

Universiti Teknologi MARA

**DATA ENVELOPMENT ANALYSIS:
APPLICATION IN MEASURING
THE EFFICIENCIES OF INSURANCE
COMPANIES**

AMIRUL AIZAD BIN ABDULLAH

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SUPERVISOR'S APPROVAL

DATA ENVELOPMENT ANALYSIS: APPLICATION IN MEASURING THE EFFICIENCIES OF INSURANCE COMPANIES

By

**AMIRUL AIZAD BIN ABDULLAH
2017946381**

This report was prepared under the direction of supervisor, Anas Bin Fathul Ariffin. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Science (Hons.) Management Mathematics.

Approved by:



.....
Anas Bin Fathul Ariffin
Supervisor

JUNE 25, 2020

STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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AMIRUL AIZAD BIN ABDULLAH

2017946381

JUNE 25, 2020

ABSTRACT

The purpose of this study is to get an overview of the state of general insurance companies operating in Malaysia. The main challenge in this sector the insurance industry is rising competition. In addition, another issue in output assessment for evaluating efficiency is Insurance business challenge. 10 insurance companies participate in the study. This analysis, using Data Envelopment Analysis (DEA) quantitative approach CCR model for output-orientation. In this study, the data envelopment analysis approach is used to evaluate the management efficiency and profitability of Malaysian-based companies involved in general insurance for the period 2015-2018. A two-stage approach to data envelopment analysis (2S-DEA) methodology is used to decompose the typical two-stage operating process of general insurance undertakings in a single intermediate operation. There are several objectives that could be achieved at the end of this study. The first is to measure the efficiency of insurance companies in Malaysia. There are several other objectives that can be achieved in this study which are to rank the most efficient insurance operators in the last few years, to assist customers, to select insurance companies and to compare the efficiency levels between local and foreign companies. Based on the result, the companies seen not very efficient from the past four years. As shown from the overall graph, the general insurance companies in Malaysia shows a declining trend over the last four years. Each of the companies also showed a declining trend from 2015 to 2018. The general insurance companies in Malaysia seen not very consistent for the past four years. In between the foreign and local insurance companies, it seen that the foreign companies are more efficient then the local companies since it has the large range of efficient value. The results from this study would benefit Malaysia 's insurance societies, insurance company management and policy makers.

Keywords: Data Envelopment Analysis (DEA), Malaysia insurances companies, General insurances, Performance measurement

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