
RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

REMACS 5.0



CS240 - BACHELOR OF INFORMATION TECHNOLOGY [HONS.]
CS248 - BACHELOR OF SCIENCES [HONS.]
MANAGEMENT IN MATHEMATICS
CS251 - BACHELOR OF COMPUTER SCIENCE [HONS]
NETCENTRIC COMPUTING
CS255 - BACHELOR OF COMPUTER SCIENCE [HONS]
DATA COMMUNICATION & NETWORKING

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Universiti Teknologi MARA Perlis Branch

**Research Exhibition in Mathematics and Computer Sciences
(REMACS 5.0)**

Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)

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Preface

It is with great pleasure that we present this extended abstract book, titled "The 5th Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)". This book is a collection of research work in the fields of Computer Science and Mathematics, contributed by the final year students from Universiti Teknologi MARA, Perlis Branch. The aim of this book is to showcase the diversity and depth of research in these two interrelated fields.

Mathematics and Computer Science are two fields that have seen tremendous growth and advancement in recent years. With the rise of new technologies and the increasing demand for data-driven solutions, researchers in these fields have been working hard to develop new theories, algorithms, and models that can help solve some of the most pressing problems of our time. This book is a testament to their hard work and dedication.

The abstracts in this book cover a wide range of topics, including algebra, analysis, logic, computer architecture, algorithms, artificial intelligence, machine learning, computer network, netcentric computing and many more. The work presented here is both theoretical and practical, and has the potential to impact many areas of society, from finance and healthcare to education and security.

We hope that this book will serve as a valuable resource for future students in the fields of Mathematics and Computer Science. We also hope that it will inspire more students to pursue innovative and groundbreaking research in these two fields. Finally, we would like to express our gratitude to all the contributors for their hard work and dedication, without which this book would not have been possible.



RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
REMACS 5.0

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EVENT SCHEDULE

8:00 – 8:30 am

- Registration

8:00 am – 12:00 pm

- FYP Project Presentation

12:00 - 2:00pm

- Lunch Break

2:15 – 2:35 pm

- National & Wawasan Setia Anthems
- Doa Recitation

2:35 – 2:45 pm

- Welcoming Address by Director of REMACS 5.0

2:45 – 2:55 pm

- Officiating & Closing Remarks from Rector of UiTM Perlis

2:55 – 3:00 pm

- REMACS 5.0 Montage

3:00 – 4:00 pm

- Awarding of Winners:
 - Best Poster
 - Best Project Award

- Photo Session

- End of Ceremony

Dress Code: Formal / Corporate

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EXTENDED ABSTRACTS

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES
REMACS 5.0

SELECTION THE BEST TYPE OF INVESTMENT IN MALAYSIA USING FUZZY TOPSIS

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Abstract

Investment is described as an asset that is directly or indirectly owned or controlled by investors and possesses features such as the commitment of funds or other resources, the expectation of gain or profit, or the assumption of risks. The 21st century provides greater opportunities for investment choices due to the current financial market. With a variety of investment instruments available, the market became more appealing with higher returns and risk preferences to be explored by potential investors. This study possesses two objectives which are to study the criteria of the investment and to find the best type of investment in Malaysia. Four criteria played a role in determining the best type of investment which include risk, capital, return, and the sustainability of an investment. Besides that, this study aims to identify the best type of investment in Malaysia through Fuzzy TOPSIS. Property investment, precious metal investment, cryptocurrency investment, and stock trading investment will be ranked in this study as the best type of investment in Malaysia. In addition, the variables will be sorted according to the correlation using Fuzzy TOPSIS. The final finding suggests that stock trading investment is the best type of investment in Malaysia with a correlation coefficient of 0.467109. The results of this study could be helpful to a myriad of people. Meanwhile, the project's scope could be expanded in the future by adding a variety of criteria and options.

Keywords: investment, Fuzzy TOPSIS, Cryptocurrency, Stock Trading, Property Investment, Precious Metal investment

1. Introduction

The purpose of this study is to help Malaysian citizens succeed in investment. This study will collect data from several investment experts. Besides that, this study will focus on Malaysian citizens who are interested in investment. There are four criteria that play a role to determine the best type of investment which are risk, capital, return, and the sustainability of the investment. The specific objective for this study is to identify the best type of investment in Malaysia using Fuzzy TOPSIS and to study the criteria of the investment to find the best type of investment.

2. Methodology

Data were collected from several investment experts. In this study, Fuzzy Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) will be used. Fuzzy TOPSIS offers a solution for decision-makers when dealing with real-world data, which are typically multi-attribute and entail a complicated decision-making process. The Fuzzy Positive Ideal Solution (FPIS), which is chosen as the best option in the TOPSIS technique, is one which is both the closest to and the furthest from the Fuzzy Negative Ideal Solution (FNIS). FPIS comprises the optimal performance values for each alternative, whereas FNIS comprises unfavourable performance values. So, we need compute the distance from each alternative to the FPIS and FNIS in order to get the closeness coefficient for each alternative. The alternative with the highest closeness coefficient is the one that will be the best type of investment in Malaysia.

3. Results and Discussion

The current financial market provides a superior opportunity to invest in our contemporary period. The market is now more alluring for potential investors to investigate and invest in thanks to the availability of variable investment instruments. This study aimed to identify the best type of investment in Malaysia using Fuzzy TOPSIS. Result of this study shown that, the Stock Trading Investment is the best type of investment in Malaysia. This type of investment has the highest proximity coefficient of 0.467109. In overall, Stock Market can maximize profit while minimizing losses better than other type of investment. Other than that, this study also aimed to study the criteria of the investment to find the best type of investment. Based on this research, it shown that return is the most important criteria in order to find the best type of investment in Malaysia.

4. Novelty of Research / Product

There have been a few research that have investigated about investment awareness among young generation (Azhar et al., 2017). Previous research about investment awareness in Malaysian also was done through the perspective of Malaysian citizens on investing in stock market (Wah et al., 2017). There have also been several research that explained about some type of investment that are popular in Malaysia (Ashford, 2017; Baum et al, 2021; Chen, 2022; Fernando, 2022; Palmer, 2019). However, there has not been any research on what the best type of investment in Malaysia is. Therefore, the main focus of this research is to find the best type of investment in Malaysia by using Fuzzy TOPSIS method.

5. Conclusion

Stock trading investment was the best types of investments out of the common ones in Malaysia, which include property investment, stock trading investment, cryptocurrency investment, and precious metal investment. The findings from this session have demonstrated that all of the study's objectives have been met.

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