is a B2B business not authorised to sell based on Prescription but to authorised retailers having valid D.L. no. (Drug License no.). Apart from business acumen running a pharmacy store require one to have a sound knowledge of medicines, as well as the legal aspects of pharma. The pharmacy owner is also required to hold a Diploma in Pharmacy. The pharmacies are subject stringent patrolling from Drug Inspector and any irregularity discrepancy could unnecessarily create heavy cash outflow. The founder of R.P Medical Agency is a well experience person successfully running the business for over 25 years now.

As stated in Proposal also, that business is encountering problem due to high returns from retailers. The returns increase the transportation and also blocks capital with the supplier and increase the working capital expenditure having an indirect impact on sales. Our main objective is to analyse the sales purchase data and provide insights that will help in managing inventory, sales return, so that we could release the working capital which may increase the profits for the entity.

Mid Term Objectives

- To find month wise sales trend.
- To find the SKU having the most contribution in sales.
- To examine the pareto principal
- To determine the party/customer contributing to max sales profit margin

Proof of originality of the Data

Details

Name of the shop- R.P. Medical Agency

Owner- Vijay Kumar Sinha

Address- SHOP No. 6 Jamuar Complex, Khairat Ahmed Road Gaya 823001

About

R.P. Medical Store is located in wholesale marketplace in Gaya Bihar. The marketplace serves the retail demand of Gaya as well as the demand of neighbouring towns of Bihar and Jharkhand like Aurangabad, Giridih, Nawada etc. The business is authorised wholesale dealer in allopathic/evidence-based medicines as well as Ayurvedic medicines. Sales composition of the two is 90% allopathic and 10% Ayurvedic.

Images & Video

To substantiate my claims, I have included a visual documentation comprising images showcasing the establishment itself as well as a video interaction with the owner. The video is of our initial conversation about the business. In the video I have asked about the overview of the business.



Figure 1: Image showing name & address



Figure 2: Image showing transaction site

Video Link -

Letter on letterhead

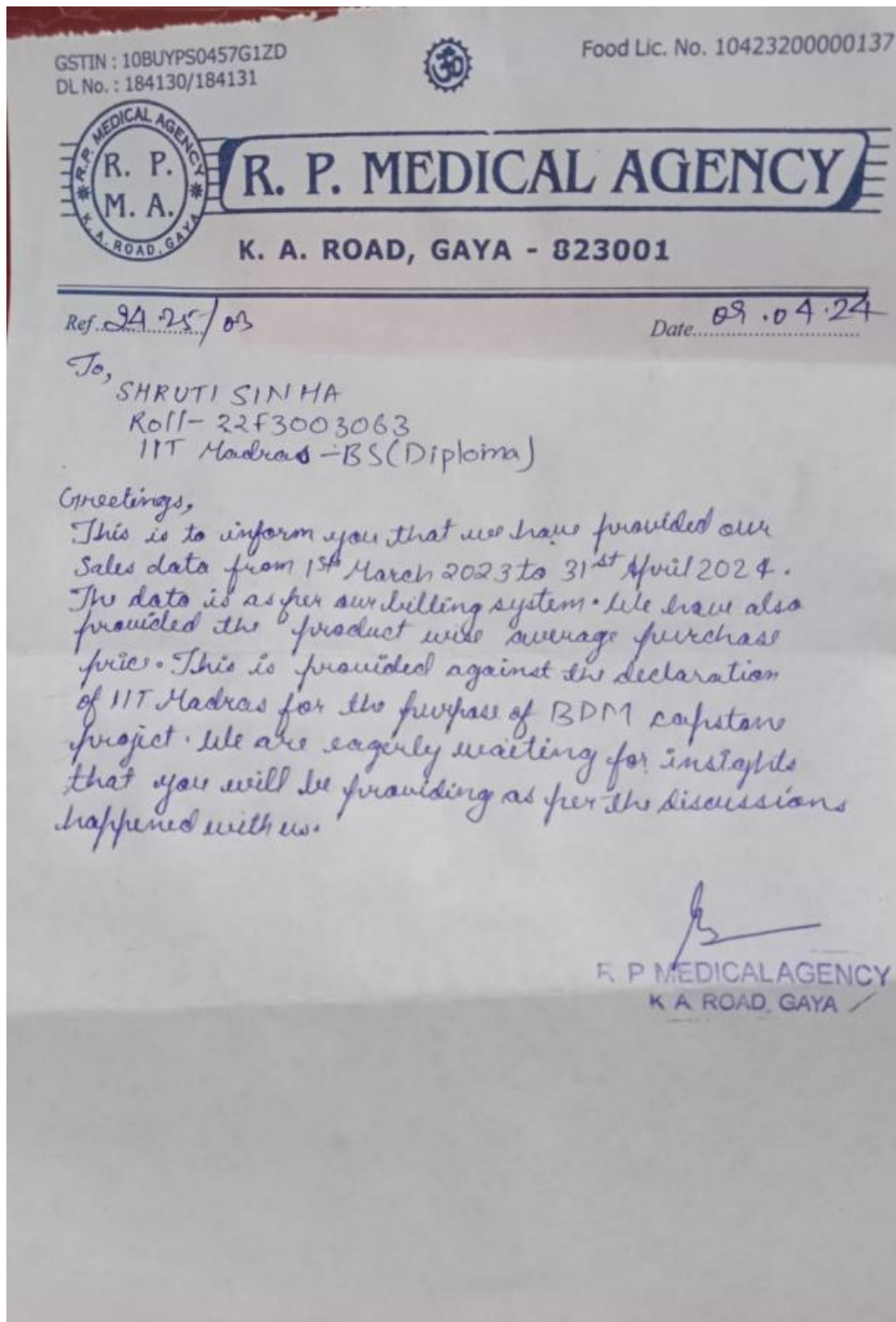


Figure 3: Letter Image

Meta Data and Descriptive Statistics

The data is as per the electronic billing system used in the shop. The software being used is a primitive one and most of the data was in-exportable. The data was present on screen and can be printed/saved on PDF. For analysis purpose we have copied the data from PDF in an Excel in a format that could be used for analysis. We have got Party – Item wise sales from the software as well as an Item wise purchase report. Below is the sample for two reports-

CUSTOMER	MEDICINE	QTY.	FREE	RATE	AMOUNT
A.K.MEDICAL AGENCY-SHERGHATI	BETHADOXIN-12 SYP 220ML	10	-	77.35	773.50
A.K.MEDICAL AGENCY-SHERGHATI	BETT AMP 0.5ML	480	-	10.29	4936.80
A.K.MEDICAL AGENCY-SHERGHATI	COSCOPIN COUGH LIN 100ML	13	-	77.48	1007.19
A.K.MEDICAL AGENCY-SHERGHATI	DEXORANGE CAP 1X30	38	-	106.65	4052.83
A.K.MEDICAL AGENCY-SHERGHATI	DEXORANGE PED SYP 60ML	20	-	59.42	1188.34

Figure 4: Party- Item wise sales report

Fields present in the sample:

Customer- Customer is the customer purchasing the medicine.

Medicine- Brand name for medicine

Quantity- No. of units sold

Free- Some medicines are sold as schemes like Buy 2 get 1. So, here no. of free units will be mentioned.

Rate – Price per unit.

Amount- Basically, this column is Quantity*Rate i.e. the total amount paid by the customer.

Item Description	Quantity	Free	Av.Rate	Amount
ACENAC SP TAB 1X10	10	0	70.01	700.11
ACENAC-MR TAB 1X10	400	0	124.63	49853.10
ACENAC-P TAB 1X15	50	0	54.09	2704.70
ACIDOSEAL-40 1X10TAB	125	0	47.14	5892.70
ACIDOSEAL-D 40 TAB 1X10	19	5	81.97	1967.20

Figure 5: Item wise Purchase report

Fields present in the sample:

Item Description- This contains the medicine name.

Quantity- No. of units purchased

Free- Medicine are purchased in scheme. The no. of free units on the quantity purchased in mentioned.

Av. Rate- It shows the rate per unit by taking in account the free units.

Amount- It shows the amount paid for the purchase.

Descriptive Statistics for Sales data

	QTY.	FREE	RATE	AMOUNT
Count	677	0	677	677
mean	40	-	78	2505
std	130.8817	-	69.49984	9375.472
min	1	-	3	32
0.25	5	-	36.655	267.19
0.5	10	-	66.43	575.77
0.75	27	-	98.815	1523.59
max	2000	-	857	143276

Note that there are no medicines sold on free scheme basis.

Descriptive statistics for Purchase data

	Quantity	Free	Av.Rate	Amount
Count	717	717	717	717
mean	331	8	76.72	15322.97
std	982.3785	29.61168	69.24103	33188.27
min	0	0	0.00	0.00
0.25	30.5	0	37.955	2320.56
0.5	95	0	61.52	5809.32
0.75	269.5	5	94.58	14522.61
max	16627	560	771	479306

Note that the minimum in quantity is 0. On checking data there were 2 entries with 0 quantity when enquired with the owner, he said this is a free medicine on some other medicine of the same company.

Detailed Explanation of Analysis Process/Method

For collection of data available with electronic billing system is used. This is an offline software that provides limited no. of features and most of these features are not used frequently by owner and his staff. The reports generated in the system are generated in PDF format of which was then converted to Excel after copy pasting. In the process of data cleaning it was observed that there are a few entries with negative quantity in both sales and purchased when asked about this, the owner proposed that it may be an erroneous entry. Hence, it was converted to its positive entry. The same is reported to software vendor to get the validation put in place.

Next, we did the descriptive statistics that helped us understand the data and the shop better. We calculated the central tendency namely mean, also analysed the std. deviation and quartiles of data. This helped understand the performance of different metrics in the business.

After that we tried understanding the trend for party/customer wise sales figure. As well as SKU/medicine was sales figure that helped us understand the which customer and which SKU is contributing most towards revenue.

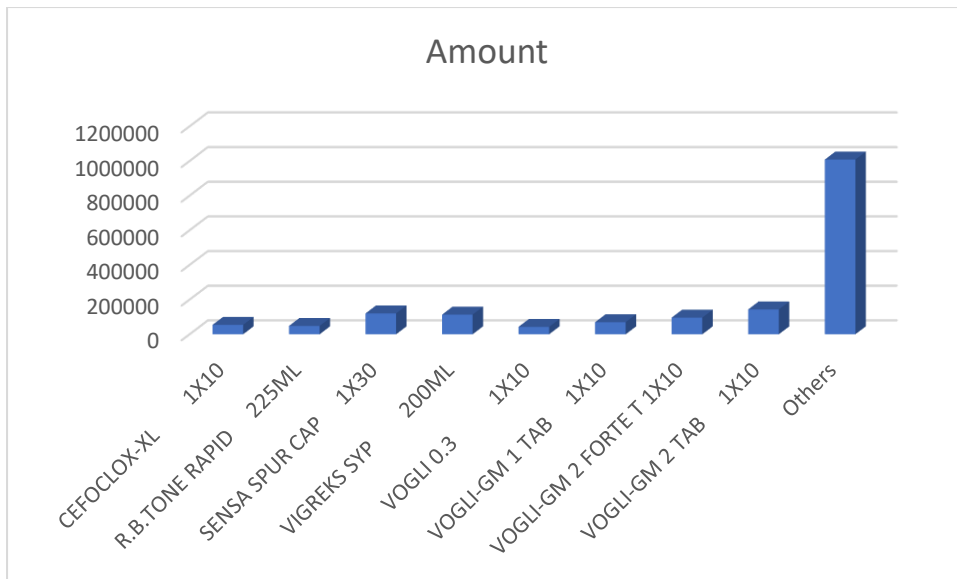
Next, we did a time series trend analysis doing tracking a month-on-month sales tracking. For doing this trend analysis we have used figures directly available on the software. We have noted every – month sales manually from the software and entered in excel to find the trend. We require more field that are being captured for doing analysis which are not available in the reports available in the software.

Results and Findings

Based on analysis conducted, we have found below observation:



There are some 76 customers that have purchased from RP medical enterprises. Out of which 9 accounts for maximum sales which are presented above. These 9 customers happen to account for 63% sales and can be clubbed as prime customers. AYUSH AGENCY-FBS ROAD GAYA happens to be biggest purchaser for the entity accounting for Rs. 405170.5 which is 24% of total sales. While 67 customers are very small customers who account for only 0-1% of sales and cumulatively account for 37% sales.



The business has dealt in 310 medicines last year out of which 8 medicines account for 41% sales which are shown above. The rest 302 account for 59% sales. There is no clear cut high performer SKU almost every SKU similar kind of performance.



The above graph shows the month wise unit wise sales trend for the business. The business has high performance in the second quarter of financial year followed by decline in 3rd quarter with lowest sales recorded in November.

In summary we can say that AYUSH AGENCY-FBS ROAD GAYA medical agency happens to be biggest contributor towards revenue and the 2nd Quarter to be the high sale time for business. Also, we could do more analysis if the various fields that are being captured at the time of entry could be available in the report exportable format.

