

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**OPTIMIZE PORTFOLIO SELECTION OF MALAYSIA STOCK
MARKET USING LINEAR PROGRAMMING**

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ABSTRACT

As part of the ongoing studies into Malaysia stock market landscape, this study is conducting important research into key sectors including plantation, oil and gas finance, and electronic technology. This research is applying the Sharpe Ratio and maximize the expected return to deliver much needed comparative analysis for investors operating within these markets. The unique approach aims to fill knowledge gaps by providing critical insights into how best to make informed decisions around investments - helping mitigate against risk whilst applying Sharpe ratio across these sectors. Furthermore, this study aims to apply the Sharpe Ratio on investment and maximize the return by the investor to invest in the company. The secondary data was taken from Yahoo Finance and put in Excel to calculate the expected return using Excel Solver. Moreover, the secondary data from Yahoo Finance which is Beta of each company is to calculate the expected return by investors using Excel Solver. The calculations that are for the expected return and the Sharpe Ratio will be put in the equation with other constraints to get the total expected return of investment. For the risk, take the Beta of each company and put in the equation with other constraints to maximize the return that is taken by the investors. Therefore, by using the Linear Programming method we can achieved the optimal portfolio selection of Malaysia's stock market. Since Linear Programming can get the optimal portfolio selection in Malaysia's stock market by using the suggested method, it can be applied in the future for various case studies such as materials and machinery.