BDM CAPSTONE

END-TERM SUBMISSION

Effective Sales Strategies for Profit Enhancement in Phoenix Pharma

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Executive Summary

Phoenix Pharma, founded by Mr. Ravi, is a B2B pharmaceutical company based in Visakhapatnam, specializing in nephrology and cardiology medications. Positioned as a vital intermediary, the company connects drug manufacturers with a network of local distributors, ensuring a steady and reliable supply chain within the southern Visakhapatnam region. Through its commitment to efficient distribution and specialized focus, Phoenix Pharma plays a crucial role in enhancing the accessibility of essential healthcare products for medical professionals and patients in this area.

Phoenix pharma distributes non-durable medicines (which can only be used once) in the form of tablets and injections. They can also be termed as single time usage goods. Purchase of most non-durable goods are made at regular intervals. Non-durable goods are made largely to meet current demand which depends on current situations.

SWOT analysis of the firm:

A SWOT analysis for a pharmaceutical distributor helps identify the strengths, weaknesses, opportunities, and threats the company faces. It looks at how the business operates in the pharmaceutical supply chain, the market conditions, and the rules and regulations that affect it.

STRENGTHS:

1. Strong relationships with wholesalers and healthcare providers.
2. Customer loyalty.
3. Regulatory Compliance : Drug and Trade licenses.

WEAKNESSES:

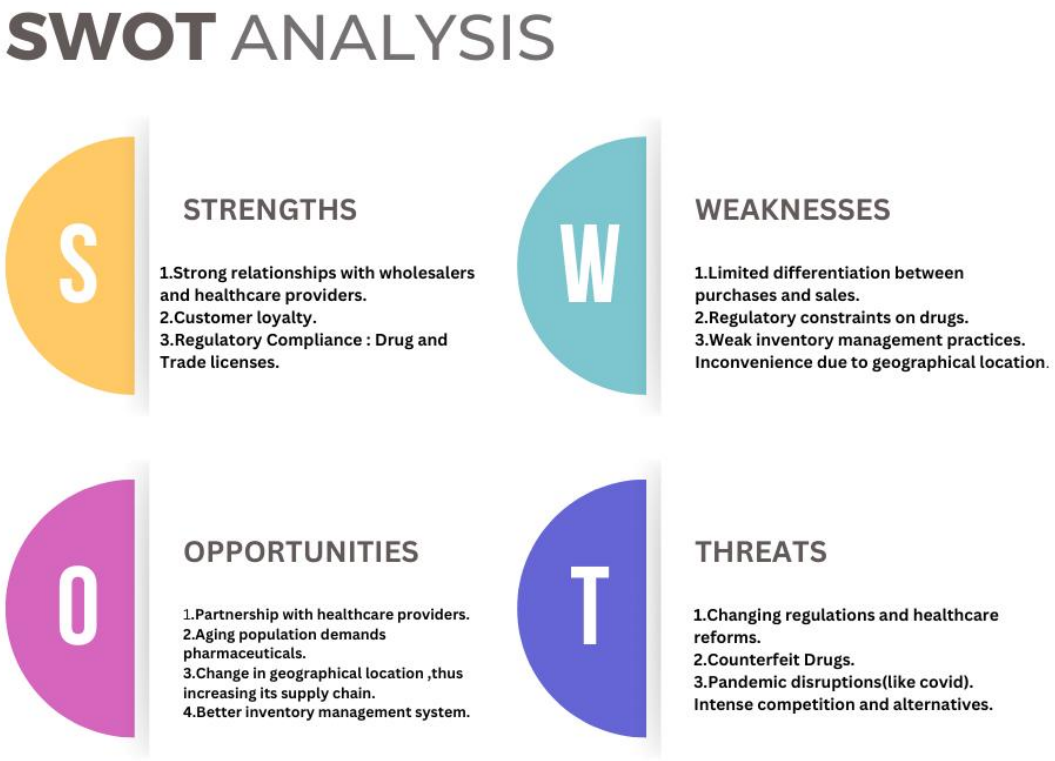
1. Limited differentiation between purchases and sales.
2. Regulatory constraints on drugs.
3. Weak inventory management practices.
4. Inconvenience due to geographical location.

OPPORTUNITIES:

1. Partnership with healthcare providers.
2. Aging population demands pharmaceuticals.
3. Change in geographical location ,thus increasing its supply chain.
4. Better inventory management system.

THREATS:

1. Changing regulations and healthcare reforms.
2. Counterfeit Drugs.
3. Pandemic disruptions(like covid).
4. Intense competition and alternatives.



Despite its crucial role in the supply chain, Phoenix Pharma is currently facing challenges in sustaining profitability, necessitating a focus on optimizing its operations to improve financial performance and ensure a reliable supply of essential healthcare products.

The end term report focuses on eliminating weaknesses and potentially eliminating threats. The analysis is carried out on the profit function of the firm, better inventory practices and possible relocation of the firm.

Detailed Explanation of Analysis Process

Data: https://drive.google.com/drive/folders/1_KEVjvCtjIvixQdj1W8GRZO_CObV9L70?usp=sharing

Data Collection:

23-24(April 2023 to March 2024) financial year data comprising medicine based, and vendor-based purchase and sale data has been obtained from Tally software. The data in tally software has been converted to excel for better overview and analysis of the data. Vendor and medicinal data have been obtained to calculate the profit function of the firm, marginal cost pricing, demand forecasting and inventory management.

Data Cleansing:

In vendor-based data all the taxes and irrelevant columns were removed for better structuring of relevant data. The basic amounts were taken into consideration for both sales and purchase data.

Purchase data:

MONTH	SNO	DATE	VENDOR NAME	BASIC	CGST	SGST	IGST	TOTAL	TCS	GRAND TOTAL	%
APR	1	04.04.24	CELERA BIOSCIENCES	485838	0	0	58300.56	544138.56	544.13856	544682.70	12%
APR	2	04.04.24	CELERA BIOSCIENCES	1034281.6	0	0	51714.08	1085995.68	1085.9957	1087081.68	5%
APR	2	04.04.24	CELERA BIOSCIENCES	1217313.2	0	0	146077.58	1363390.78	1363.3908	1364754.17	12%
APR	2	04.04.24	CELERA BIOSCIENCES	626696.6	0	0	112805.39	739501.99	739.50199	740241.49	18%

Sales data:

JUN	473	18.06.24	PANACEA AGENCIES	350607.8	21036.47	21036.47	0.00	392680.74	392.680736	393073.42	12%	3004	0.10%
JUN	565	29.06.24	BAJARANGI PHARMACEUTICALS	307692.6	0	0	15384.63	323077.23	323.07723	323400.31	5%	3004	0.10%
JUN	473	18.06.24	PANACEA AGENCIES	274237.5	6855.94	6855.94	0.00	287949.38	287.949375	288237.32	5%	3004	0.10%
JUN	466	17.06.24	BIOPLUS MEDICAL AGENCIES	176563.2	10593.79	10593.79	0.00	197750.78	197.750784	197948.53	12%	3004	0.10%
JUN	498	21.06.24	PANACEA AGENCIES	172442.74	10346.56	10346.56	0.00	193135.87	193.1358688	193329.00	12%	3004	0.10%

All the irrelevant columns are removed for better analysis of the data. Taxes are not taken into account as they do not contribute in loss or profit of the firm.

After cleansing data:

SALES				
S.NO	MONTI	DATE	PARTY NAME	BASIC
1583	AUG	30.08.23	VENKATESWARA PHARMACEUTICALS	335
1700	SEP	11.09.23	VENKATESWARA PHARMACEUTICALS	335
1461	AUG	21.08.23	GLOBAL MEDICAL AGENCIES	480
406	MAY	11.05.23	BIOPLUS MEDICAL AGENCIES	483

PURCHASES				
S.NO	MONTH	DATE	VENDOR NAME	BASIC
1	MON	DATE	VENDOR NAME	BASIC
2	APR	06.04.23	CELERA BIOSCIENCES	1467707
3	APR	06.04.23	CELERA BIOSCIENCES	1807408
4	APR	06.04.23	CELERA BIOSCIENCES	212140

A separate pivot table has been made for analysis of sales and purchases based on vendors. They can be used to determine important vendors and demand forecasting.

Sum of the basics of the vendor is used to calculate the business done by the vendor.

Formula:

$$\textit{Sum of basics(vendor)} = \Sigma\ \textit{Basic(vendor)}$$

Party name	Sum of BASIC
BAJARANGI PHARMACEUTICALS	6520798.94
BIOPLUS MEDICAL AGENCIES	17848882.14
GAJUWAKA HOSPITALS PVT LTD	139059.2
GLOBAL MEDICAL AGENCIES	9044630.568
GODAVARI AGENCIES	746638.61
GRN PHARMACY	967867.46

Profits for each month are calculated for determining the performance of the firm across each month.

Formula:

Profit for the month = Sales in the month – Purchases in the month

MONTH	SALES IN MONTH	PURCHASES IN MONTH	PROFIT
APRIL	13897542	10281984	3615558
MAY	12908941	14133833	-1224892
JUNE	12394998	10300187	2094811
JULY	13871530	10866170	3005360
AUGUST	13630907	13219362	411545
SEPTEMBER	13739098	11400371	2338727
OCTOBER	12672766	12080007	592759
NOVEMBER	13706961	14363658	-656697
DECEMBER	12812624	13314700	-502076
JANUARY	14755757	13026750	1729006
FEBRUARY	14191661	15862510	-1670849
MARCH	14106564	14648224	-541659

The negative profit indicates that the firm encountered a loss for the month.

Trend line and box whisker plots are used for analysis and finding the results.

Item wise sales and purchase data consists of average price as the prices of medicines vary while dealing with different vendors. So, the average price is calculated for the analysis.

Formula:

$$Avg\ price = \frac{Total\ sale\ or\ purchase\ of\ the\ item}{\text{Quantity}}$$

Item Description2	Quantity3	Avg price4	Amount5
ALFA ADD 10'S	590	80	47200
CELALOG 10'S	3377	70	235850
CELEFER 10'S	2287	31	70668
CELERA NU 10'S	46316	70	3219888
CELERAB 10'S	11797	26	303773
CELERAB DSR 10'S	12298	46	570012

Margin for each item is calculated to measure the profit of each item.

Formula:

$$Margin = Sale\ avg\ price - purchase\ avg\ price$$

Margin percentage is calculated for obtaining the profit percentage the item holds.

$$Margin\ percentage = = \frac{\text{Margin}}{\text{purchase price}}\ X\ 100$$

Inventory balance is used to calculate the stock remaining. Negative stock indicates previous stock sales .

Inventory balance = purchase quantity – sales quantity

Inventory ratio is used to check how fast you can sell your inventory through a certain time frame. The lower turnover ratio indicates that the sales are slow, and inventory is overstocked.

Formula:

$$\textit{Inventory ratio} = \frac{\text{Cost of goods sold}}{\text{average assets}}$$

Where

CGS=Sales amount,

Average assets= (beginning assets + ending assets)/2

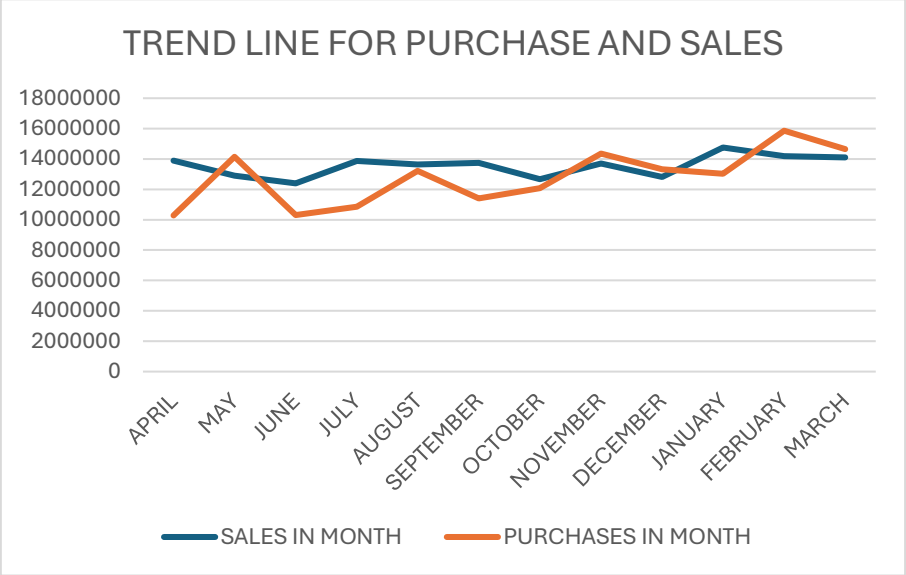
Exploring medical hotspots for relocation:

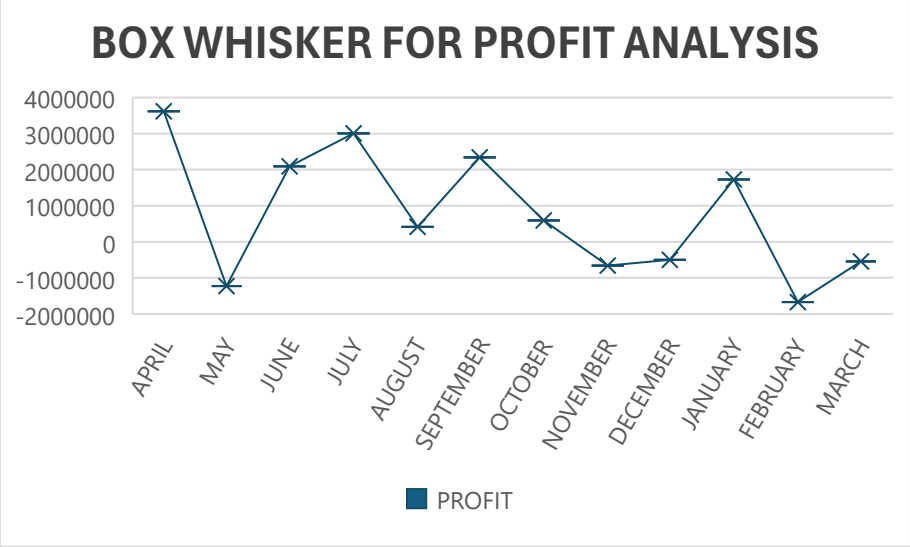
Various locations in the city have been examined to identify a better place for relocation , which is aimed at providing better supply chain management.

Medical stores in Visakhapatnam

Results & Findings

Profit function of the firm:





A trend line for purchase and sales of the data is used to identify patterns, compare the data and highlight anomalies. Box-whisker is used to visualize variability in the data.

Key findings:

1. **Months with Profit Gains:**

- The highest profit occurred in April (₹3,615,558).
- Other months with substantial profits include June (₹2,094,811), July (₹3,005,360), and September (₹2,338,727).

2. **Months with Losses:**

- The highest loss occurred in February (₹-1,670,849).
- Other months with losses include May (₹-1,224,892), November (₹-656,697), December (₹-502,076), and March (₹-541,659).

3. **Purchase vs. Sales Trends:**

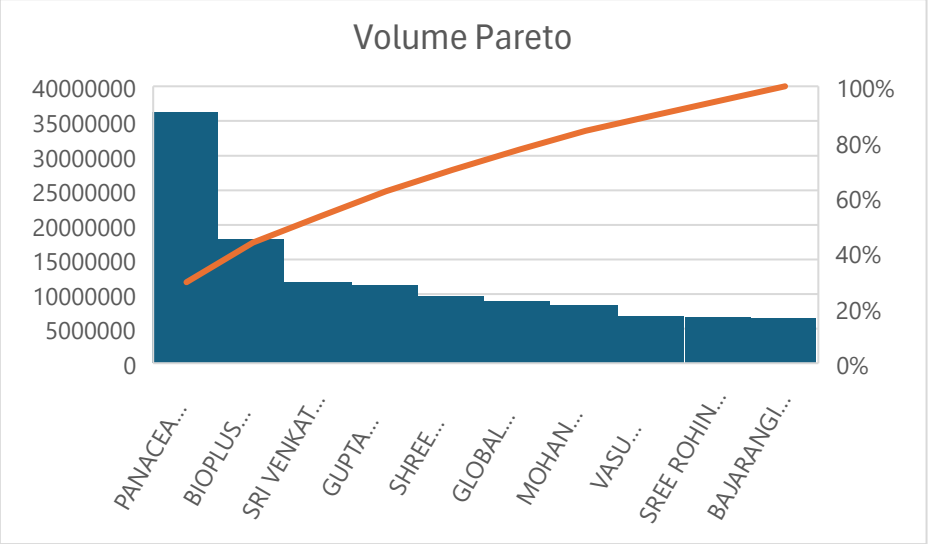
- Profits are generally higher when purchases are well-managed relative to sales.
- Losses seem to be associated with months when purchases exceed sales (e.g., May, February, and November).

4. **Seasonal or Cyclical Patterns:**

- There appears to be a mid-year profit trend (April to September), suggesting a seasonal demand for certain products.
- The end of the year and early year (November to March) indicates a pattern of reduced profitability or losses.

5. **Outlier Insights:**

- January had significant sales (₹14,755,757), but the profit margin (₹1,729,006) was lower than expected compared to other high-sales months.
- August showed the smallest profit gain (₹411,545) despite moderate sales and purchases.



The top 10 vendors contribute to 75 percent of sales, A volume pareto has been plotted to identify which vendor contribute to most of the sales.

Insights from pareto Analysis:

1. **Top Vendors Contributing to 75% of Sales:**

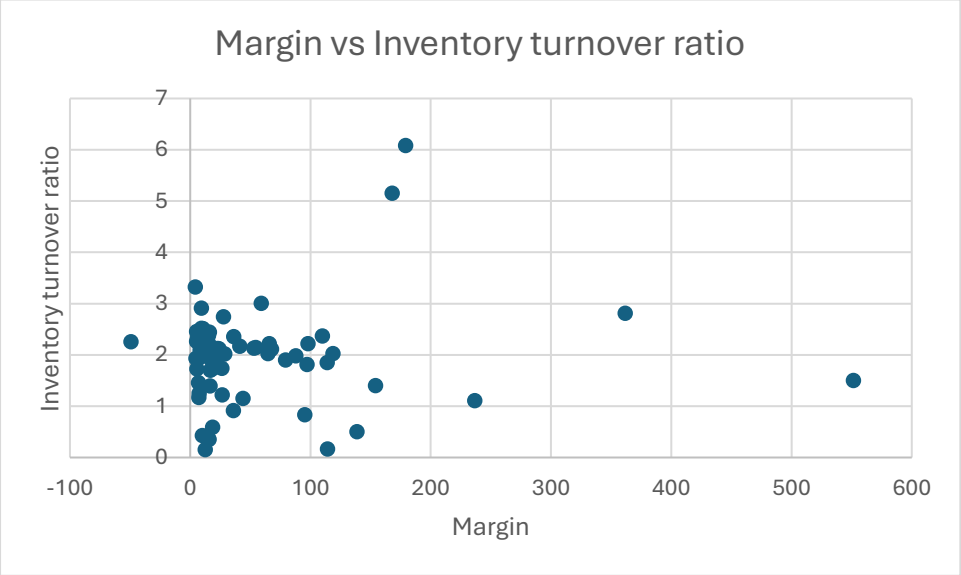
- Panacea Agencies
- Bio Plus Medical Agencies
- Sri Venkata Sai Leela Medicals
- Gupta Medicals

These vendors together contribute approximately 72.62%, which aligns with the "80/20 rule."

2. **Next Group of Vendors:**

- Shree Krishna Enterprises and Global Medical Agencies add up to 90.22%, further highlighting a concentration of sales in the top-performing vendors.

Margin vs Inventory turnover:



The scatter plot of Margin vs Inventory Turnover Ratio reveals the following insights:

1. **General Relationship**:
    - Items with higher turnover ratios tend to have a wide range of margins, indicating variability in profitability.
    - No clear linear relationship is visible, suggesting that inventory turnover and margin are not directly correlated.
2. **Clusters**:
    - There appear to be clusters of items with low turnover ratios and varying margins, highlighting items that are slow-moving but may still contribute to profit.
    - Items with higher turnover ratios generally fall in a narrower margin range, indicating consistent profitability for frequently sold products.

3. **High Margin, Low Turnover**: Some items exhibit high margins but low turnover. These may represent niche or premium products that sell less frequently but contribute significantly to profits per unit.
4. **Potential Outliers**: If any points are far removed from the general trend, they could indicate items that need attention. For example:
    - Extremely high turnover but low margin may represent high-volume, low-value items.
    - Low turnover and low margin may suggest products reconsider stocking.

ABC analysis:

ABC analysis is based on the margin of the product and inventory turnover ratio.

The ABC analysis categorizes products based on their margin and inventory turnover ratio, dividing them into three categories: A, B, and C. Here's a summary of the categorization:

- **Category A**: These are the most valuable products, having high margin, high sale quantities and significant inventory turnover ratio. Products in this category typically make up the top 20% of items that contribute to about 80% of the sales. They can be restored excessively as they are fast moving.
- **Category B**: These products are moderately important. They are generally moderate in margin and quantity. They can be restored based on the demand.
- **Category C**: These products have the least margin and are often the majority in terms of the number of items they are, thus decreasing

their inventory turnover ratio. They can be removed and don't necessarily require restocking.

Snapshot of the analysis:

Category A:

Item Description
CELOBACT FCM 500/10 ML 1'S
ALFA ADD 10'S
SIRORITE 1MG 10'S
DAPARAS 5 10'S
DAPARAS 10 10'S
SEVBIND 400 10'S
PHOCEL 10'S
CILNIRIGHT 10 MG 10'S

Category B:

Item Description
CELNESP 40 mcg 1'S
SODOCEL EC-1000 10'S
TACRORITE 0.5 MG (MRP 205) 1
CELERAB 10'S
TORCEL 20 10'S
SODOCEL EC-500 10'S
CUDCE FORTE 10'S
MYCORITE S 360 10'S
KETOCHECK 10'S

Category C:

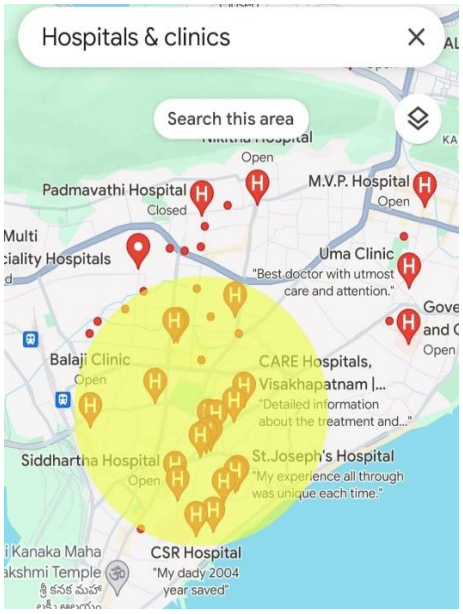
Item Description
VIDARIGHT 50 10'S
VOGLIRIGHT M 0.3 10'S
VOGLIRIGHT M 0.2 10'S
MIDORITE 10'S
MYCORITE 500 (MRP 820) 10'S
DAPARES-M 5/500 10'S
MYCORITE 500 MG 10'S
MYCORITE S180 10'S
CELALOG 10'S

Issue in IMS:

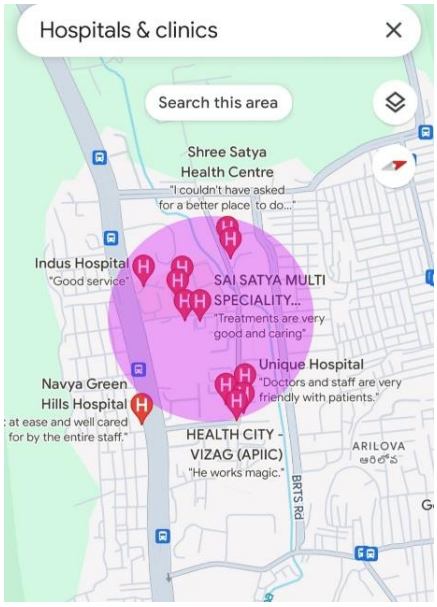
The tally software lags in providing better inventory management. It shows negative stocking which is not good inventory practice. It does not necessarily require the items to be in stock for billing. Negative stock indicates that there was an error while making data entry. Instead of popping up an error message the software continues to bill the items and update the inventory stock negatively.

Possible relocations in the city:

- The current location of the firm is towards the outskirts of the city, making the firm face difficulties in supply chain management.
- 2 locations (Asilmetta and Arilova) are suitable for relocation.
- Denser availability of hospitals and medical stores can be found in these locations.
- The city comes under Tier 1 with higher elderly population. The hot spots are densely populated in the city.
- The location is accessible via major roads, highways, or public transport, making it easier for customers and for receiving supplies.



Asilmetta



Arilova

Recommendations

Price elasticity for increase in profits:

Elasticity of demand can be defined as ”the degree of responsiveness of quantity demanded to a change in price”. It thus represents the rate of change in the quantity demanded due to a change in price.

Formula:

$$price\ elasticity = \frac{\text{proportionate change in the quantity demanded}}{\text{Proportionate change in price}}$$

Factors determining price elasticity:

1. Availability of substitutes: Focus on differentiation or creating unique value to reduce elasticity and maintain pricing power.
2. Brand Loyalty: Build brand loyalty through networking and customer experience to allow for price increases without losing demand.
3. Market Competition: Assess market competition when setting prices and strive to limit elasticity through differentiation.
4. Urgency of goods: These are goods that consumers need immediately and cannot delay purchasing. Supplying urgent goods may have greater pricing power, as consumers are less likely to reduce their demand.

Profit Margin Optimization Strategies Using Elasticity:

1. Identify elasticity of key products: Products which are in A and B categories have a chance of maintaining decent and extraordinary margins. Use of historical sales data helps in determining the margin of the product.
2. Dynamic pricing: Useful while adjusting to real-time market based on demand fluctuations to maintain decent margins.

3. Bundle elastic products: Offering bundled packages to increase sales volume and manage inventory.
4. Gradual increase: Gradually increase prices of inelastic medicines to maximize revenue without significant demand loss.

Inventory Management:

1. Implement ABC analysis:
    - Closely monitor and forecast demand for **A items** to avoid overstocking.
    - Use balanced controls for B items.
    - Automate ordering for C items to reduce manual workload.
2. Leverage Inventory management software: Marg ERP software is specifically designed for pharmaceuticals and manufacturing unlike tally which is designed for taxation and accounting. It does not take negative stocks and throws an error when the inventory is empty. It offers specific modules like drug expiry and batch tracking.
3. Inventory aging: Track expiry dates and use FIFO which ensures that older stock is sold before newer inventory. Push the nearing – expiry items with special offers.
4. Just-in-time Inventory: Maintain minimal stock and order goods as needed. It reduces storage costs and minimizes the risk of expired products. Urgency medicines and fast-moving drugs require quick refiling .
5. Credit and debit notes: Extensive use of credit and debit notes might ensure that the distributor does not encounter loss due to expiration . Drugs at the edge of expiry should be sent back to the supplier as they can sell it more cheaply , thus avoiding a potential loss.

Ideal Relocation:

Relocation is a significant decision that requires careful planning and consideration to ensure it aligns with business goals. It should be economically feasible for the firm to maintain profits.

There are 2 centers in the city , which are surrounded by a great number of medical clinics and stores. They are the potential relocation locations which can ensure better supply chain management and ensure profits.

Out of the two locations , Asilmetta jn is better suitable for relocation as it is situated in the center of the city. Heart of the city might be ideal for selling kidney drugs. Various hospitals like Seven hills, KIMS, Omni RK and the top vendors in volume pareto Panacea ,Gupta Medicals ,Global medical and Shree Krishna are present in the location. It allows for quicker transportation and maintains brand loyalty. Urgent medicines and short span medicines can be transported in quick time as they are required at emergency times. The rent might be a bit higher , but considering the business potential in the area , the rent factor can be overseen and neglected.