

**AN APPROACH USING FUZZY DEMATEL IN IDENTIFYING
THE CAUSES AND EFFECTS OF JOB STRESS AMONG
SECONDARY SCHOOL TEACHERS**

SITI SHAKIRAH BINTI SHAHPRI

**Thesis submitted in fulfilment
of the requirement for the degree of
Bachelor of Science (Hons.)
Mathematical Modelling and Analytics**

**College of Computing, Informatics and Mathematics
Universiti Teknologi Mara**

July 2024

ABSTRACT

Stress is defined as an individual's struggle to manage challenges from their surroundings, leading to feelings of unhappiness and lack of tranquillity. Job stress is a mental and physical state that influences one's productivity, effectiveness, and well-being at work. Individuals experiencing job stress may face negative emotional states and teachers are not exempt from encountering stress in the workplace. Therefore, this study aims to identify the causes and effects of stress among secondary school teachers using one of the multi-criteria decision-making (MCDM) method, fuzzy Decision Making Trial and Evaluation Laboratory (DEMATEL). Nine criteria were evaluated by collecting the data from three experts. The findings indicate that mental health, role conflict, and personal problems are the primary causes of stress. In contrast, job satisfaction, burnout, workload, student behaviour, environmental discomfort, and unrelated tasks are identified as effects of stress. Further analysis reveals that mental health is the most influential criterion, while job satisfaction is the most important criterion. This study is useful for the teachers themselves, as a way to self-monitor their emotional states, as well as to the top management of school and the authorities to take a proactive measure in providing a warm and supportive environment.

ACKNOWLEDGEMENT

First of all, all praise to Allah for the strength and blessings that have allowed me to complete this report, a requirement for the degree in Bachelor of Science in Mathematical Modelling and Analytics (Hons.). This report would not have been possible without the support and encouragement from many people, both directly and indirectly.

I would like to extend my heartfelt gratitude to my supervisor, Miss Nur Solihah Khadhiah binti Abdullah, for her unwavering guidance and insights throughout the completion of this project. I also wish to express my thanks to Dr. Atikah binti Salahudin, our Final Year Project (MSP600) lecturer, for all the advice and instruction provided.

I am immensely grateful to my parents, family members and friends for their continuous encouragement and belief in me. Lastly, I would like to thank myself give a good job pat at the back for not giving up on this journey.

I would like to end this acknowledgment section with a quote from my favourite singer, Yang Yoseop of Highlight, “At the end, everything will be alright. If it is not, then it is not the end yet.”

TABLE OF CONTENTS

	Page
DECLARATION BY THE SUPERVISOR	i
DECLARATION BY THE CANDIDATE.....	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES	vii
LIST OF FIGURES	viii
1. INTRODUCTION OF RESEARCH	1
1.1 Introduction	1
1.2 Background of Study (Redín & Erro-Garcés, 2020)	1
1.3 Problem Statement.....	3
1.4 Objective.....	5
1.5 Significant of Project.....	5
1.6 Scope of Project.....	6
1.7 Project Benefits	7
2. LITERATURE REVIEW	9
2.1 Introduction	9
2.2 Fuzzy DEMATEL Application	9
2.3 Fuzzy Application In Job Stress	10
2.4 Job Stress	12
2.5 Definition of Terms and Concepts.....	14
2.4 Conclusion	16
3. METHODOLOGY	17
3.1 Introduction	17
3.2 Research Step	17

3.3	Conclusion	25
4.	IMPLEMENTATION.....	26
4.1	Introduction	26
4.2	Implementation of Method	26
4.3	Conclusion.....	42
5.	RESULT AND DISCUSSION.....	43
5.1	Introduction	43
5.2	Result and Analysis	43
5.3	Conclusion.....	53
6.	CONCLUSION AND RECOMMENDATIONS	54
6.1	Introduction	54
6.2	Conclusion.....	54
6.3	Recommendations	56
	REFERENCES	58
	APPENDICES	61