

Introduction

The objective of this application is to minimise the effort required for retail investors to make a well-informed equity investment. Using a simple, tested and proven questionnaire, users will be recommended a list of stocks tailored to their individual investment objective and risk appetite.

Our target audience includes retail investors who may not have the time to do ample equity research, or who lack the necessary financial knowledge to make the right investment.

Algorithmic Logic

The user will first complete a 13 multiple-choice questionnaire to assess his/ her risk appetite (Grable & Lytton, 1999). These questions are designed to eliminate behavioural biases. The user is also asked for his/ her age, which has been proven to affect an investor's risk appetite (Kannadhasan, 2015). This is followed by five questions which assess the user's investment objective through understanding his/ her preferred GICS sectors, available savings, monthly investable income, financial goal and time horizon.

The user will be assigned a risk aversion coefficient based on his/ her age and risk questionnaire results. Similarly, the results of his/ her investment objective questions will be used to calculate the required rate of return. Using the utility theory $[U = E(r) - 0.5 \times A \times \sigma^2]$, a list of stocks will be generated by applying the following 'blackbox' filters:

- $U_{\text{stock}} > U_{\text{S\&P 500}}$
- Expected return of stock > Required rate of return
- Piotroski F-score > 8 (a composite score from 0 to 9, assessing strength of company's financial position)

The stocks are then ranked by individual Sharpe ratio and the top three are included in the final personalised report.

Outcome

The final personalised report includes a factsheet of each of the three recommended stocks, detailing key financial highlights and fundamentals of each company. This allows the user to have a deeper understanding of the companies before potentially investing in them. In essence, this financial application enables and empowers retail investors to make a well-informed investment, regardless of financial knowledge or background.

Further Developments

- 1) The application can further expand the current universe of S&P 500 equities to include other global equities.
- 2) It can factor in the user's current portfolio and recommend stocks based on how well they complement current investments.
- 3) It can include more investor preferences (e.g. no sin stocks) which serve as additional filters to fine-tune the recommendations.

How the App Works

1 Questionnaire

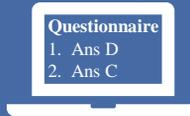


Questionnaire:
1. How old are you?
2. What's your next financial goal?

- Assesses user's investment objective and risk appetite

2 'Blackbox' Filter

Step unknown to user



- User's responses are translated and used in conjunction with 'blackbox' filters to screen for suitable stocks

3 Recommendations



Recommendation:
Returns
1. ODFL 57.2%
2. SNPS 35.0%

- Recommended stock(s) are ranked based on Sharpe ratio

4 Personalised Report



- Single-page factsheet is generated for each of the top 3 stocks