

**UNIVERSITI TEKNOLOGI MARA**

**PERFORMANCE EVALUATION OF  
SHARIAH-COMPLIANT PORTFOLIOS  
USING GREY RELATIONAL  
CLUSTERING AND MARKOWITZ  
MODEL, P02S23**

**HUDA NABILAH BINTI ZULKEFLI, IZZAH  
NURSYAFIQAH BINTI CHE HALIM & SITI  
NORSYAHILDA BINTI AHMAD SHAFIE**

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## ABSTRACT

**Intro** Stock performance is commonly described as the change in value or price of a stock over a set period of time. The performance of a stock is an important indication for investors. Shariah-compliant investing commonly referred as Islamic finance, represents a distinctive method of financial management rooted in the principles of Islamic law, or Shariah. **Problem Statement:** This study addresses the difficulty of determining the best Shariah-compliant stock for investing by utilising Grey clustering analysis, an effective classification approach. In contrast to classic clustering approaches such as Hierarchical and K-means, Grey clustering is successful at evaluating and categorising equities based on a variety of characteristics. Furthermore, portfolio studies applying Markowitz's model are used to optimise portfolios, with the goal of minimising risk and increasing returns by emphasising the relevance of diversification methods. **Objective:** In this study, Grey Relational Analysis (GRA) and Hierarchical Clustering method has been used in determining the best performing stock. These methods were tested based on the financial ratio of the three main sector in Shariah-compliant based on Bursa Malaysia. The performance of the stocks are tested based on the minimum distance of the companies. Additionally, Markowitz model are used to compare the performance of the portfolio which the data are obtained from the return of the companies. **Methodology** In this study, Grey Relational Analysis (GRA) and Hierarchical Clustering method has been used in determining the best performing stock. These methods were tested based on the financial ratio of the three main sector in Shariah-compliant based on Bursa Malaysia. The performance of the stocks are tested based on the minimum distance of the companies. Additionally, Markowitz model are used to compare the performance of the portfolio which the data are obtained from the return of the companies. **Result** The result of the clustering method shows that the investor should invest in more than one companies while the results for Markowitz model shows that the sector with the best performance is Consumer Product and Services since the Sharpe ratio are the highest among the other. **Conclusion and Recommendations** This indicates that both Grey Relational Clustering and Markowitz model have successfully in determining the best performance portfolios. In the future study, this method can be extended to more sector.

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