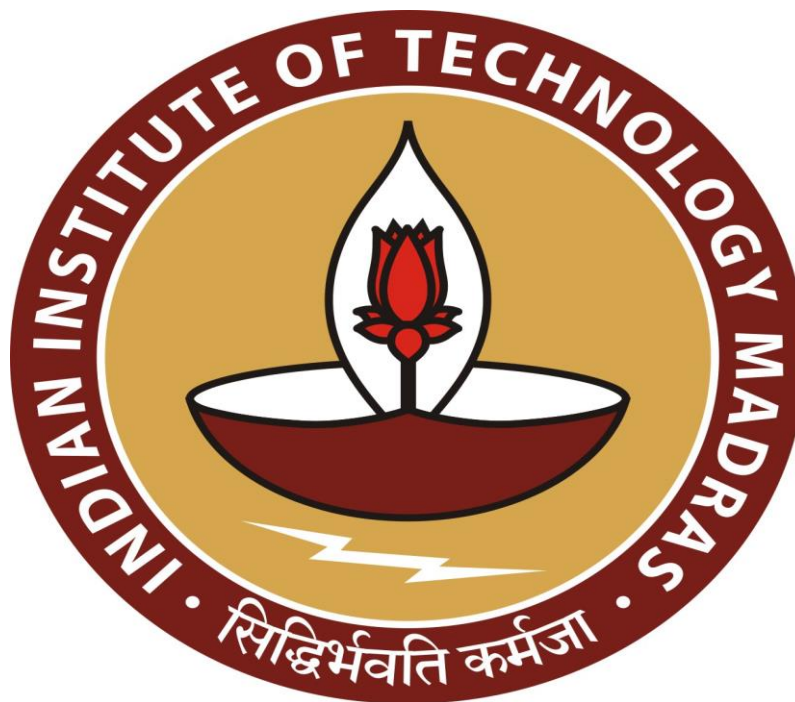# Harnessing Data For Pharma Excellence
A EndTerm report for the BDM capstone Project


Submitted by

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## 1) Executive Summary and Title :

Mr. Srinivas Rao K, the Managing Director of Medicure Lifesciences India Pvt Ltd, founded the company in 2009 in Hyderabad. Since its inception, Medicure has grown into a strong regional pharmaceutical marketing and sales company, achieving an annual turnover of ₹30 crore. With over 40 employees (expected to increase to 70), the organization has built a robust presence across Telangana, Andhra Pradesh, Maharashtra, and Goa, promoting over 120 high-quality and affordable pharmaceutical brands.

Despite its growth, Medicure is currently facing serious operational challenges affecting long-term profitability and competitiveness. These include high employee attrition (especially among mid-level talent), difficulty maintaining competitive yet profitable pricing strategies, and inefficiencies in adapting to rapid market shifts—especially the frequent release of new drug molecules by competitors. These issues are weakening the company's market positioning, increasing operational costs, and impeding scalability.

To address these challenges, this capstone project adopted a data-driven approach with a focus on employee performance trends, pricing strategy evaluation, and supply chain optimization. The methodology involved cleaning and analyzing HR and sales datasets, using Excel and Python tools to generate visual insights such as scatter plots, trend graphs, and pricing variance charts. Early findings showed that attrition is most common among the 30–50 age group with mid-tier salaries, indicating a possible disconnect between compensation and role satisfaction. Pricing analysis uncovered inconsistent MRP-to-PTR ratios across therapeutic segments, while competitor mapping exposed major gaps in market positioning.

This report presents a structured analysis of these challenges and concludes with actionable recommendations aimed at reducing attrition, optimizing pricing, and aligning supply chain operations with demand. The ultimate goal is to use data to improve strategic decision-making, ensuring that Medicure remains competitive, agile, and profitable in the evolving pharmaceutical marketplace.

## 2) Detailed Explanation of Analysis Process/Method :

As **Data Collection & Cleaning**: Employee demographic and salary data were collected with permissions. Employee data consisted of 48 rows and 18 columns. Excel was used for data cleaning (removing null values, standardizing age/salary ranges).

### Objective 2.1: Attrition Analysis for Employee Retention

- **Approach**:

i) Introduced a "Status" column to distinguish active vs. exited employees.

ii) Grouped employees by **Age Group** and **Salary Group** using conditional logic.

- **Excel Tools**:

  i) Pivot Tables to summarize exit rates.

  ii) Bar Charts to visualize exits across age and salary bands.

- **Formula Used**:

  i) Calculated employee age from Date of Birth using the formula:
  =DATEDIF(DOB, TODAY(), "Y")

  ii) Categorized employees into custom age groups (e.g., 20–30, 30–40, etc.) using nested IF formulas like:
  =IF(Age<=30,"20–30", IF(Age<=40,"30–40", IF(Age<=50,"40–50","50+")))

  iii) Employees were grouped by age and salary bands

  iv) Attrition rates were calculated using:

**Attrition Rate Formula:**

$$\text{Attrition Rate} = \left( \frac{\text{Number of Exits}}{\text{Total Employees}} \right) \times 100$$

  v) Excel bar charts visually represented age and salary trends in attrition.

- **Purpose**: Identify at-risk employee segments to suggest retention strategies like personalized benefits or salary correction.

| DOJ | DOB | DESIG | COMPANY | CTC | GROSS SAL CTC | PF(W EFNOV21) | PF (EMPLYEE CONT) | DEDUCTIONS | TDS | EXPENSE S | NET PAYABLE | Bank details | PAN | Age | age group | Salary | salary group | Attrition status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01.11.2020 | 6/17/1973 | GM | MEDICURE | 2121600 | 186800 | 1800 | 1800 | 200 | 20000 | 0 | 163000 | 05211050074180 HDFC | AFTPD2911D | #VALUE! | >=50 | 163000 | High | Active |
| 01.01.2021 | 1/4/1990 | RBM | MEDICURE | 751200 | 80000 | 1800 | 1800 | 200 | 5000 | 0 | 73000 | 914010037778126 AXISBANK | CZRPK3720M | 35 | 30-40 | 73000 | High | |
| 01.12.2023 | 6/25/1983 | HR CONSULTANT | MEDICURE | 765600 | 63800 | 1800 | 1800 | 200 | | | 60000 | 165412010001286 UBIN0816540 UNION BANK | DWKPK6458P | 41 | 40-50 | 60000 | High | Active |
| 21.06.2021 | 7/26/1991 | BDE | REMEDY | 415272 | 34606 | 1203 | 1203 | 200 | 0 | 0 | 32000 | | BBFPM1083A | 33 | 30-40 | 32000 | Medium | Active |
| 25.05.2022 | 1/17/1996 | BDE | REMEDY | 303184 | 24932 | 866 | 866 | 200 | 0 | 0 | 23000 | 602701553853 ICIC0002531 TENALI | EWRPD9558R | 29 | 20-30 | 23000 | Medium | Active |
| 01.11.2018 | 6/5/1964 | BE | REMEDY | 386672 | 31918 | 1109 | 1109 | 200 | 0 | 0 | 29500 | | JIOPK3418R | 60 | >=50 | 29500 | Medium | Active |
| 21.11.2022 | 9/23/1998 | BE | MEDICURE | 394632 | 32886 | 1143 | 1143 | 200 | | | 30400 | | ACXPE6616P | 26 | 20-30 | 30400 | Medium | Active |
| 01.06.2024 | 1/1/1998 | BDE | MEDICURE | 221160 | 18430 | 640 | 640 | 150 | 0 | 0 | 17000 | | | 27 | 20-30 | 17000 | Low | Active |
| 04.07.2024 | 9/23/1987 | ABM | MEDICURE | 621600 | 51800 | 1800 | 1800 | 200 | 0 | 0 | 48000 | | | 37 | 30-40 | 48000 | Medium | Active |
| 18.12.2023 | 1/1/1993 | BE | MEDICURE | 318000 | 25900 | 900 | 900 | 200 | | | 23900 | 770301502421 ICIC0007703 | GPDPP6403J | 32 | 30-40 | 23900 | Medium | Active |
| 01.06.2024 | 4/22/2001 | BE | MEDICURE | 260496 | 21708 | 754 | 754 | 200 | 0 | 0 | 20000 | | | 24 | 20-30 | 20000 | Medium | Active |
| 16.08.2023 | 12/5/1982 | ABM | MEDICURE | 408816 | 34068 | 1184 | 1184 | 200 | | | 31500 | 30236991443 SBIN0018051 | AJYPV0766F | 42 | 40-50 | 31500 | Medium | Active |
| 08.04.2022 | 8/22/1984 | BE | MEDICURE | 283080 | 23590 | 820 | 820 | 200 | 0 | 0 | 21750 | | BAGPB0724B | 41 | 40-50 | 21750 | Medium | Active |
| 11.12.2023 | 4/21/1990 | BE | MEDICURE | 286872 | 23906 | 1353 | 1353 | 200 | 0 | 0 | 21000 | 41579831475 SBIN0020044 | EZBPM8186D | 35 | 30-40 | 21000 | Medium | Active |
| 08.09.2021 | 5/11/1990 | BE | MEDICURE | 373992 | 31166 | 1083 | 1083 | 200 | 0 | 0 | 28800 | 62300843449 SBI IFSC SBIN0020049 | CJYPC9273J | 34 | 30-40 | 28800 | Medium | Active |
| 10.06.2013 | 9/4/1978 | office staff | REMEDY | 411384 | 34282 | 1191 | 1191 | 200 | 0 | 0 | 31700 | 920010050696990 AXIS BANK | AFYPJ9083M | 46 | 40-50 | 31700 | Medium | Active |
| 19.07.2019 | 10/18/1998 | office staff | MEDICURE | 287592 | 23966 | 833 | 833 | 200 | 0 | 0 | 22100 | 920010050696990 AXIS BANK | CKCPC2790P | 26 | 20-30 | 22100 | Medium | Active |
| 01.04.2022 | 1/1/1997 | OFFICE BOY | REMEDY | 227616 | 18968 | 659 | 659 | 150 | 0 | 0 | 17500 | 279801503677 ICIC0002798 | FWFPP6738G | 28 | 20-30 | 17500 | Low | Active |
| 01.04.2022 | 6/21/1997 | OFFICE BOY | REMEDY | 227616 | 18309 | 659 | 659 | 150 | 0 | 0 | 16841 | 57750100007978 BOB | CFMPR6549L | 27 | 20-30 | 16841 | Low | Active |
| 01.01.2024 | 9/21/2002 | OFFICE BOY | MEDICURE | 205008 | 17084 | 967 | 967 | 150 | 0 | 0 | 15000 | 6711101004013 CNRB0006711 CANARA BANK | GANPP5205D | 22 | 20-30 | 15000 | Low | Active |
| 01.09.2022 | 7/24/1984 | OFFICE BOY | MEDICURE | 227616 | 18968 | 659 | 659 | 150 | 0 | 0 | 17500 | 068001517879 ICIC0000980 | BFPPM8673A | 40 | 40-50 | 17500 | Low | Active |
| 01.09.2024 | 12/23/2003 | OFFICE BOY | REMEDY | 195384 | 15716 | 566 | 566 | 150 | | 0 | 15000 | | | 21 | 20-30 | 15000 | Low | Active |
| 01.09.2024 | 1/1/1985 | OFFICE BOY | REMEDY | 154752 | 12448 | 448 | 448 | 0 | 0 | 0 | 12000 | | | 40 | 30-40 | 12000 | Low | Active |
| 01.01.2022 | 1/2/1987 | OFFICE ASST | MEDICURE | 257280 | 21440 | 745 | 745 | 200 | 0 | 0 | 19750 | 38836886100 SBIN0020903 | EWRPM8842M | 38 | 30-40 | 19750 | Low | Active |

| Count of Attrition status | Column Labels | | |
|---|---|---|---|
| Row Labels | Exited | Grand Total | Attrition Rates |
| ⊟ 20-30 | 1 | 1 | |
| Low | 1 | 1 | 16.67 |
| ⊟ 30-40 | 2 | 2 | |
| Medium | 2 | 2 | 20 |
| ⊟ 40-50 | 2 | 2 | |
| Medium | 2 | 2 | 40 |
| Grand Total | 5 | 5 | |

Objective 2.2: Salary Disparity and Its Role in Attrition

- **Approach**:
    - i) Categorized employees by **Age Group**.
    - ii) Used AVERAGEIFS() to compute average salary for each group.
- **Excel Tools**:
    - i) **Heatmaps** to highlight disparity in salary distribution.
    - ii) **Bar Charts** for side-by-side comparison of group averages.
- **Formulas Used**:

$$Average\ Salary = \frac{Total\ Salary}{Number\ of\ Employees}$$

- **Purpose**: Detect unfair pay gaps that may contribute to dissatisfaction or attrition, enabling corrective action.

| Row Labels | Average of Salary |
|---|---|
| >=50 | 96250 |
| 20-30 | 18684.1 |
| 30-40 | 28566 |
| 40-50 | 28631.25 |
| Grand Total | 29625.17143 |

Objective 2.3: Optimizing Pricing Strategy Using Internal Ratios

- **Approach**:
    - i) Cleaned and aligned product pricing data (MRP, PTR, PTS).
    - ii) Created computed columns for price ratio analysis.
- **Excel Tools**:
    - i) **Line Charts** for product-wise comparison of R1 and R2.
- **Formula Used**:

$$\text{MRP-to-PTR Ratio } (R1) = \frac{MRP}{PTR}, \quad \text{PTS-to-PTR Ratio } (R2) = \frac{PTS}{PTR}$$

- **Purpose**: Identify inefficiencies and over-/under-priced products to build a dynamic, data-driven pricing model.

| S.NO | PRODU | COMP | COMP | MRP | PTR | PTS | pts |
|---|---|---|---|---|---|---|---|
| 9 | CALCYDO | Calcium C | MEDICURI | 168 | 113.9 | 102.51% | 102.51 |
| 17 | DIAWEL-D | Vit D3 + A | MEDICURI | 130 | 88.14 | 79.33% | 79.326 |
| 19 | FERRO-UP | Ferrious A | MEDICURI | 110 | 74.58 | 67.12% | 67.122 |
| 85 | VERTIMED | BETAHIST | MEDICURI | 95 | 67.8 | 61.02% | 61.02 |
| 33 | LOSACURE | Losartan P | MEDICURI | 29 | 20.71 | 18.64% | 18.639 |
| 26 | GLIMICUR | Gliperide | MEDICURI | 36 | 25.71 | 23.14% | 23.139 |
| 5 | BETAMET | Metoprolo | MEDICURI | 43 | 30.71 | 27.64% | 27.639 |
| 1 | ACECURE | Aceclofen | MEDICURI | 50 | 35.71 | 32.14% | 32.139 |
| 69 | TELMICUR | Telmisarta | MEDICURI | 38 | 27.14 | 24.43% | 24.426 |
| 43 | MEDIMET | Glimeperi | MEDICURI | 78 | 55.71 | 50.14% | 50.139 |
| 73 | TELMICUR | Telmisarta | MEDICURI | 78 | 55.71 | 50.14% | 50.139 |
| 6 | BETAMET | Metoprolo | MEDICURI | 59 | 42.14 | 37.93% | 37.926 |
| 13 | COX Ease | Etoricoxib | MEDICURI | 99 | 70.71 | 63.64% | 63.639 |
| 49 | MEDIPAN- | Pantopraz | MEDICURI | 99 | 70.71 | 63.64% | 63.639 |
| 76 | TELMICUR | TELMISAR | MEDICURI | 99 | 70.71 | 63.64% | 63.639 |
| 42 | MEDIMET | Glimeperi | MEDICURI | 66 | 47.14 | 42.43% | 42.426 |
| 80 | TENELISAR | TENELIGLI | MEDICURI | 106 | 75.71 | 68.14% | |

| name | mrp/ptr | pts/ptr |
|---|---|---|
| CALCYDON K2 Cap | 1.474978 | 0.9 |
| DIAWEL-D soft gelCap | 1.474926 | 0.9 |
| FERRO-UP Cap | 1.474926 | 0.9 |
| VERTIMED-16 Tab | 1.40118 | 0.9 |
| VOGLIMED M 0.2 Tab | 1.4 | 0.9 |
| TELMICURE 80H TAB | 1.399984 | 0.9 |
| ROSACURE ASP Cap | 1.399878 | 0.9 |
| ANXICURE 0.5 Tab | 1.399825 | 0.9 |
| METACURE 850 IPR Tab | 1.399825 | 0.9 |
| LOSACURE 50 Tab | 1.399825 | 0.9 |

Objective 2.4: Competitive Pricing Benchmarking

- **Approach**:
  - i)   Merged Medicure's pricing data with publicly available on internet competitor prices.
  - ii)  Computed pricing deltas to understand market positioning.
- **Excel Tools**:
  - i)   **Scatter Plots** to visualize pricing gaps across product categories.
- **Formula Used:**

$$\Delta\text{MRP} = \text{MRP}_{\text{Medicure}} - \text{MRP}_{\text{Competitor}}$$

- **Purpose**: Benchmark against competition to inform strategic pricing corrections and maintain market competitiveness.

| mls | Primus Remedies | Sun Pharmacies |
|---|---|---|
| 115 | 99 | 77 |
| 225 | 251 | 239 |
| 104 | 119 | 105 |
| 70 | 63 | 68 |
| 50 | 42 | 30 |
| 140 | 186 | 94 |
| 58 | 43 | 49 |
| 75 | 33 | 81 |

Objective 2.5: Analyzing New Product Launch Trends

- **Approach**:
  - i)    Filtered sales data from April to September 2024 for new molecules.
  - ii)   Grouped data by **Therapeutic Area** and **Composition**.
- **Excel Tools**:
  - i)    **Stacked Bar Charts** to track therapeutic category performance.
- **Formula Used:**

$$\text{Growth Rate} = \left( \frac{\text{Sales}_{\text{Sep}} - \text{Sales}_{\text{Apr}}}{\text{Sales}_{\text{Apr}}} \right) \times 100$$

- **Purpose**: Identify fast-growing therapeutic segments to prioritize R&D, marketing, and inventory investment.

| Month | Telmisartan | Rosuvastatin | Glimeperide+ Metformin | Linagliptin | Hydroxyzine |
|---|---|---|---|---|---|
| Apr-24 | 181 | 135 | 68 | 429 | 0 |
| May-24 | 0 | 64 | 111 | 0 | 0 |
| Sep-24 | 0 | 0 | 0 | 0 | 101 |

<u>Objective 2.6: Price Variability Analysis Across Product Categories</u>

- **Approach**:
  - i) Aggregated pricing data by **Product Category**.
  - ii) Calculated quartiles, mean, and IQR to analyze variability.
- **Excel Tools**:
  - i) **Box Plots** created via formula-driven charts.
  - ii) **Column Charts** for average price by category.
- **Focus**:
  Used outlier detection and variability analysis to refine pricing structure.
- **Purpose**: Enable data-backed pricing decisions and refine launch strategy for optimized profitability and competitiveness.

| Category | Price/MRP |  |  |  |  |
|---|---|---|---|---|---|
|  |  | CARDIO | 148 | NEURO | 156 |
|  |  | CARDIO | 264 | NEURO | 148 |
| CARDIO | 49 | DIABETIC | 45 | NEURO | 95 |
|  |  | DIABETIC | 120 | NEURO | 83 |
|  |  | DIABETIC | 110 | NEURO | 124 |
| CARDIO | 83 | DIABETIC | 140 | NEURO | 124 |
|  |  | DIABETIC | 130 | SUPPORT | 50 |
| CARDIO | 41 | DIABETIC | 96 | SUPPORT | 80 |
|  |  | DIABETIC | 115 | SUPPORT | 128 |
|  |  | DIABETIC | 75 | SUPPORT | 99 |
| CARDIO | 59 | DIABETIC | 104 | SUPPORT | 94 |
|  |  | DIABETIC | 134 | SUPPORT | 110 |
| CARDIO | 74 | DIABETIC | 36 |  |  |
|  |  | DIABETIC | 44 | SUPPORT | 109 |
| CARDIO | 85 | DIABETIC | 93 | SUPPORT | 104 |
| CARDIO | 55 | DIABETIC | 115 |  |  |
| CARDIO | 68 | DIABETIC | 105 | SUPPORT | 120 |
| CARDIO | 69 | DIABETIC | 115 | SUPPORT | 279 |
| CARDIO | 68 | DIABETIC | 140 |  |  |
| CARDIO | 29 | DIABETIC | 120 | SUPPORT | 158 |
| CARDIO | 45 | DIABETIC | 34 |  |  |
| CARDIO | 49 | DIABETIC | 65 |  |  |
| CARDIO | 179 | DIABETIC | 78 |  |  |
| CARDIO | 123 |  |  |  |  |

| Medicine name | Category | Price/MRP |
|---|---|---|
| Nepribitor 50 | Cardio | 264 |
| Ticgremed -90 | Cardio | 211 |
| Linain-5 | Diabetic | 118 |
| Linain-M | Diabetic | 133 |
| Tamsimed/D | Support | 179 |
| D3-Vigor Chewable | Neuro | 120 |
| CEQ Max | Support | 372 |

| Category | Average Price |
|---|---|
| Cardio | 237.5 |
| Diabetic | 125.5 |
| Support | 275.5 |
| Neuro | 120 |

## 3) Results and Findings:

### 3.1: Attrition Trends

Based on Figure 1 that's below

Key insights include:

- **Two employees each** in the **30–40** and **40–50** age groups with **medium salary** levels exited the company, representing the peak of observed attrition.
- The **20–30 age group**, although affected by attrition, had fewer exits (only one) and at a **low salary level**, indicating that while entry-level positions experience turnover, it is less prominent.
- This trend suggests a **mid-career attrition issue**—employees who are neither new nor nearing retirement are leaving despite being in moderately compensated roles.

This pattern signals potential dissatisfaction or misalignment during a critical stage of an employee's career. Medium-level salaries might not meet expectations for individuals in their 30s and 40s, especially if they are taking on increased responsibilities or supporting families.

**Implications:**

- **Targeted retention strategies** should be developed for these specific demographics, such as:
  - Mid-career salary reviews and adjustments.
  - Professional development opportunities.
  - Work-life balance initiatives.
- By addressing attrition in this segment, Medicure Lifesciences can reduce **rehiring and training costs**, retain experienced staff, and maintain **organizational continuity**.
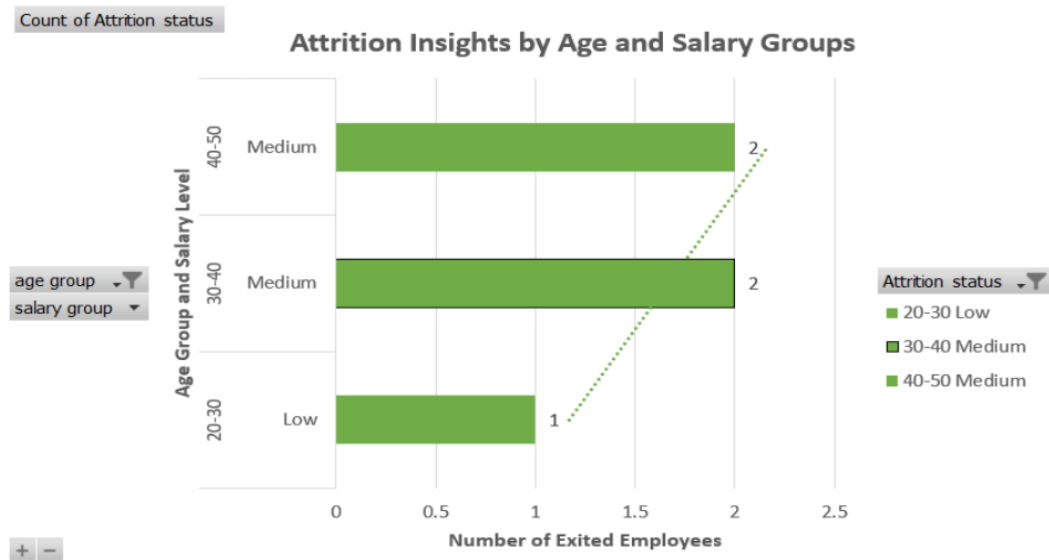
Figure 1: Attrition insights by Age and Salary Groups (Bar chart)

## 3.2: Salary Disparities

The bar chart and heatmap in Figures below clearly illustrate a substantial gap in average salaries across different age groups. The **20–30 age group earns an average of ₹18,684.10**, which is **significantly lower** compared to:

- **30–40** age group: ₹28,566
- **40–50** age group: ₹28,631.25
- **Above 50**: ₹96,250

This stark contrast becomes even more apparent in the heatmap, where the 20–30 age group is highlighted in red (indicating the lowest average), while the 50+ group is marked in green (indicating the highest average). The **overall average salary** across all groups is ₹29,625.17.

**Key Findings:**

- The salary gap between the youngest employees (20–30) and the oldest (50+) is over **₹77,500**, which could significantly influence job satisfaction and retention among junior staff.
- The relatively small salary increase between the 30–50 age brackets suggests a salary plateau, except for those aged over 50.

**Implications:**

This disparity implies potential dissatisfaction among younger employees, which could increase attrition risk. Addressing this gap through **structured pay revisions, performance-based incentives**, or **early career development plans** can improve motivation and reduce turnover. Additionally, **salary compression** in the mid-age groups could lead to long-term dissatisfaction if not addressed strategically.
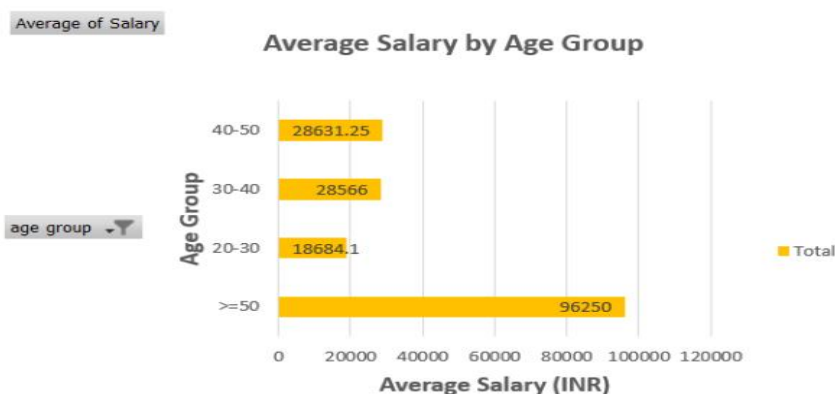
Figure 2: Average Salary by Age Group (Bar chart)



Figure 3: Average Salary by Age Group (Heatmap)

3.3 : Pricing Analysis

The line chart in Figure 4 presents an analysis of **MRP-to-PTR** (Maximum Retail Price to Price to Retailer) and **PTS-to-PTR** (Price to Stockist to Price to Retailer) ratios across a range of pharmaceutical products.

**Key Observations:**

- The **MRP/PTR ratio** (blue line) varies significantly across different drugs, ranging from **0.90153 to 1.48**, highlighting inconsistencies in how pricing is structured.

- The **PTS/PTR ratio** (orange line), however, remains relatively stable across products, fluctuating within a much narrower band (approximately 0.89964 to 0.90153), suggesting consistent margins at the stockist-retailer level.

    **Findings:**

    - Drugs like **CALCIDOX M Cap** and **DANMOL-3 SR Cap** show higher MRP/PTR ratios (~1.48), while others like **LOSCURE 50 Tab** display significantly lower ratios (~0.90), indicating an imbalance in markup strategies.

    - This variation suggests a lack of standardized pricing methodology, potentially impacting consumer affordability, market competitiveness, and profitability.

**Implications:**

    - These inconsistencies signal the need for **pricing optimization** to ensure fair and profitable markups across all products.

    - Standardizing the MRP/PTR ratio can help align pricing strategies, improve transparency across distribution channels, and support **better forecasting and profit planning**.

    - Aligning these ratios more closely may also **enhance brand trust** by reducing perceived
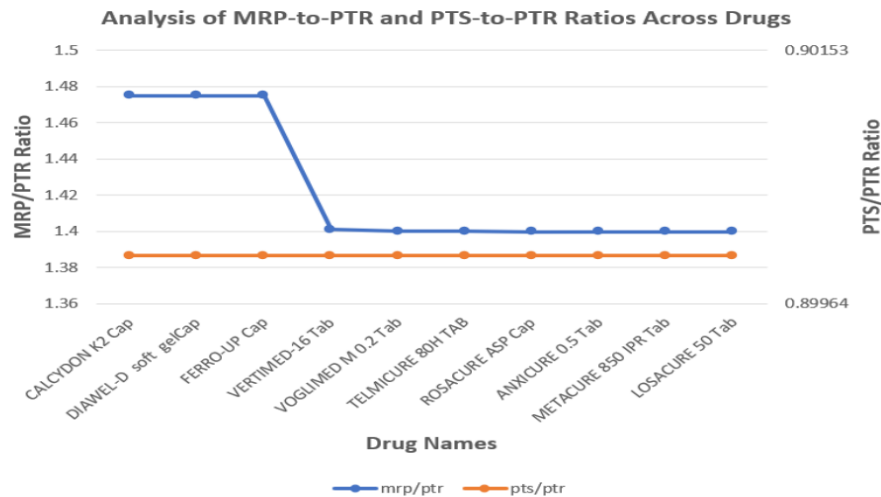
pricing inequities across similar products.



Figure 4: Analysis of MRP/PTR and PTS/PTR Ratios Across Drugs (Line chart)

3.4 : Competitive Pricing

Figure 5 displays a **scatter plot** comparing the **MRP (Maximum Retail Price)** of products from **Medicure Life Sciences** against two competitors: **Primus Remedies** and **Sun Pharmacies**.

**Key Observations:**

- The plotted points indicate that **Medicure's MRPs** frequently deviate from those of competitors across a wide price range.

- **Primus Remedies** (blue) and **Sun Pharmacies** (orange) generally follow a closer price trend with each other, while Medicure prices are occasionally **either significantly lower or higher**.

**Findings:**

- For some products, Medicure is **priced well below** its competitors, which could indicate **underpricing**, potentially affecting perceived quality or profitability.

- For others, Medicure is **overpriced**, which might reduce **market competitiveness** or result in **reduced sales volumes**.

- The inconsistencies in pricing suggest **no standardized approach** to aligning with prevailing market rates.

**Implications:**

- The scatter plot highlights the need for **benchmarking Medicure's pricing** against leading competitors to **maintain competitiveness** and **maximize profit margins**.

- A more **data-driven pricing strategy**, informed by market standards, could enhance **customer trust**, ensure **price competitiveness**, and lead to more **predictable revenue streams**.
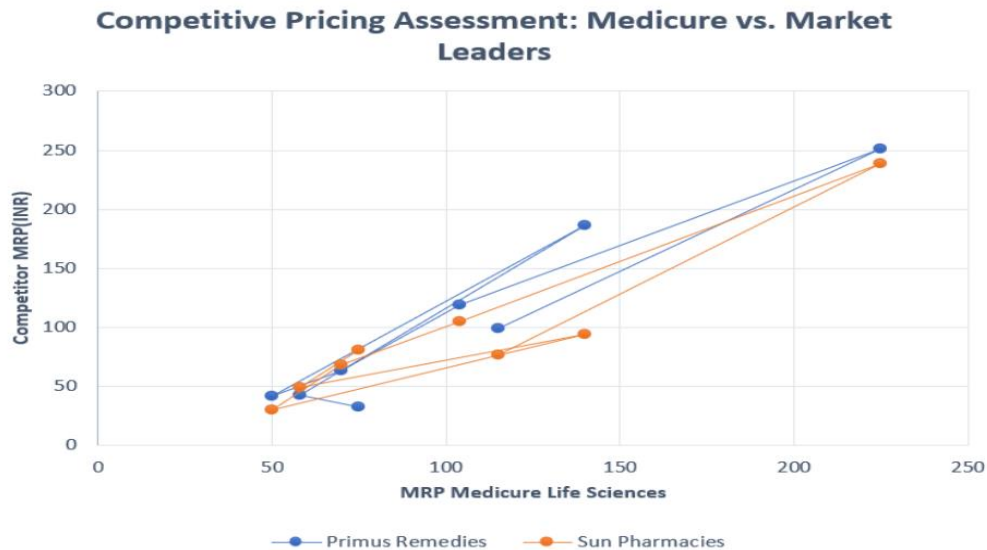
Figure 5: Competitive pricing assessment: Medicure vs. Market leaders (Scatter Plot)

3.5 : New Product Trends

**Figure 6** presents a **stacked bar chart** depicting **sales trends for newly released drugs** from **April to September 2024**, categorized by their base composition.

**Key Observations:**

- Diabetic drugs, such as Linagliptin and Glimepiride + Metformin, show strong sales momentum, especially in recent months.

- Cardiology drugs, including Rosuvastatin and Telmisartan, also perform consistently well, with steady month-over-month growth.

- Hydroxyzine, a newer release for allergic conditions, shows moderate uptake compared to chronic therapeutic segments**.**

**Findings:**

- Linagliptin sales have significantly increased (especially "Linain 5 Tab"), indicating high market acceptance and growth potential in the diabetes segment.

- Rosuvastatin-based products like "Rosachel CV" and "Rosasure Gold" demonstrate solid sales, signaling opportunities in the cardiovascular drug segment.

- Consistent demand across diabetic and cardiac drugs suggests that Medicure's product strategy is aligned with chronic care needs.

**Implications:**

- Focused investment in diabetic and cardiac drug development could enhance long-term profitability.

- Promotional efforts and supply chain support for top-performing drugs may further strengthen market share.

- Monitoring monthly release performance provides early indicators of product success, enabling
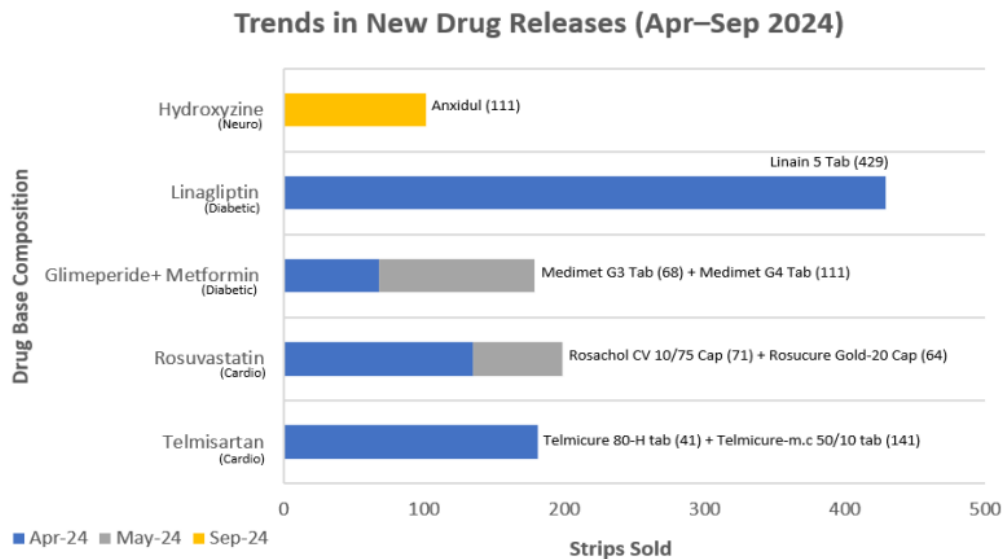
13

proactive resource allocation.



Figure 6: Trends in New drug Releases (apr-sept 2024) (Stacked Bar chart)

3.6 : Pricing Variabilty

**Figures 7, 8, and 9** present box plots and a column chart illustrating price distribution, outliers, and average pricing trends across all Medicure products and newly launched medicines by therapeutic category.

**Key Observations:**

This section analyzes the pricing structure across four therapeutic categories—Cardio, Diabetic, Neuro, and Support—using three different visualizations: box plots for overall distribution and new launches, and a column chart for average pricing trends. Together, these charts reveal disparities in pricing strategy and offer actionable insights for price optimization.

**Figure 7: Price Distribution and Outliers by Category (Box Plot)**

This box plot illustrates the overall price distribution across all products for each category. The Support category stands out with the widest spread in prices and the highest maximum value (INR 372), indicating the presence of premium-priced products. It also has a higher median (approx. INR 174) and interquartile range (IQR), suggesting that Support products are generally priced higher and show considerable variability.

Conversely, the Neuro category shows the lowest price range, with prices clustering tightly around a lower median (approx. INR 100), reflecting a more uniform and budget-conscious pricing approach. Cardio and Diabetic categories fall in between, showing moderate variance and pricing tiers.
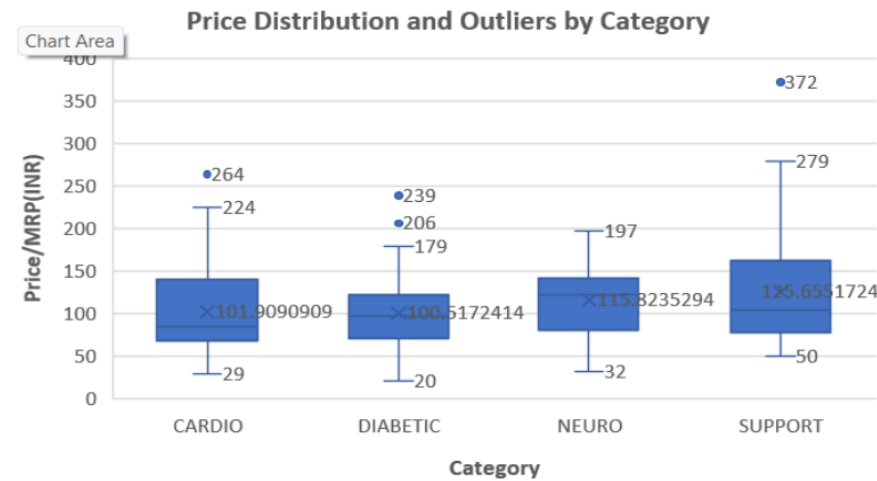
Figure 7: Price distribution and outliers by category (Box Plot)

**Figure 8: Distribution of New Medicine Launches Across Categories (Box Plot)**

This chart focuses specifically on recent product launches, offering a clearer picture of current pricing trends and strategic positioning. The Support category again shows dominance with the highest new product price at INR 372 and an average around INR 279.5, reinforcing its premium position in the portfolio.

Notably, new launches in the Neuro segment average only INR 120, consistent with the earlier observation of low baseline prices in this category. The Diabetic category has products clustered around INR 125.5, while Cardio new products average INR 237.5, reflecting its strong market presence and relatively higher price tolerance.

This box plot also includes individual product labels (e.g., "Teninend D," "Uniaz-M"), offering granular insight into which products influence the average pricing in each category.
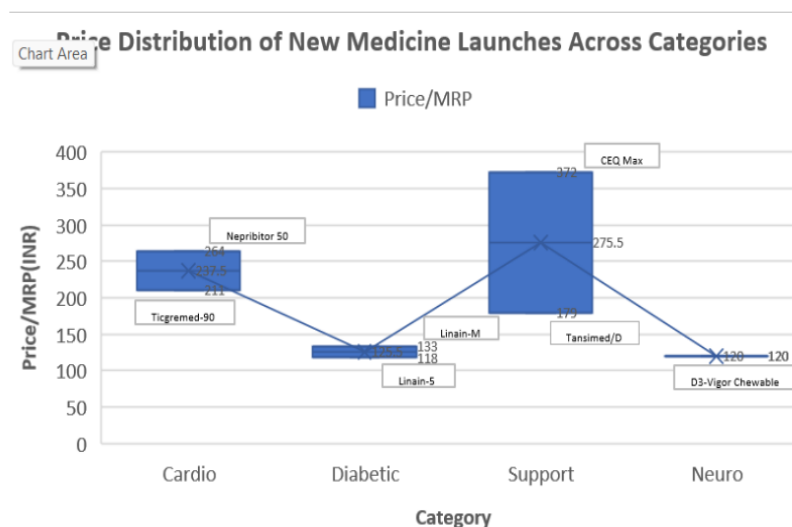


Figure 8: Distribution of new medicine launches across categories (Box Plot)

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**Figure 9: Average Pricing Trends by Category (Column Chart)**

The bar chart provides a direct visual comparison of average prices across categories for new product launches. The Support category leads with an average price of INR 277.5, followed by Cardio at INR 237.5, Diabetic at INR 125.5, and Neuro at INR 120.

This consistent ranking across figures validates the earlier analyses and confirms that the Support category has adopted a high-price, possibly high-margin strategy, while Neuro and Diabetic are positioned as lower-cost, potentially high-volume segments.
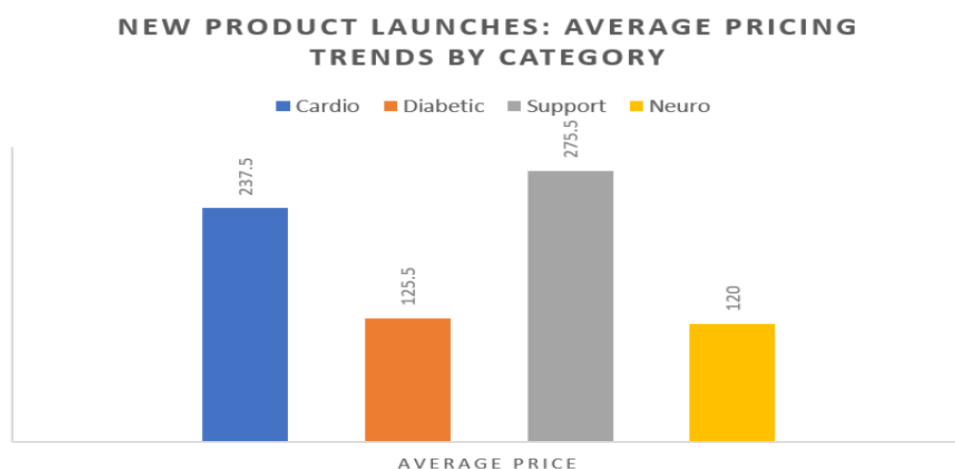


Figure 9: New product launches: Average pricing trends by category (Column chart)

**Findings:**

1. Support category exhibits the highest average pricing and the widest variability, indicating a strategic emphasis on premium positioning. The presence of outliers suggests a mix of both mid-range and high-end products.

2. Neuro products are significantly underpriced compared to other categories, with both new and existing products averaging around INR 120. This may reflect either a commoditized market or lack of pricing power.

3. Cardio and Diabetic categories display moderate pricing levels with consistent mid-range averages, aligning with chronic care treatment norms.

4. New launches in the Support category are priced aggressively, potentially aimed at capturing high-margin market segments, while launches in Neuro and Diabetic reflect cost-sensitive targeting.

5. The stability of average pricing across all three figures strengthens the reliability of the trend analysis.

**Implications:**

- Reevaluate Neuro and Diabetic Pricing: The significantly lower average prices in these categories suggest a potential undervaluation or missed margin opportunities. Revising pricing strategies or bundling with complementary products could increase revenue without alienating customers.

- Optimize Support Category Pricing: While Support products show strong average prices, the large spread and outliers may require refinement to avoid price confusion or resistance. Clear tiering and communication of value propositions are critical.

- Targeted Promotional Strategies: With Cardio and Support categories showing higher price tolerance, focused promotions could improve both volume and profitability.

- Product Portfolio Review: A pricing audit across the full portfolio may uncover imbalances in value perception and help Medicure better align pricing with therapeutic importance, competition, and production costs.

- Data-Driven Pricing Governance: Establishing a price monitoring system can help detect anomalies, outliers, and performance trends early, allowing agile adjustments based on market response.

4) **Interpretation of Results and Recommendation**:

**4.1 Recommendation 1: Reduce Employee Attrition through Targeted Retention Strategies**
(Based on Figure 1: Employee Attrition Analysis)
The attrition heatmap revealed notable exits among employees aged 25–35, especially in sales and field roles.
Recommended Actions:
- Improve Work Culture: Conduct regular engagement surveys to understand employee dissatisfaction.
- Career Pathing & Training: Introduce structured career growth plans and upskilling programs.
- Performance Incentives: Launch bonus and recognition programs to retain top performers.

Expected Business Impact: Improved talent retention, reduced rehiring costs, and stronger sales continuity.

**4.2 Recommendation 2: Address Salary Disparity to Promote Equity and Satisfaction**
(Based on Figure 2: Salary Disparity Analysis)
Box plots highlighted significant salary disparities, particularly across the same designations and age groups.
Recommended Actions:
- Salary Band Review: Introduce transparent pay bands based on experience, role, and performance.
- Annual Review Mechanism: Institutionalize timely and fair salary revisions with documented criteria.
- Internal Equity Audit: Conduct yearly audits to ensure pay equity across gender and job functions.

Expected Business Impact: Higher employee morale, reduced turnover, and improved employer branding.

## 4.3 Recommendation 3: Recalibrate Product Pricing to Match Market Standards

(Based on Figure 3: MRP Comparison with Competitors)

Scatter plot analysis of MRPs revealed that some products were significantly overpriced or underpriced compared to Primus and Sun.

Recommended Actions:

- Competitor Benchmarking: Realign product pricing using dynamic competitor analysis tools.
- Tiered Product Strategy: Offer multiple SKUs (e.g., generic vs. premium) to capture different market segments.
- Price Sensitivity Testing: Use pilot testing in select regions to determine optimal price points.

Expected Business Impact: Increased price competitiveness, better value perception, and stronger market penetration.

## 4.4 Recommendation 4: Leverage Trends in New Product Launches for Strategic R&D Investment

(Based on Figure 4: Product Trend & Launch Performance)

Line chart trends indicated higher uptake in diabetic and cardiac segments, while newer therapeutic areas showed slower adoption.

Recommended Actions:

- R&D Prioritization: Channel R&D budget toward high-growth chronic care drugs.
- Product Positioning: Improve awareness of newer therapies via HCP (healthcare professional) engagement and patient education.
- Post-Launch Feedback Loop: Gather market data on new launches to refine future R&D decisions.

Expected Business Impact: Better ROI on R&D spend, faster break-even on new launches, and stronger product lifecycle management.

## 4.5 Recommendation 5: Optimize Inventory Based on Sales Performance Trends

(Based on Figure 5: Monthly Product Sales vs. Inventory & Uptake)

Sales and inventory analysis showed that some products like Hydroxyzine have slower movement, while diabetic and cardiac drugs consistently outperform.

Recommended Actions:

- Demand-Based Stocking: Align inventory levels with past sales trends and seasonality data.
- Avoid Overstocking New Drugs: Introduce conservative launch-phase inventory plans.
- Dynamic Restocking: Use Excel forecasts to time restocking before high-sales periods (e.g., month-end spikes).

Expected Business Impact: Reduced inventory holding costs, increased cash flow, and minimized dead stock risk.

## 4.6 Recommendation 6: Strategic Promotions for Top-Selling Therapeutic Categories

(Based on Figure 6: Monthly Therapeutic Segment Performance)

Drugs related to diabetes and cardiovascular health—like Linain 5 Tab and Rosachel CV—show sustained monthly growth.

Recommended Actions:

- Promotional Focus: Run region-specific campaigns highlighting the success and benefits of chronic care drugs.
- Doctor Referral Programs: Offer incentives for doctors recommending top-selling products.
- Patient Loyalty Programs: Launch packs or subscriptions for chronic patients to build retention.

Expected Business Impact: Sustained revenue from repeat customers, increased doctor preference, and improved market share in chronic segments.

## 4.7 Recommendation 7: Enhance Visual Merchandising and Retail Outreach

(Based on Figures 7–9: Final Combined Visuals on Price vs. Uptake)

Scatter plots and combined visuals confirmed that products with clearer pricing and strong MRP positioning performed better in retail.

Recommended Actions:

- Retail Kits & Displays: Distribute POS (point-of-sale) materials, shelf branding, and visual aids for better product placement.
- Retailer Incentives: Reward pharmacists for stocking and selling Medicure's fast-moving items.
- Customer Awareness Drives: Use QR codes and brochures for quick access to drug info and benefits.

Expected Business Impact: Better in-store visibility, stronger retail partnerships, and improved brand recall at the point of purchase.

## 5) Conclusion:

The in-depth data analysis of Medicure Life Sciences has yielded critical insights across multiple dimensions of the business, offering a roadmap for strategic improvement and sustainable growth. Beginning with the workforce analysis, high attrition rates in specific departments, particularly among younger employees or lower-tier positions, point toward underlying issues in employee satisfaction, retention policies, and salary structures. Addressing these challenges by implementing competitive compensation, career progression pathways, and employee engagement initiatives can reduce turnover and foster long-term organizational stability.

In terms of financial evaluation, the salary disparity analysis revealed the need for more structured, performance-based compensation models that align with industry standards. Such a shift would not only enhance employee morale but also support talent acquisition and retention in a competitive market.

The pricing and sales analysis highlighted clear trends in consumer demand and market positioning. Products in the diabetic and cardiac segments—particularly Linagliptin, Glimepiride + Metformin, and Rosuvastatin combinations—are consistently high-performing, reflecting growing chronic care needs in the population. The company's focus on these therapeutic segments is well-aligned with current demand, and further investment in product development, brand promotion, and wider distribution can yield substantial returns. On the other hand, newly introduced products, such as Hydroxyzine, are experiencing slower uptake, suggesting a need for stronger market education, promotional campaigns, or repositioning efforts.

Inventory analysis uncovered opportunities for better stock management and restocking practices. Aligning procurement schedules with historical demand peaks, particularly for top-selling SKUs, can prevent both overstocking and stockouts, enhancing cash flow and service levels. The current ratio analysis further underscored the need to increase current assets—primarily through sales growth and inventory turnover—rather than reducing essential liabilities, to improve the company's short-term financial health.

Comparative pricing data against competitors like Primus Remedies and Sun Pharmacies indicates that Medicure can optimize its pricing strategies. While competitive overall, some products may benefit from value-based pricing, bundling, or targeted promotions to better attract prescribers and patients. Improved physical or digital store displays, B2B platform presence, and focused promotions can also boost brand visibility and drive volume.

The key takeaway from the analyses is the need for strategic alignment across operations, product portfolio, and market tactics. By investing in talent, optimizing pricing, focusing on top products, and improving inventory, Medicure Life Sciences can boost profitability and competitiveness. To stay agile in the evolving pharma sector, ongoing monitoring, data-driven decisions, and continuous improvement must remain central to its strategy.

**Links to Datasets:**

1. Product List
2. PF Sheet
3. Meeting Sheet

**Analysis Sheets:**

1. Sheet-1
2. Sheet-2

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END

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