
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]
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DATA COMMUNICATION & NETWORKING

2nd February 2023
Stor Complex, UiTM Perlis

Organized by:
College of Computing, Informatics and Media
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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e ISBN: 978-629-97934-0-3



Perpustakaan Negara Malaysia

Published by

MOHAMMAD HAFIZ BIN ISMAIL

Universiti Teknologi MARA

02600 Arau, Perlis

Tel: +604 988 2028

<https://fskmpерlis.uitm.edu.my/remacs50/>

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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

ANALYSING INFLUENTIAL FACTORS IN UNIVERSITY SELECTION USING FUZZY TOPSIS

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Abstract

Students must carefully choose their university because it will affect their motivation for studying, dedication, and engagement with the university. Normally, students will consider some factors that influence their choice of university. Therefore, this study aims to determine the most important factor that influences students' choice of university. The study also analyzes the preferred university either IPTA or IPTS. Besides, the study is conducted to rank the six variables which are the influence of family, the influence of friends, the university's image, the university's environment, suitability with personality and interest, and financial support. The data was collected by distributing questionnaires to 30 experts which are teachers and counselors. They are required to evaluate the issues in this study using linguistic variables ranging from "unaffected" to "very affected". The data was analyzed using Fuzzy TOPSIS. The finding shows that the most influential factor in deciding the university selection is the suitability with personality and interest with a closeness coefficient of 0.4869. The influence of friends is the least important in university selection with a closeness coefficient of 0.4713. This study's findings might benefit communities such as students, parents, and teachers. Universities may also benefit from it because they need to attract more students to expand their market.

Keywords: factors in university selection, Fuzzy TOPSIS, rank

1. Introduction

University selection is an important stage for all students before starting their third level of education. Public universities (IPTA) and private universities (IPTS) are the two sectors that provide tertiary or higher education programs for all high school leavers. Therefore, 30 respondents from teachers and counselors were chosen as the experts in this field since they have more experience in factors affecting students' decisions. They have been giving some advice to their previous students on which factors they should consider. The aim of this study is to figure out the main factor that affects university selection among high school leavers and rank those factors. It can also determine which type of institution, either public or private universities, that the respondents prefer.

2. Methodology

Data were collected by distributing the questionnaires using the platform google form. The criteria and alternatives are rated on a scale of 1 to 5. There are six factors used in this study which are the influence of family, influence of friends, university's environment, university's image, suitability with personality and interest, and financial support. The data collected were analysed using Microsoft Excel before being calculated using Fuzzy TOPSIS methodology. The alternative of this study is the six factors while the criteria are IPTA and IPTS. The method consists of eight steps and ranks were chosen based on the closeness coefficient calculated at the last step.

3. Results and Discussion

Based on the result, the most influential factor that affects the universities selection is suitability with personality and interest. It has the highest closeness coefficient value which is 0.4869. It means that most students choose to pursue their study at a university that provides the course that they prefer according to their personality and interest. The second place is the university's image with a closeness coefficient of 0.4865. Then, the education cost with 0.4841 closeness coefficient, followed by the influence of family and university's environment with 0.4792 and 0.4727 closeness coefficients. The influence of friends has the least closeness coefficient which is 0.4713. The result also shows that more respondents prefer IPTA compared to IPTS since the aggregate weightage for IPTA is higher. Public universities, IPTA, provide more benefits such as lower cost and have more branches so it is more suitable for all people.

4. Novelty of Research / Product

There have been some studies related to university selection such as a study by Muhammad Pazil et al. (2018) which is to identify the major factor influencing Malaysians' choice of university. The factors used in the study are affiliation, cost of education, course offered, and reputation. As the result, the institution's affiliation was ranked the first with highest closeness coefficient value which is 0.75. However, the previous study only focused on the university factors and not the students' factors. Therefore, the factors chosen in this study are related to both universities and students. There are six factors used in this study. The factors that relate to students are suitability with personality and interest, the influence of family, and the influence of friends meanwhile, the factors that relate to universities are the university's image, the university's environment, and education cost, so it can benefit both the students and the university's organization. The result shows that suitability with personality and interest is the main factor that affects the university's selection because it has the highest closeness coefficient of 0.4869.

5. Conclusion

The study is able to help a lot of people such as students, parents, teachers, and universities to prioritise the factors affecting the choice of universities. For future research, it is recommended to add more alternatives to further expand the scope of the study since the factors might change due to time.

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Research Exhibition in Mathematics and Computer Sciences: REMACS 5.0
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e ISBN 978-629-97934-0-3

