

Financial Analysis and Risk Management capstone Project

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Problem Statement

Business Case Study

- Task is to provide consultation to two different investors, Mr Patrick Jyenger and Mr Peter Jyenger based on their requirements and financial objectives.
- A portfolio manager makes investment decisions and carries out other related activities on behalf of vested investors. They work with a team of analysts and researchers, and their main objective is to realise the needs of the investor and suggest a suitable portfolio that meets all the expectations.

Problem Statement

Business Case Study

- We will help them to select the most promising stocks,
 - We are required to build a model wherein we need to suggest a stock as per the investors requirement .
 - There are four sectors in which we need to do the exploratory data analysis Sector-Wise and get the best sectors,as well as the best performing stocks
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Proposed Solution

Sector-Wise Analysis wrt to SNP500

Selecting best performing stocks

Comparing those best performing stocks with SNP500 index

Sectors Given:-

Aviation

Finance

Technology

Pharma Health care

Stocks in each sectors:-

In each sector there are 6 stocks in all.

Total we have 25 stocks included SP500 index.

Comparision of stock Prices:-

We need to compare all the best performing stocks with the index price of SNP500 and then report to the investors.

Solution

Selection of High performing
stocks

For our Problem Solution, the crucial part is to accurately identify best performing Stocks.

The more accurate we obtain the best performing stocks, the more chance we get of higher returns.

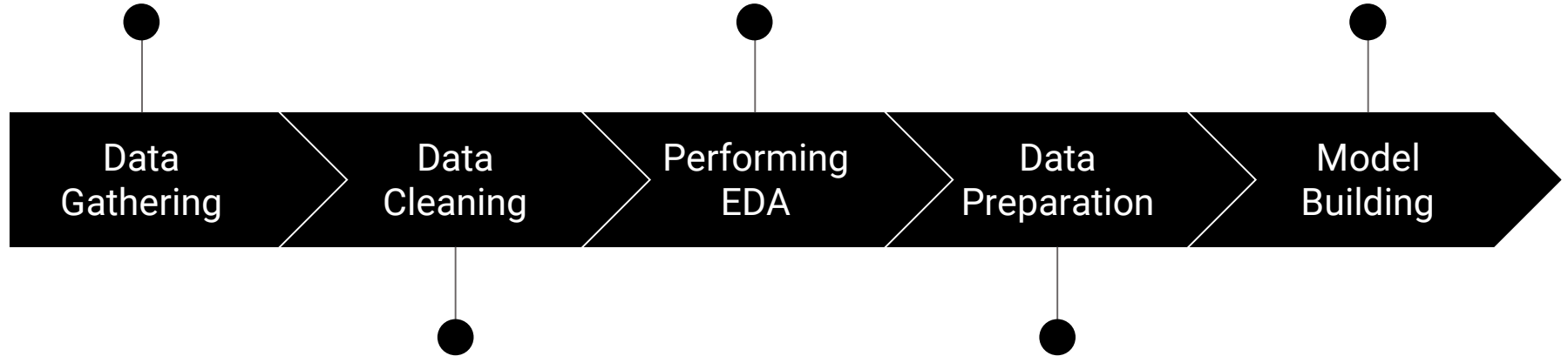
Since we have a target of suggesting high returns stocks within 5 years to our investors, we would want to obtain a high accuracy in obtaining best stocks.

Implementation

Loading & Observing
the past data provided
by the Company

Univariate, Bivariate, and
Heatmap for numerical
and categorical columns

Performing pre-
requisites for RFE and
Logistic Regression

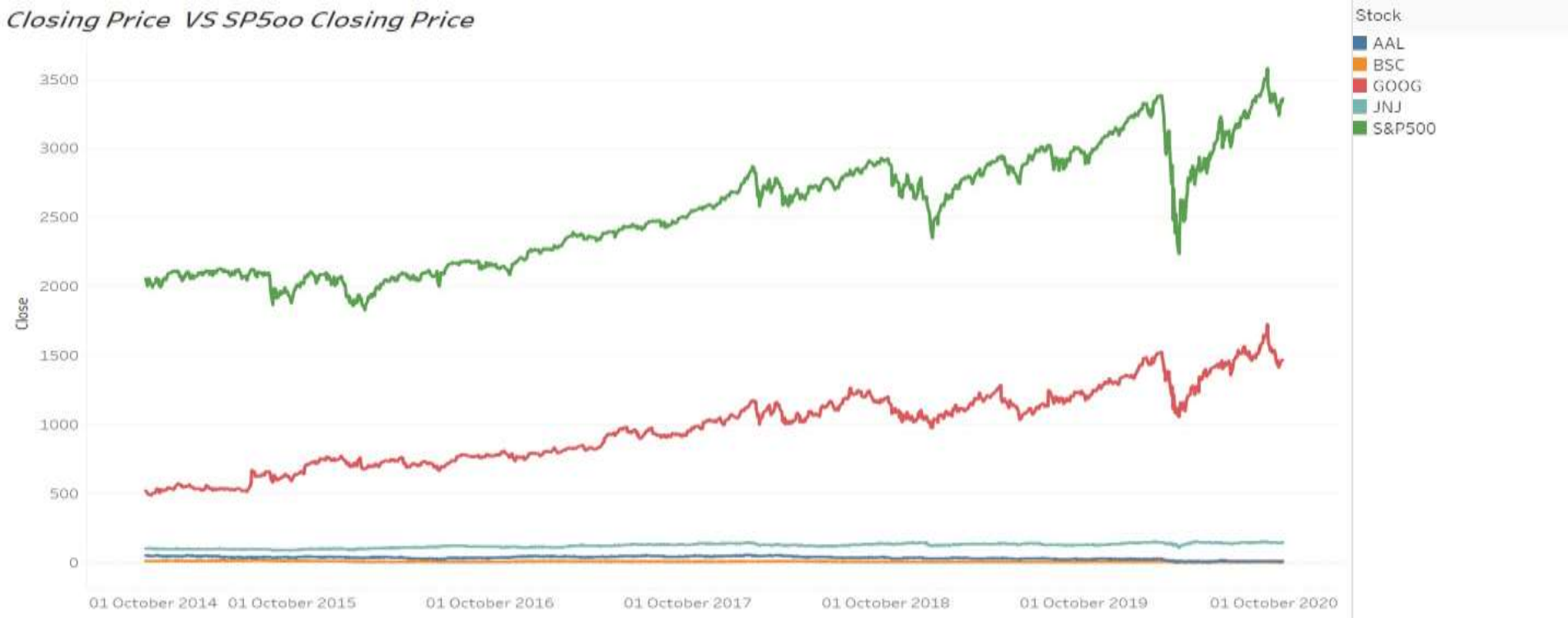


Duplicate removal, null value
treatment, unnecessary
column elimination, etc.

Outlier Treatment,
Feature-
Standardization

Visualization

Closing Price VS SP500 Closing Price

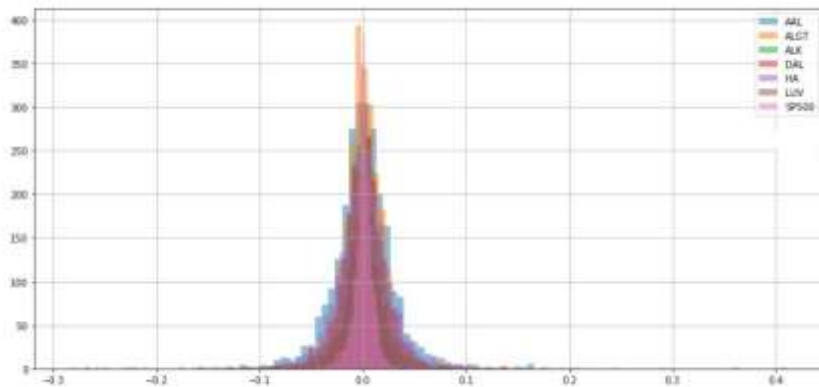


These are the closing prices for some of the best performing stocks in which google has outsined as comparitively others.



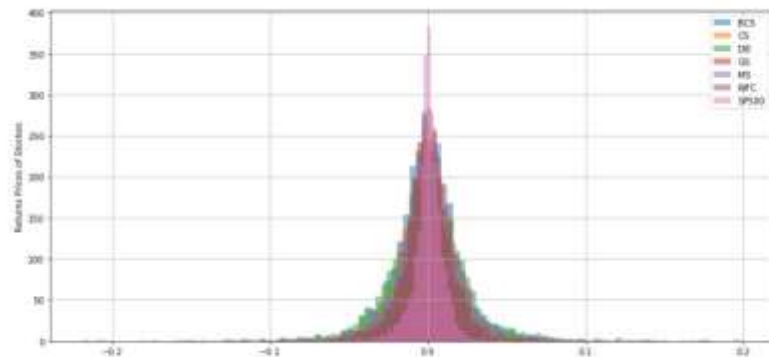
EDA plots depicting variation in categorical column (Last Activity) for those who Converted and those who didn't.

<matplotlib.legend.Legend at 0x20865e56d08>



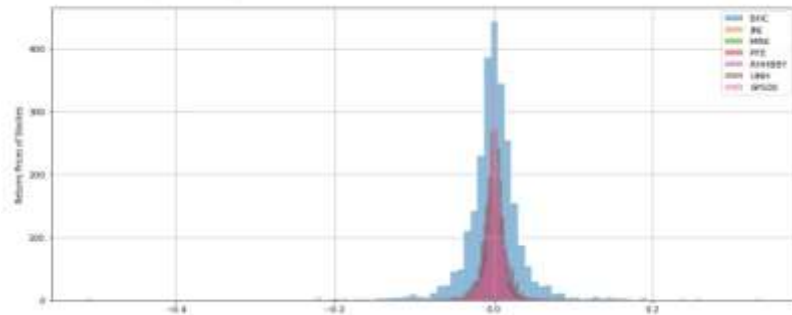
Aviation sector Returns

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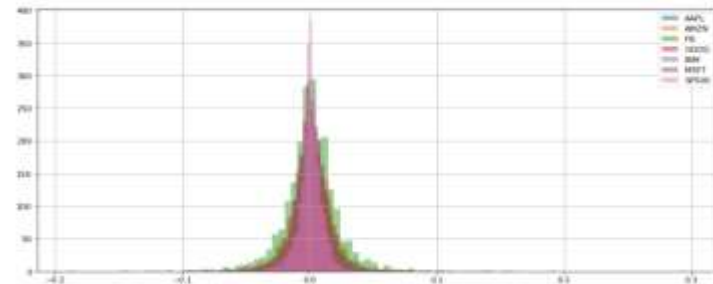
Finance Sector Returns

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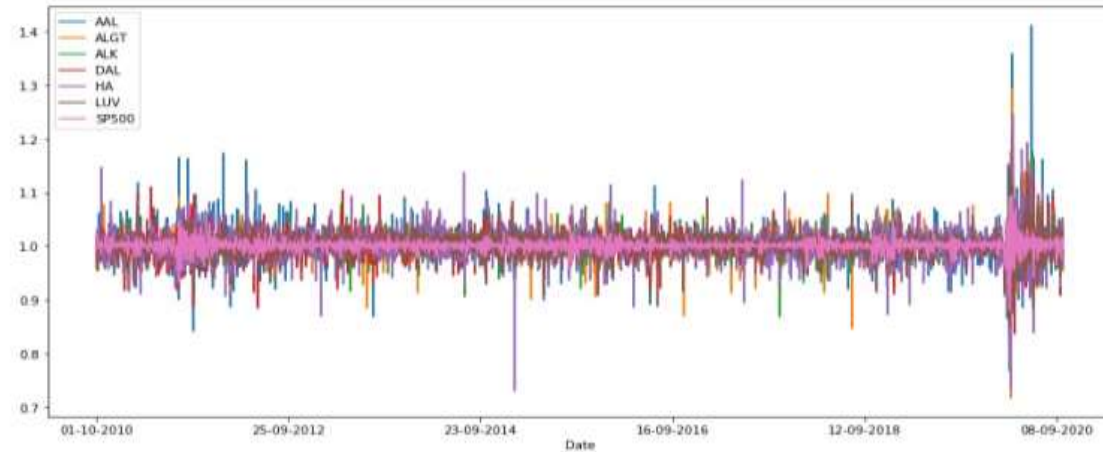
Pharma Health Returns

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Technology Returns

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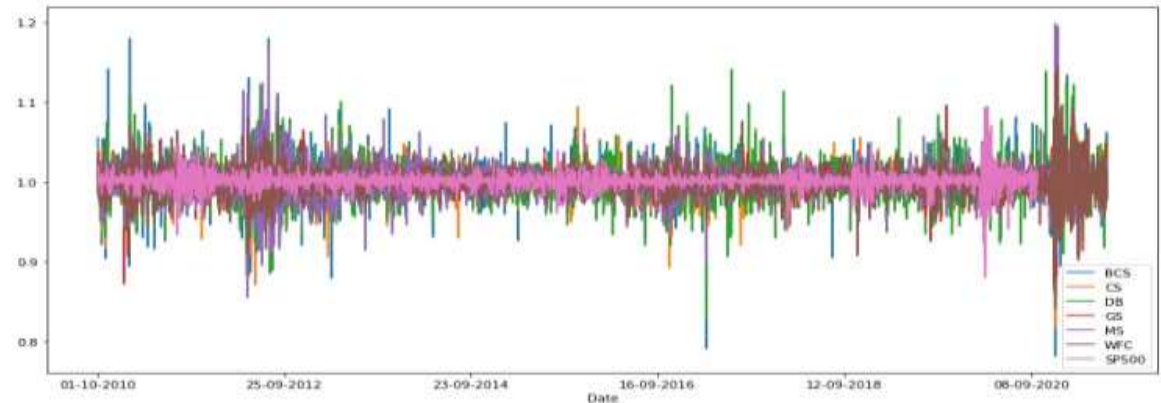
Normalization of Aviation sector closing price

In This plot we can clear see that in last 5 years AAL and ALK were performing very well.

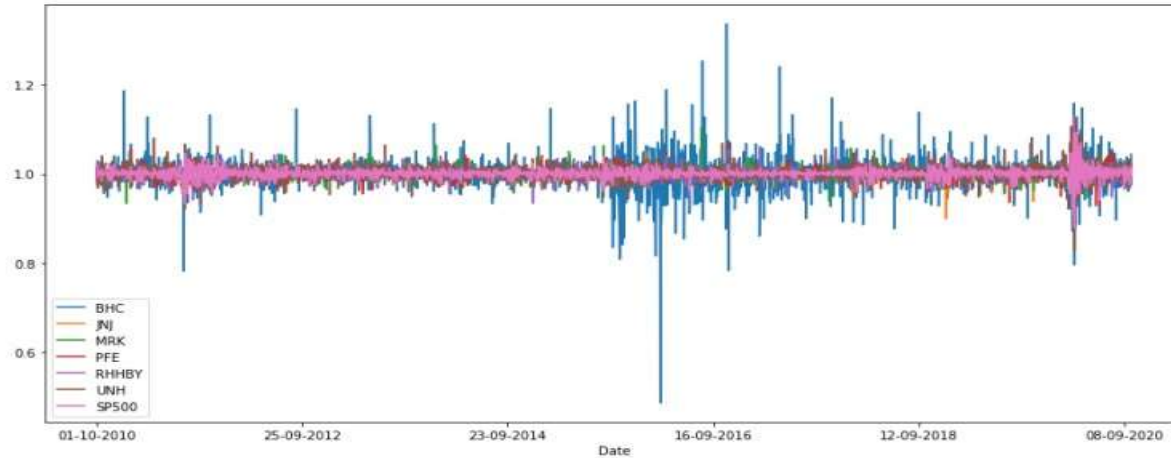
Normalization of Finance sector closing price

In this plot we can depict that BCS & WFC is performing better than other stocks in finance sector

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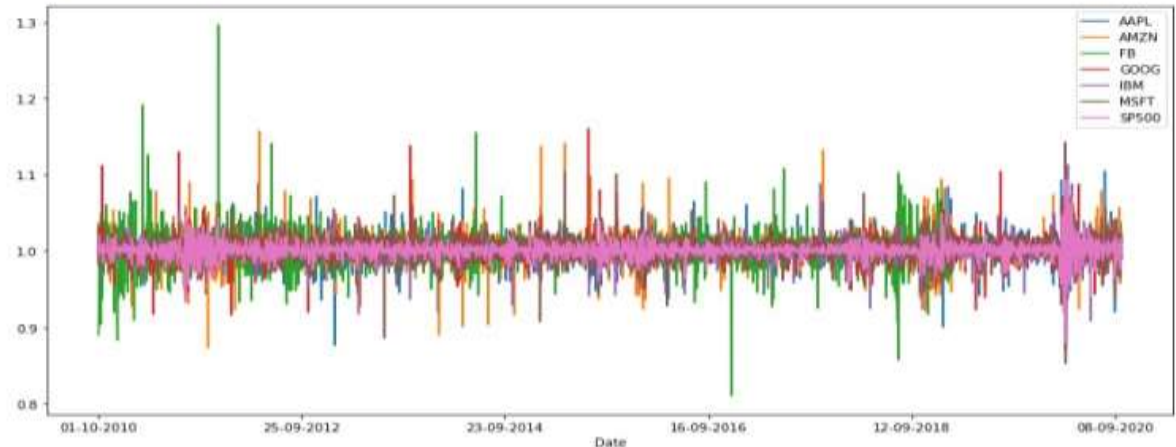
Normalization of Phrama sector closing price

In this plot we can see that BHC and JNJ are performing great

Normalization of Technology sector closing price

In this plot we can see that goog , amazon are performing better than others

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Portfolio Mangmanet

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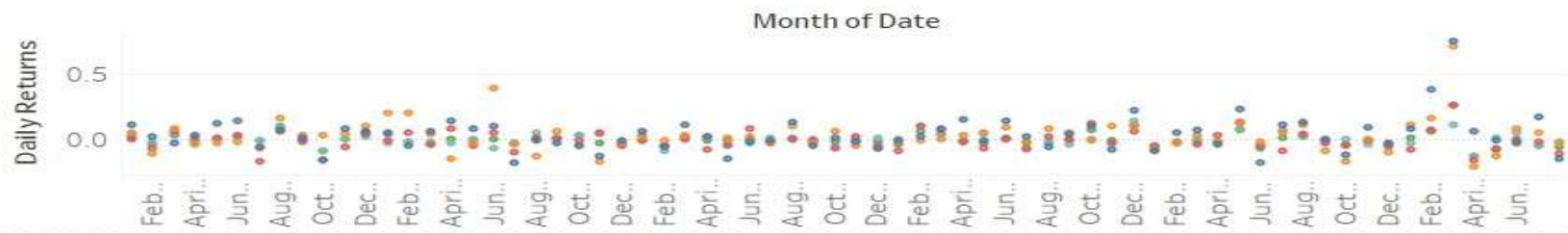


EDA plots depicting correlation (Heat Map) of all selected numerical columns.

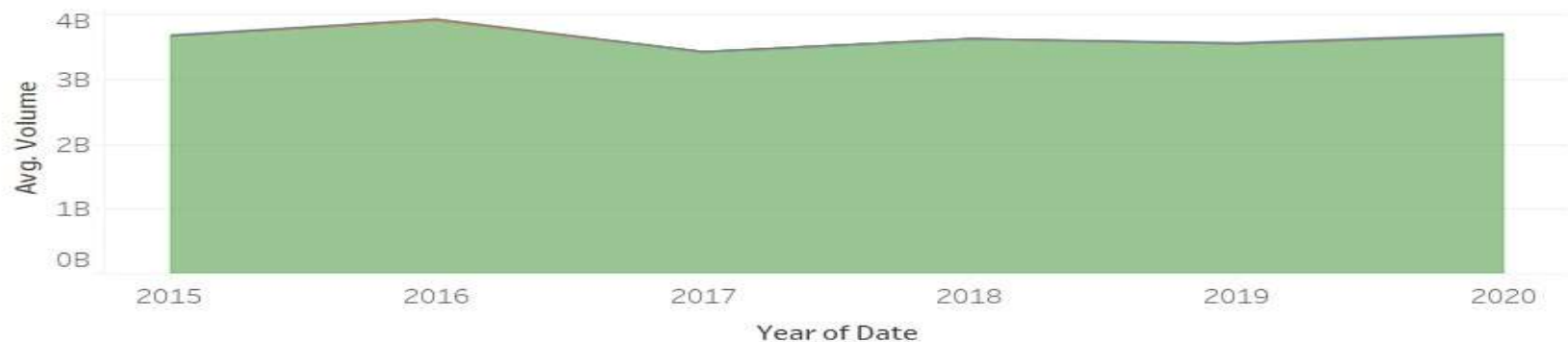
Closing Price VS SP500 Closing Price



Returns



Volume Prices





Conclusion

So, In this case study they gave us two investors as follows:

Mr. Patrick Jyengar

Wants to maintain a decent standard of living post his retirement.

Has always been a conservative investor during his life

Available capital of \$1 million; Wants to invest \$500K in a magazine (Natro) for minority stake and remaining \$500K in equities

Expects doubling his capital with less risk in 5 years' time to buy a minority portion of Naturo

Mr. Peter Jyengar

Consistent with his attitude towards risk, he prefers high-return investments

Believes that he can still bounce back in case of any occasional losses

Wants to invest \$1 million from company's cash and cash equivalents in the most high-margin stocks

Expects high returns within 5 years for inorganic expansion of JWW

For Mr. Patrick Jyengar In his case he has maintained decent investments standard of living post his retirement, And he want to double his investment with the low risk in 5 years so that he can buy naturo with his investment.

I could suggest him "Google and Amazon" as the best stock to invest in so that in next 5 year he can see the investment doubling and could buy the minority portion of naturo by the investing into those stocks.

And as he can bifurcate the amount and invest \$500k in amazon, I would suggest this would be great if he does this and then quietly wait for the time and see his profits after 5 years.

For Mr. Peter Jyengar Whereas, In his case he can take risk so he could go for intraday trading in stocks like AAL, ALK, BHC and could invest in ALK or DB. This led him to fast and more money in 5 years and could help in his inorganic expansion of JWW.
