

DATA VISUALISATION

PROJECT PHASE – 2

MIDTERM REPORT

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Data Description

The data set used for the visualization comprises of the annual financial reports of companies for the years 2018, 2019, 2020, 2021 and 2022. Five categories of companies have been considered – three of which have been visualized in the current phase. The annual financial reports (**csv format**) of the following companies have been visualized (by category):

- Food and Beverages
 - ADF Foods
 - Harrisons Malayalam
 - LT Foods
 - KRBL
- Pharmaceuticals
 - Hester Biosciences
 - Ind-Swift
 - Kopran
 - Themis Medicare
- Metals and Mining
 - Godawari Power
 - Impex Ferro Tech
 - Precision Wires
 - Techno craft

Key Elements for Visualization

The goal of the current phase is to visualize the correlation between the profits generated by certain categories of companies and their fund allocations in various domains.

Keeping the aim in mind, we are using the following rows of data from the report for the visualization:

1. Net Profit/(Loss) For the Period
2. Consumption of Raw Materials
3. Purchase of Traded Goods
4. Employees Cost
5. Other Expenses

The expenditure is extrapolated from the rows “Consumption of Raw Materials”, “Purchase of Traded Goods”, “Employees Cost” and “Other Expenses”.

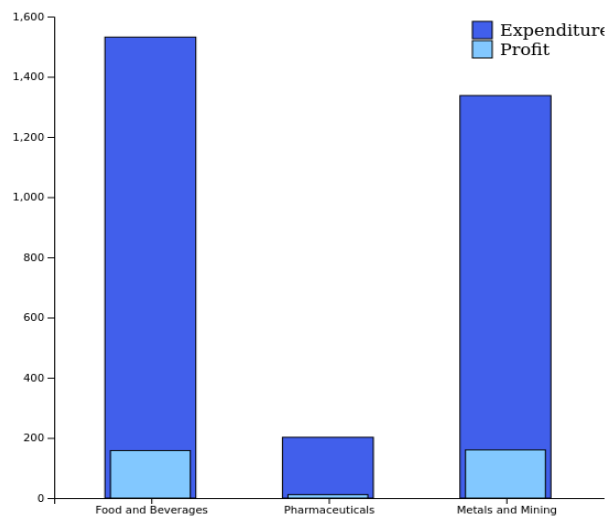
The columns from the report being used are the columns representing the years 2018-2022 corresponding to the above-mentioned rows.

Visualization Design

For representing the data, a 3-tier bar chart structure has been utilized:

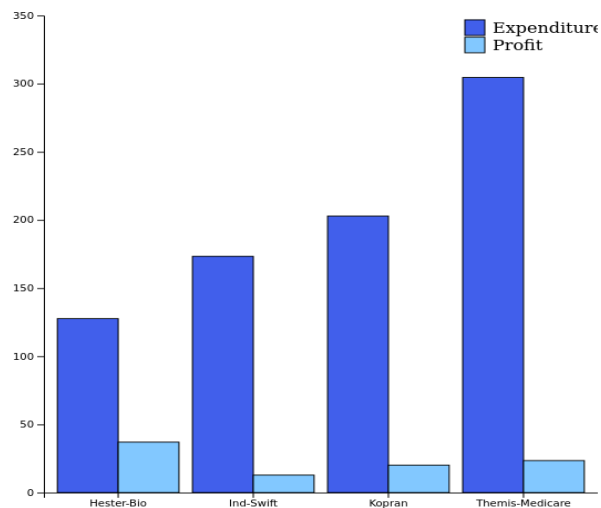
- Tier 1 – Overlapping bar chart

Displays the average profit and average expenditure for the years 2018 - 2022 for each category of companies in one plot



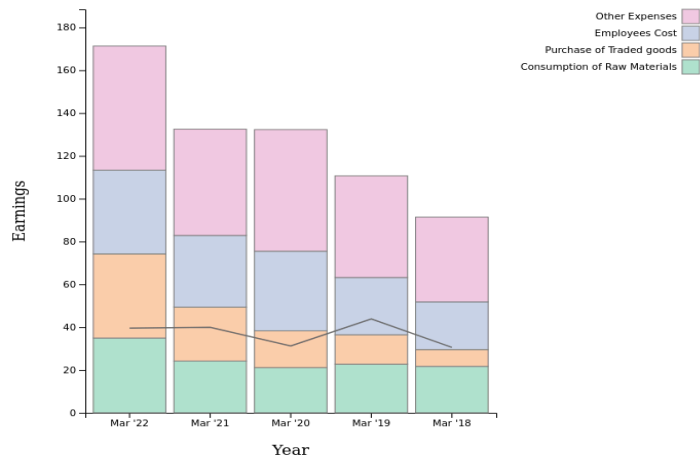
- Tier 2 – Grouped bar chart

Displays the average profit and average expenditure (for the years 2018 - 2022) for all the companies under a specific category in one plot per category. This grouping facilitates an inspection of the relation between the profits generated and funds allocation.



- Tier 3 – Stacked bar chart and line plot

Displays the profit and the domains of expenditure per year per company using a combination of a stacked bar chart for the domains of expenditure and a line plot for the profits.



Justification of Visualization Approach

The visualization design serves its intended purpose for several reasons:

- **Utilization of Bar Graphs:** In bar graphs, key attributes such as magnitude are represented using the most effective channels, such as aligned spatial position and length. By aligning important attributes with these highly noticeable channels, bar graphs ensure that critical information is easily discernible to viewers, facilitating clear understanding and interpretation of the data.
- **Hierarchical Representation:** The bar chart's hierarchical structure offers a transition between high-level summaries and detailed insights. With each tier providing a progressively granular perspective, viewers can navigate from an overarching view of financial data across categories or companies to a more focused

examination of individual entities or specific expenditure domains. This hierarchical arrangement ensures clarity and facilitates concise communication of complex financial information.

- **Comparative Analysis:** By employing overlapping, grouped, and stacked bar charts along with line plots, the visualization facilitates comparative analysis across different categories of companies, individual companies within categories, and expenditure domains over time. This enables viewers to discern trends, patterns, and relative performance effortlessly.

Anticipated Developments

- **Adding Back Button Functionality:** In the next phase, we will implement the functionality to navigate back to the previous visualization using the browser's back button. This enhancement will improve the user experience by allowing users to easily backtrack and review previous visualizations without having to manually navigate through the application.
- **Expansion of Company Categories:** Two additional categories of companies, namely technology and manufacturing, will be included in the visualization. This expansion aims to provide a more comprehensive analysis by incorporating companies from diverse sectors.

CONTRIBUTIONS

Harshitha:

- Level 1, 2 graphs (template)
- Food and beverages industry data
- Linking different graphs

Gadha:

- Level 1, 2 graphs (styling)
- Pharmaceuticals industry data
- Report

Isha:

- Level 3 graph (template, styling)
- materials and mining industry data

SIGNATURES

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