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Automated Fundamental Analysis of Mechanical Engineering based organizations

A B.Tech Project Report

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Under the Supervision

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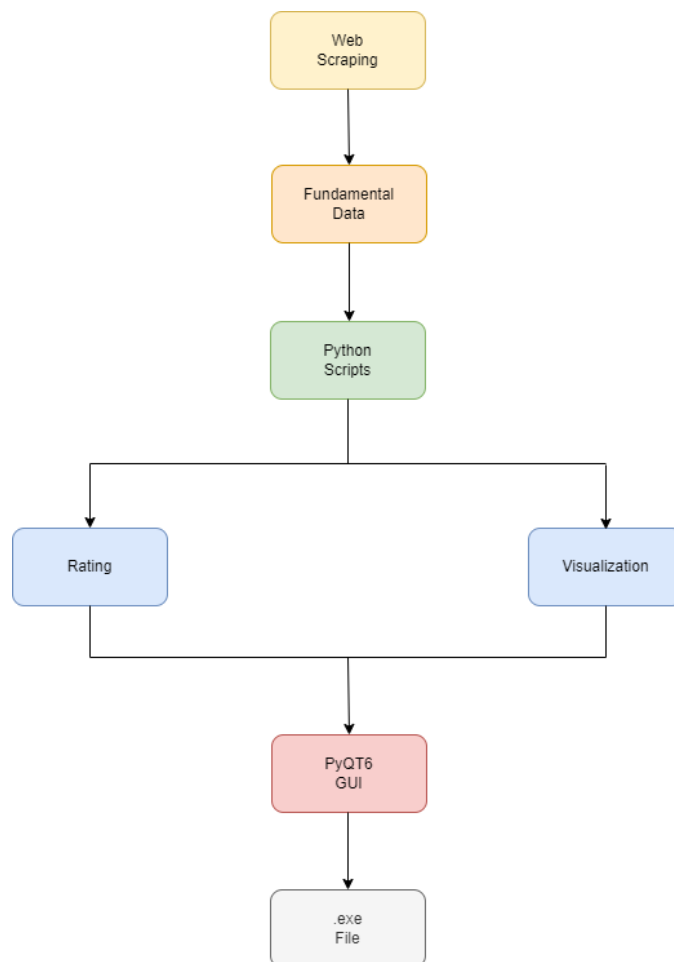


Figure (1)

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Relative Volume

Target Price

Any

IPO Date

Any

Shares Outstanding

Overview

Valuation

Financial

Ownership

Performance

Technical

Custom

Totals: 646 #1

save as portfolio | create

Filters: sec:industrials

Figure (2)

Automated Fundamental Analysis

Upload Fundamental Data

Download Sample CSV

Download Analysis

Visualize Data

Figure(3)

Acknowledgments

We would like to express our profound gratitude to **Dr. Prodyut Ranjan Chakraborty**, of Mechanical Engineering(Associate Professor, Department of Mechanical Engineering, IIT Jodhpur) department, and **Dr. Anuj Pal Kapoor** of School of Management and Entrepreneurship (Assistant Professor, SME, IIT Jodhpur) for the time and efforts they provided throughout the semester to help with our project titled **Automated Fundamental Analysis of Mechanical Engineering organizations**.

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Your useful advice and suggestions were really helpful to us during the project's completion. In this aspect, we are eternally grateful to you.

Last but not least we would like to thank the **Department of Mechanical Engineering, IIT Jodhpur** for providing us with an opportunity to work on this project.

We want to acknowledge that this project was completed entirely by us and not by someone else.

Sincerely,

Jeevesh and Dhruv

Abstract

The purpose of this project is to automate the process of examining the current state of businesses in the mechanical engineering-based industries (which come under the sector of “Industrials”) in order to develop ideas for management enhancement and bolstering of financial performance in these businesses.

In order to automate this process of analyzing the fundamentals we have used techniques like web-scraping, GUI automation, packaging, and data analysis, and combined these with the concepts of finance and industrial engineering.

We employed a range of methods for the theoretical inquiry, including theoretical sources, statistical data analysis, stakeholder conversations, and other financial calculations. Utilizing quantitative research methods, the industry's trends and structural problems were examined. Personal observations and industry expert interviews were used as supplementary techniques. The company's financial independence makes it more important than ever to conduct an analysis in order to boost efficiency and profitability. In order to assess the firms on a percentile basis, we defined industry KPIs and divided the already-existing fundamental indicators into 5 primary categories.

For the technical part of the project, we used the programming language Python and its libraries for the purpose of scraping, automation, analysis, GUI building, and packaging.

The main aim of the project was to help any person ranging from a rookie to an expert get a sophisticated installable file that can be run to fundamentally analyze the “Industrials” sector stocks using conventional and derived analyses so that they can understand the titbits of the important metrics for fundamental analysis, especially for our sector of choice.

1. Introduction

1.1 Objectives

The following are the objectives of the project -

1. Collect and cleanse the fundamental data of various companies from around the world in the “Industrials” Sector.
2. Create a grading system in order to rank the companies on the basis of their fundamental data.
3. Identify the **Key Performance Indicators** for the “Industrials Sector” (Sector KPIs)

4. Grade the companies on the basis of conventional fundamental data and identified **Sector KPIs**
5. Visualize the distribution of the company's overall performance and identify the statistical stakeholders.
6. Create a **GUI (Graphical User Interface)** to make the process interactive and easy-going for a first-time user.
7. Package the GUI into an installable, executable file that can be run in any system without hindrances.

1.2 Theory

Fundamental Analysis

A security's intrinsic value is calculated using fundamental analysis (FA), which looks at relevant economic and financial elements. An investment's intrinsic value is determined by the financial health of the issuing firm, as well as the general market and economic climate.

Fundamental analysts look at all potential influences on a security's value, including microeconomic elements like managerial efficiency and macroeconomic ones like the status of the economy and market circumstances.

The fundamental analysis enables the company to detect problematic business sectors, change the business model, and diversify its internal and external resources for various activities. The ultimate objective is to arrive at a figure that an investor may use to gauge whether an asset is being undervalued or overvalued by other investors by contrasting it with its present price.

Sectors in the stock market

A stock sector is a group of publicly listed businesses that operate in the same basic industry, such as the healthcare, energy, or real estate sectors. In turn, the stocks in each sector share comparable traits.

According to the Global Industry Classification Standard, or GICS, an industry taxonomy created in 1999 by MSCI and Standard & Poors, there are 11 stock market sectors. All large public firms are grouped into 11 sectors, 24 industry groupings, 69 industries, and 158 sub-industries under the overall GICS system.

Sector KPIs

KPIs are measurements that shed light on a company's fundamental financial and operational health. They can be based on any type of data that is significant to a business, including accounts

closed per salesperson, click-through rates for online marketing, and sales per square foot of retail space. Numerous KPIs are ratios that draw attention to significant relationships in data, such as the profit-to-revenue ratio or the current assets-to-current liabilities ratio.

A sector KPI is a KPI that is regarded as being more significant than the standard indicators and is pertinent to a certain sector. These could be implied explicitly or deduced from other theoretical notions.

Financial Ratios

To obtain useful data about a firm, financial ratios are constructed using numerical values collected from financial statements. Quantitative analysis is used to evaluate a company's liquidity, leverage, growth, margins, profitability, rates of return, valuation, and other factors using the data on its financial statements, which include the balance sheet, income statement, and cash flow statement.

The financial ratios, indices, and metrics utilized in the study are:

- Forward Price-to-Earnings(Fwd P/E)
- Price/Earning-to-Growth Ratio(PEG)
- Price-to-Sales Ratio (P/S)
- Price-to-Book Value (P/B)
- Put-Call Ratio (P/C)
- Price to Free Cash Flow Ratio (P/FCF)
- Dividend Payout Ratio
- Earnings Per Share this year (EPS this Y)
- Earnings Per Share next year (EPS next Y)
- Earnings Per Share of last five years (EPS past 5Y)
- Earnings Per Share for next five years (EPS next 5Y)
- Sales past 5Y
- Earning Per Share Quarter-Over-Quarter (EPS Q/Q)
- Salse Quarter-Over-Quarter (Sales Q/Q)
- Insider Ownership (Insider Own)
- Insider Trading (Insider Trad)
- Institutional Ownership (Inst Own)
- Institutional Trading (Inst Trad)
- Short Ratio
- Return-on-Assets (ROA)
- Return-on-Equity (ROE)
- Return-on-Investment (ROI)
- Curr R
- Quick R
- Long Term Debt to Equity Ratio (LTDebt/Eq)
- Debt-to-Equity Ratio (Debt/Eq)
- Gross Margin
- Operating Margin
- Profit Margin
- Performance Month (Perf Month)
- Performance Quarter (Perf Quart)
- Performance Half Month (Perf Half)
- Performance Year (Perf Year)
- Performance Year-to-Date (Perf YTD)
- Volatility M
- Simple-Moving-Average 20 Days (SMA20)
- Simple-Moving-Average 20 Days (SMA50)

- Simple-Moving-Average 20 Days (SMA200)
- 52-Week High (52W High)
- 52-Week Low (52W Low)
- Relative Strength Index (RSI)

The chosen sector - “ Industrials”

This economic sector is varied and has a large number of sub-branches. In a market that is saturated and extremely competitive, businesses must develop their firm strategy in order to acquire sustainable work, keep job opportunities, and give stability. To diversify internal and external resources, develop issue segments, and modify the activity model, managers require knowledge and experience about the company's commercial operations and financial performance.

Mechanical engineering is a widely varied business that includes many different subsectors and is not a uniform field. In order to increase stock sales, managers must focus more on asset structure, use contemporary financial management techniques, financial modeling and forecasting, and cash flow planning; they must also evaluate investment projects and weigh the risks to their businesses and finances.

1.3 Literature Review

The mechanical engineering and metalworking business is strongly export-oriented, with an average of 70% of its production being exported, according to the authors of the study "THE ROLE OF BUSINESS ANALYSIS FOR MECHANICAL ENGINEERING AND METALWORKING COMPANIES." Executives must utilize contemporary financial management techniques, including financial modeling, forecasting, and cash flow planning. They must also analyze and assess investment proposals to determine their economic viability. Risks must be evaluated, examined, and the cost of capital must be calculated by managers. Risk management in the commercial and financial spheres needs special consideration.

The authors of the paper "ANALYSIS OF LIQUIDITY, LEVERAGE AND DIVIDEND POLICY TOWARD PROFITABILITY IN PUBLIC CO.MANUFACTURING INDUSTRIALSECTOR" claim that the variables Dividend Payout Ratio are significantly influenced by the variables Variable Current Ratio (CR), Debt to Equity Ratio (DER), and Return on Investment (ROI) based on the findings of a simultaneous test (statistical test F) (DPR). Additionally, based on partial test results, they infer that the independent variables the Debt to Equity Ratio (DER) had no significant impact on the Dividend Payout Ratio (DPR), whereas the Variable Current Ratio (CR) and Return-on-Investment (ROI) had a positive and significant impact on the Dividend Payout Ratio (DPR).

1.4 Testimonials

We collected testimonials from industry veterans, who are already working in financial organizations. The testimonials were collected from -

1. Mr. Abhishek Dhawan - Credit Analyst, Fidelity London

Mr. Dhawan is an industry veteran who specializes in the Industrials sector, so his insights were pretty direct and helped a lot in improvising the project. Mr. Dhawan stated the importance of Sector KPIs which we were integrating into the project. He also suggested having elements of a forward look in the analysis to perform predictive measurements. He said he had followed almost the same methodology for his organization and supported us by saying that legendary hedge funds like Millenium were using similar methodologies. He helped us get to a metric we have used in our analysis i.e **Operating Leverage**.

2. Mr. Ashish Surana - Vice President, Risk Management, HSBC London

Mr. Surana stressed the importance of risk management that can be induced in the project as a future prospect. He also gave a suggestion to add the risk profile of the investor, whether it was a risk-friendly investor or a risk-averse investor. He also commented that what we were doing was very similar to what actual industry does in form of indigenous models and alphas. He implied the growing importance of climate risk in new age analyses, which is already being accounted by us through the ESG score metric.

Getting feedback and comments from a veteran banker and hedge fund personnel helped us look at both sides of the coin.

1.5 Technical Jargons

PyQt6

A group of cross-platform C++ libraries known as Qt provides high-level APIs for gaining access to many features of contemporary desktop and mobile systems. These include multimedia, NFC and Bluetooth connection, location and positioning services, a Chromium-based web browser, and conventional user interface development.

A complete set of Python bindings for Qt v6 is available as PyQt6. On all platforms that are supported, including iOS and Android, it enables Python to be used as an alternative to C++ for application development. It is implemented as more than 35 extension modules. Programs built using C++ may also use PyQt6 so that users may customize or improve the functionality of those applications.

PyInstaller

A Python program and all of its dependencies are combined into one package by PyInstaller. The user does not need to install any modules or a Python interpreter in order to launch the packed program.

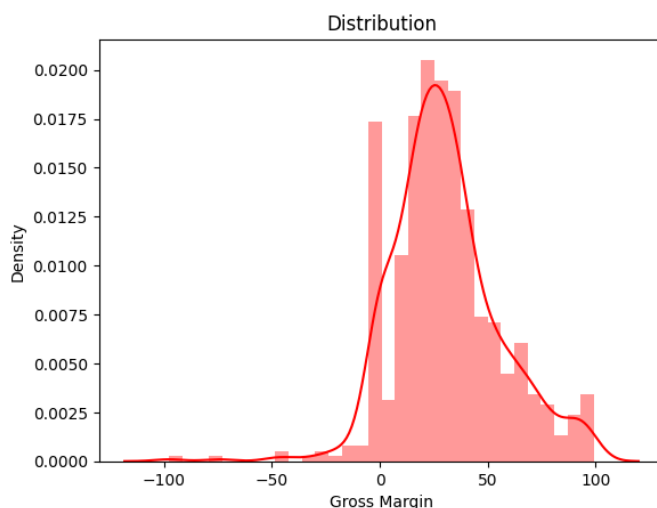
You write a Python script that PyInstaller reads. It examines your code to identify each additional module and library that your script requires to run. Then, it gathers duplicates of each of those files—along with the currently running Python interpreter!—and places them with your script in a single folder, or, at your option, in a single executable file.

Beautiful Soup

Python's Beautiful Soup package can extract data from HTML and XML files. It collaborates with your preferred parser to offer idiomatic methods of perusing, looking for information, and changing the parse tree. Often, it allows programmers to save hours or even days of effort.

2. Work done

2.1 Methodology



margin is 30.49%.

The program's grading system takes into consideration the standard deviation of the set of values after eliminating outliers, and it divides that number by 3 to get the 'Change' value displayed in the figure, which is equal to 3.12. Each metric for each stock is given a grade based on this value.

Grading System

The grading system for this program is based on the normal distribution of values for a certain statistic for a particular sector. When assessing a firm's net margin, for example, we would consider the net margins of all the other companies in the sector and give the stock a percentile depending on where it lies in the range of values.

According to the graph, the 90th percentile gross margin for a stock in the industrials sector is 64.76%, while the average gross

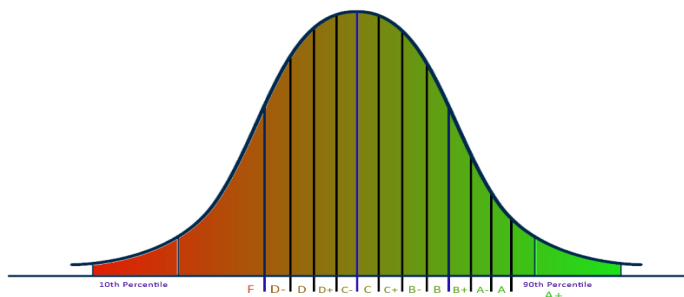
Each bar in the graph indicates one increment of the metric's "Change" value, and the graphic below illustrates exactly how each metric is graded. Based on this number and the "Change" value, a technology sector stock would be profitable if:

1.29% is rated A+

2.24% is rated A

5.18% is rated A-

Following the evaluation of all the criteria for each area of valuation, profitability, growth, and price performance, the grades are converted into numbers, and the average of the values is computed. The sum of these numerical ratings for each category is multiplied by 100 to provide a score out of 100, which is used to calculate a stock's overall rating.



When a lower number is preferable, such as with P/E ratios, the algorithm will evaluate metrics using the 10th percentile. So if a company in the Industrials sector has a P/E ratio of 6.494, which is in the top 10% of all P/E ratios for companies in the sector, it will be given an A+ grade.

Sector KPIs

The identified sector KPIs are

1. The identified sector KPIs are

- **Scale:**

Economies of scale are the cost advantages a business achieves as production levels rise. This is possible because production expenses may now be divided across several different products.

Why Scale- The amount of cost savings from an increase in output increases with a company's size.

- **Labor Cost/Market Cap:**

The sum of all employee salaries, benefits, and payroll taxes is referred to as the labor cost. It is split into two groups:

1. Direct Labor Costs: are the salaries and benefits given to the workers who create goods or services.
2. Indirect Labor Costs: are costs that facilitate that production.

Why Labour Costs- Contrary to appearances, labor expenditures are constant and are closely related to the company's core competencies.

- **Operating Leverage (Degree of Operating Leverage):**

A cost-accounting method called operational leverage assesses how much a company or project can raise operating income by raising revenue. A company with significant operating leverage creates revenues with a high gross margin and low variable expenses.

Why Operating Leverage: It can assist you in determining the right price at which to make a profit and cover your expenses. Additionally, it may assist you in comprehending the efficiency with which your company can produce earnings by employing fixed-cost assets like warehouses or gear.

- **C-suite Diversity:**

The phrase "C-level," often known as the "C-suite," refers to high-ranking executive positions in a corporation. The word "chief" is represented by the letter C in this sentence, as in chief operating officer and chief executive officer. Diversity of gender, color, and ethnicity in the C-suites of a corporation is referred to as C-suite diversity.

Why C-Suite Diversity - Given that diversity in the workplace boosts employee happiness and fosters efficiency and effectiveness, we have determined that the diversity of the C-suite position is a sign of solid foundations. The company's progressive attitude and commitment to DE&I are demonstrated by the diversity of its managerial posts.

- **Technological Enabler:**

Many businesses have started transitioning to the concept of smart production and manufacturing with the advent of Industry 4.0*. Since some businesses are still finding it difficult to transition from Industry 3.0 to Industry 4.0, it is determined that the swift movers have solid underpinnings.

Why Technological Enabler - Industry 4.0 largely focuses on the idea of ideal industrial output and may thus be an excellent sign of solid fundamentals.

- **ESG Score (Environmental, Social, and Governance Score):**

A corporation, fund, or security's performance with regard to Environmental, Social, and Governance (ESG) concerns is measured or evaluated objectively using an ESG score.

Why ESG score - ESG scores are now vital to consider when evaluating a company's future since new age studies place a lot of emphasis on climate hazards, sustainability, and ESG ratings. Investors like businesses that have higher overall ESG ratings because these businesses often have fewer liabilities, which makes it simpler for them to raise financing and attract top people.

2.2 Implementation and Technical Work

Figure(1) shows the pipeline for the implementation of the project. The steps followed are as follows:

Step 1 - Performed scraping of financial data from the Finviz screener using beautiful soup to obtain the conventional fundamental data as shown in Figure(2)

Step 2 - Gathered the sector KPI data through self-analysis, market research, reverse engineering, and analysis of individual companies

Step 3 - Created a Python script to rank these stocks on the basis of the Grading System (explained above). Divided the metrics into 5 buckets and graded the buckets as well

[GitHub Link](#)

Step 4 - Created python scripts for analyzing the grades, and visualizing the results

Step 5 - Wrapped the Python scripts around PyQt6 to create an interactive GUI to make the process easier for a first-time user. (Figure 3)

Step 6 - Packaged the PyQt6 wrapped scripts using Pyinstaller to generate an executable file

2.3 Theoretical work

1. Identified buckets -

A. Profitability:

The amount by which a company's total revenue exceeds its total outlays for any particular time period is known as profitability. The accounting concept of profitability is often known as net profit or net income.

- Profit Margin
- Operation Margin
- Gross Margin
- Return-on-Equity
- Return-on-Assets

B. Performance:

A measure of an organization's ability to use both material and human resources to accomplish its goals is called "firm performance." The effectiveness of employing business tools during the production and consumption processes is taken into account when evaluating a firm's success.

- Performance Month
- Performance Quarter
- Performance Half Month
- Performance Year
- Performance Year-to-Date
- Volatility M

C. Valuation:

Calculating the fair worth of an asset, an investment, or a company through valuation is a quantitative procedure. In general, a company's worth can be determined either on an absolute basis, in relation to other similar firms or assets, or on a relative basis.

- Forward Price-to-Earnings(Fwd P/E)
- Price/Earning-to-Growth Ratio(PEG)
- Price-to-Sales Ratio (P/S)
- Price-to-Book Value (P/B)

- Put-Call Ratio (P/C)
- Price to Free Cash Flow Ratio (P/FCF)

D. Growth:

Financial measures like revenue or book value per share are examples of growth.

- Earnings-per-Shares this Year
- Earnings-per-shares of Next Year
- Earnings-per-shares of the next 5 Years
- Sales Quarter-to-Quarter
- Earnings-per-shares Quarter-to-Quarter

E. Core Sector KPIs:

A sector KPI is a KPI that is regarded as being more significant than the standard indicators and is pertinent to a certain sector. These could be implied explicitly or deduced from other theoretical notions.

- **Scale**
- **Labor Cost**
- **Operating Leverage**
- **C-Suite Diversity**
- **Technological Enabler**
- **ESG Score**

3. Results and Discussion

3.1 Results

1. Successfully scraped the financial data using Finviz screener
2. Successfully automated the process of fundamental analysis of the “Industrials” Sector using conventional process and newly identified KPIs
3. Successfully created an executable GUI that can be run on any system without prior requirements
4. Successfully created a percentile-based grading system for the stocks and grouped the results by industries under the “Industrials” sector as well

3.2 Limitations

1. Make sure the file format for the csv file is as specified in the sample csv template ([download](#)).
2. “Averages always lie”
3. These are the fundamental ratings for a stock, this does not mean these companies should be invested in it. This is because the stock may be trading on peak already due to the company being rightly or undervalued on the market. An investor seeks profits and wants to invest in troughs, not peaks.

4. Conclusions and Future Prospects

4.1 Conclusions

1. Successfully automated the process of fundamental analysis of mechanical engineering-based organizations using Python, PyQt5, Pyinstaller, Beautiful Soup, orthodox finance concepts, and newly identified sector KPIs.
2. Identified buckets -
 - **Profitability (conventional)**
 - **Performance(conventional)**
 - **Valuation(conventional)**
 - **Growth (conventional)**
 - **Core Sector KPIs(conventional)**
3. The identified sector KPIs are
 - **Scale**
 - **Labor Cost**
 - **Operating Leverage (Degree of Operating Leverage):**
 - **C-suit Diversity:**
 - **Technological Enabler:**
 - **ESG Score (Environmental, Social, and Governance Score):**

4. Fundamental profile of the maximum rated stock -

- **Stock Name:** Navios Maritime Partners L.P.
- **Industry:** Marine Shipping
- **Country:** Monaco
- **Valuation Grade:** A
- **Profitability Grade:** A+
- **Growth Grade:** B+
- **Performance Grade:** B+
- **KPI Grade:** B-

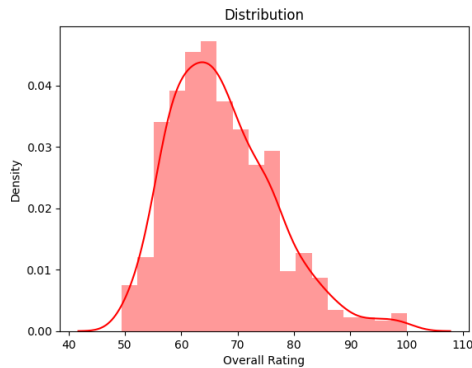
5. Fundamental profile of the minimum rated stock -

- **Stock Name:** The German-Rupp Company
- **Industry:** Specialty Industrial Machinery
- **Country:** USA
- **Valuation Grade:** C
- **Profitability Grade:** C
- **Growth Grade:** C-
- **Performance Grade:** C-
- **KPI Grade:** D

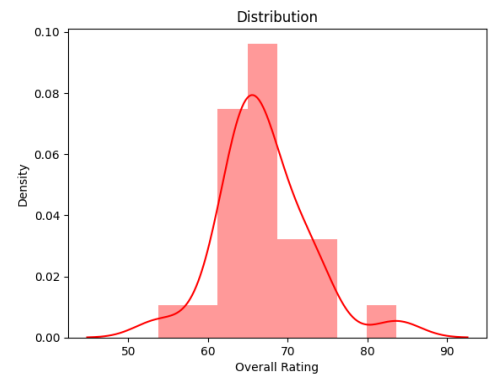
6. Mean Fundamental profile-

- **Stock Name:** WESCO International Inc.
- **Industry:** Industrial Distribution
- **Country:** USA
- **Valuation Grade:** B
- **Profitability Grade:** D+
- **Growth Grade:** C
- **Performance Grade:** B
- **KPI Grade:** C+

7. Density distribution (Companies in Industrials Sector)



8. Density distribution (Industries in Industrials Sector)



9. Mean Rating of the industries-

- Aerospace & Defense: 65.519644%
- Airlines: 73.594697%
- Airports & Air Services: 73.597331%
- Building Products & Equipment: 67.300452%
- Business Equipment & Supplies: 59.958858%
- Conglomerates: 62.572072%
- Consulting Services: 68.187505%
- Electrical Equipment & Parts: 65.205900%
- Engineering & Construction: 64.099187%
- Farm & Heavy Construction Machinery: 64.932700%
- Industrial Distribution: 66.179537%
- Infrastructure Operations: 53.727281%
- Integrated Freight & Logistics: 68.101348%
- Marine Shipping: 83.668452%
- Metal Fabrication: 67.629950%
- Pollution & Treatment Controls: 63.066493%
- Railroads: 72.164529%
- Rental & Leasing Services: 73.416760%
- Security & Protection Services: 63.928001%
- Specialty Business Services: 65.144730%
- Specialty Industrial Machinery: 64.770722%
- Staffing & Employment Services: 69.694896%
- Tools & Accessories: 64.998976%
- Trucking: 69.602687%
- Waste Management: 63.139384%

10. Mean Rating of the Industrials Sector: 67.2824%

11. Successfully packaged the GUI using pyinstaller ([Downloadable link](#))

4.2 Future Prospects

- Include more forward-looking data as “averages always lie” and backward-looking data cannot be used to make investment decisions
- This analysis used with a combination of technical and/or sentimental analysis can yield exponential results
- Risks can be taken in account in the models and techniques like Value at risk can be implemented fundamentally
- Country-wise analysis would yield one more metric based on Regional Governance based rules which can be a new Sector KPI
- Investor’s persona can be taken into account. Whether it is a risk-averse investor or a risk-taking investor would change the perceived ratings of a stock
- Age of management can also be another Sector KPI for “Industrials”
- Age of Inventory has already been proven to be a forward-looking fundamental indicator.

Appendix

A.1

- **Forward Price-to-Earnings (Fwd P/E):**

The forward P/E ratio divides the current share price of a company by the estimated future earnings per share (EPS) of that company. For valuation purposes, a forward P/E ratio is typically considered more relevant than a historical P/E ratio.

- **Price/Earning-to-Growth Ratio (PEG):**

The price/earnings-to-growth ratio (PEG ratio) is a stock's price-to-earnings (P/E) ratio divided by the growth rate of its earnings for a specified time period.

- **Price-to-Sales Ratio (P/S):**

The price-to-sales ratio is calculated by taking a company's market capitalization and dividing it by the company's total sales or revenue over the past 12 months.

- **Price-to-Book Value (P/B):**

Companies use the price-to-book ratio to compare a firm's market capitalization to its book value. It's calculated by dividing the company's stock price per share by its book value per share.

- **Put-Call Ratio (P/C):**

The put-call ratio is calculated by dividing the number of traded put options by the number of traded call options. A put-call ratio of 1 indicates that the number of buyers of calls is the same as the number of buyers for puts.

- **Price to Free Cash Flow Ratio (P/FCF):**

Price to free cash flow is an equity valuation metric that indicates a company's ability to continue operating. It is calculated by dividing its market capitalization by free cash flow values.

- **Dividend Payout Ratio:**

The dividend payout ratio shows how much of a company's earnings after tax are paid to shareholders. It is calculated by dividing dividends paid by earnings after tax and multiplying the result by 100.

- **Earnings Per Share this year (EPS this Y):**

Earnings per Shares (EPS) are calculated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability.

- **Earnings Per Share next year (EPS next Y):**

- **Earnings Per Share of last five years (EPS past 5Y):**

- **Earnings Per Share for next five years (EPS next 5Y):**

- **Sales past 5Y:**

- **Earning Per Share Quarter-Over-Quarter (EPS Q/Q):**

Quarter-Over-Quarter (Q/Q) is a measure of an investment or a company's growth from one quarter to the next.

Quarterly EPS growth rate, year over year, is the increase of the company's EPS for the most recent quarter compared to the same quarter in the previous year.

- **Salse Quarter-Over-Quarter (Sales Q/Q):**

Quarterly Sales growth rate, year over year, is the increase of the company's Sales for the most recent quarter compared to the same quarter in the previous year.

- **Insider Ownership (Insider Own):**

Insiders are a company's officers, directors, relatives, or anyone else with access to key company information before it's made available to the public.

- **Insider Trading (Insider Trad):**

Insider trading involves trading in a public company's stock or other securities by employees with non-public, material information about the company. Insider trading can be either illegal or legal depending on when the insider makes the trade and the laws of the country the person is in.

- **Institutional Ownership (Inst Own):**

Institutional ownership is the amount of a company's available stock owned by mutual or pension funds, insurance companies, investment firms, private foundations, endowments or other large entities that manage funds on behalf of others.

- **Institutional Trading (Inst Trad):**

Institutional trading is practiced by a legal entity that accumulates funds from several different investors to invest in different financial instruments such as stocks, bonds, real estate, etc.

- **Short Ratio:**

Short ratio number of shares of a security that investors have sold short divided by average daily volume of the security.

- **Return-on-Assets (ROA):**

Return on assets is a metric that indicates a company's profitability in relation to its total assets. ROA can be used by management, analysts, and investors to determine whether a company uses its assets efficiently to generate a profit.

- **Return-on-Equity (ROE):**

Return on equity (ROE) is the measure of a company's net income divided by its shareholders' equity. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits.

- **Return-on-Investment (ROI):**

When you put money into an investment or a business endeavor, ROI helps you understand how much profit or loss your investment has earned. Return on investment is a simple ratio that divides the net profit (or loss) from an investment by its cost.

- **Curr R Quick R:**

The quick and current ratios are liquidity ratios that help investors and analysts gauge a company's ability to meet its short-term obligations.

- **Debt-to-Equity Ratio (Debt/Eq):**

The debt-to-equity (D/E) ratio reflects a company's debt status. A high D/E ratio is considered risky for lenders and investors because it suggests that the company is financing a significant amount of its potential growth through borrowing.

- **Long Term Debt to Equity Ratio (LTDebt/Eq):**

- **Gross Margin:** Gross margin is net sales less the cost of goods sold.

- **Operating Margin:**

The operating margin measures how much profit a company makes on a dollar of sales after paying for variable costs of production, such as wages and raw materials, but before paying interest or tax.

- **Profit Margin:**

A profit margin is a profitability ratio that can tell you whether a company makes money. It highlights what portion of the company's sales have turned into profits or how many cents per dollar it generates per sale.

- **Performance Month (Perf Month):**
- **Performance Quarter (Perf Quart):**
- **Performance Half Month (Perf Half):**
- **Performance Year (Perf Year):**
- **Performance Year-to-Date (Perf YTD):**
- **Volatility M:**

Volatility is a statistical measure of the dispersion of returns for a given security or market index. In most cases, the higher the volatility, the riskier the security.

- **Simple-Moving-Average 20 Days (SMA20):**

SMA20 is a simple moving average with a period of 20.

- **Simple-Moving-Average 50 Days (SMA50):**

SMA50 is a simple moving average with a period of 50.

- **Simple-Moving-Average 200 Days (SMA200):**

SMA200 is a simple moving average with a period of 200.

- **52-Week High (52W High):**

52-Week High is the highest price at which a particular stock has traded in the last year.

- **52-Week Low (52W Low):**

52-Week High is the lowest price at which a particular stock has traded in the last year.

- **Relative Strength Index (RSI):**

The Relative Strength Index is a momentum oscillator that measures the speed and change of price movements. The RSI oscillates between zero and

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