

**UNIVERSITI TEKNOLOGI MARA**

**APPLICATION OF QUEUING THEORY IN  
ANALYSING BUS DELAY AT TWO BUS TERMINALS**

<b>NUR ATHIRAH BINTI HARON</b>	<b>2016340937</b>
<b>NUR SYAFIKA IZZATI BINTI BERHANUDIN</b>	<b>2016584369</b>
<b>SITI SHAHIRAH BINTI MOHD REDZUAN</b>	<b>2016331563</b>

**SUPERVISOR:**

**PROF. MADYA NORSAADAH BINTI AWANG @ MD AMIN**

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## **ABSTRACT**

This research present the queuing theory could be used in real life to solve some problems in term of arrival of customer represented as a bus and service time spent in the system. Issue that causes delay occur when busses needs to spend more time in queue. In the same time, the waiting time for busses depends on how many servers that having in the system. Next, the research was conduct between two terminals which were Terminal One Seremban and Kajang Bus Terminal. It focuses on determine the operating characteristics of queuing theory of single - channel single phase (M/M/1) and multi - channel single phase (M/M/3). After operating characteristics could be determined, the effectiveness of bus movement between two bus terminals that having same natures of single - channel single phase (M/M/1) and multi - channel single phase (M/M/3) could be compared. The results show that, a lower value for utilisation factor for single and multiple berth at Terminal One Seremban were more favour than Kajang Bus Station. The values were 0.1852 and 0.7777 for single and multiple berth respectively compared to 0.875 and 0.2222 respectively for Kajang Bus Terminal. A validation by using ARENA Software can determine the accuracy between the actual data.

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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## TABLE OF CONTENTS

ABSTRACT .....	i
ACKNOWLEDGEMENT .....	ii
CHAPTER ONE .....	1
1.1 INTRODUCTION .....	1
1.2 PROBLEM STATEMENT .....	2
1.3 RESEARCH OBJECTIVES .....	3
1.4 SCOPE AND LIMITATION .....	4
1.5 SIGNIFICANCE OF RESEARCHES .....	6
1.6 DEFINITION OF TERMS AND ABBREVIATION .....	7
CHAPTER TWO .....	8
2.1 LITERATURE REVIEW AND BACKGROUND THEORY .....	8
CHAPTER THREE .....	19
3.1 METHODOLOGY .....	19
CHAPTER FOUR .....	26
4.1 IMPLEMENTATION .....	26
4.2 RESULT VALIDATION .....	44
CHAPTER FIVE .....	56
5.1 DISCUSSION .....	56
CHAPTER SIX .....	62
6.1 CONCLUSION AND RECOMMENDATION .....	62
REFERENCES .....	63
APPENDIX .....	65

## LIST OF TABLES

Table 1 Definition of terms and abbreviation.....	7
Table 2 The comparison of formula in single berth and multiple berth .....	24
Table 3 The indicator for efficiency of movement of bus. ....	25
Table 4 Results of M/M/1 data collection at Terminal One Seremban .....	26
Table 5 Results of M/M/1 data collection at Kajang Bus Terminal .....	30
Table 6 Results of M/M/3 data collection at Terminal One Seremban .....	34
Table 7 Results of M/M/3 data collection at Kajang Bus Terminal .....	39
Table 8 The summarization of 5 replication of Berth Utilization in Terminal One Seremban. ...	48
Table 9 The summarization of 5 replication of Bus Total Time in Terminal One Seremban. ....	48
Table 10 The summarization of 5 replication of Berth. Utilization in Kajang Bus Terminal. ....	49
Table 11 The summarization of 5 replication of Bus. Total Time in Kajang Bus Terminal.....	49
Table 12 Results Comparison between M/M/1 Model and ARENA .....	50
Table 13 The summarization of 5 replication of utilization rate M/M/3 model in Terminal One Seremban. ....	52
Table 14 The summarization of 5 replication of Bus. Total Time in Terminal One Seremban for M/M/3.....	52
Table 15 The summarization of 5 replication of utilization rate M/M/3 model in Kajang Bus Terminal.....	53
Table 16 The summarization of 5 replication of Bus. Total Time in Kajang Bus Terminal for M/M/3. ....	54
Table 17 Results Comparison between M/M/3 Model and ARENA. ....	54
Table 18 Results of Single Channel Formulation .....	56
Table 19 Results of Multi-Channel Formulation .....	58
Table 20 Comparison between Terminal One Seremban and Kajang Bus Terminal. ....	59