

INDUSTRIAL TRAINING REPORT

AT

HOSPITAL RAJA PEREMPUAN ZAINAB II

15000 KOTA BHARU KELANTAN

BY

ZULFATIN BINTI ZAKARIA

(2012696806)

REPORT SUBMITTED TO

FACULTY OF COMPUTER SCIENCE AND MATHEMATICS

UNIVERSITI TEKNOLOGI MARA

AS PART OF REQUIREMENT

FOR

BACHELOR OF SCIENCE (HONS.) STATISTICS

JANUARY 2015

## **ACKNOWLEDGEMENT**

In the name of Allah, the Most Gracious and the Most Merciful Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this project. Thanks for all You have given us and have shown what we must do even though not directly but indirectly.

First and foremost, I would like to thank to my supervisor, Associated Professor Dr Jusoh Yacob for the valuable advice and guidance for me to complete this project.

I would like to extend my heartfelt gratitude to my beloved parents for their financial support and understandings on me in completing this project. Other than that, special thanks also to my friends who have helped me a little and supporting my work during do this project progress till it is fully completed.

I also would like to thank any person who had been involved throughout the completion of this project, either directly or indirectly, especially to my practical training place, Medical Record Unit of Hospital Raja Perempuan Zainab II.

I am grateful to the Ministry of Higher Education Malaysia and Universiti Teknologi MARA, for funding my study.

## **ABSTRACT**

Breast cancer is the most common cancer among females. Breast cancer begins in the breast tissue that is made up of glands for milk production. This cancer typically detected either during a screening examination, before symptoms have developed, or after symptoms have developed, when woman feels a lump. Forecasting number of breast cancer cases in Hospital Raja Perempuan Zainab II starting from January 2004 to December 2013 was done by using data that are taken from medical record unit of the hospital. The aims of the study are to identify the component in the time series of number of breast cancer cases in Hospital Raja Perempuan Zainab II from January 2004 to December 2013, to determine the best model of the breast cancer cases, and to forecast the number of breast cancer cases for 2014. The methods that used in this study are Univariate Modeling Techniques and The Box-Jenkins Methodology. The results shown for Univariate Modeling Techniques, Single Exponential Smoothing is the best model since its Mean Squared Error (MSE) and Mean Absolute Percentage Error (MAPE) value was the lowest value compared to other method. Meanwhile, result of The Box-Jenkins Methodology shown the best model was ARIMA (1,1,2). This is because its value of MSE and MAPE gave the lowest value compared to other model. In conclusion, the univariate modeling technique which is single exponential smoothing is the best method for forecasting the number of breast cancer cases in Hospital Raja Perempuan Zainab II Kota Bharu. The forecast value for year 2014 shows the increase values of breast cancer cases than slowly decrease in a few months.

## **TABLE OF CONTENTS**

	<b>PAGE</b>
<b>ACKNOWLEDGEMENT</b>	<b>i</b>
<b>ABSTRACT</b>	<b>ii</b>
<b>LIST OF CONTENTS</b>	<b>iii</b>
<b>LIST OF TABLES</b>	<b>vii</b>
<b>LIST OF FIGURES</b>	<b>viii</b>
<b>CHAPTER 1 ORGANIZATION BACKGROUND</b>	
1.1 Background of Industrial Training	1
1.2 Objective of Industrial Training	1
1.3 Industrial Training Attachment	
1.3.1 Background of the Organization	2
1.3.2 Location	4
1.3.3 Company Objective	4
1.3.4 Vision	4
1.3.5 Mission	5
1.3.6 Organization Chart of HRPZ II	5
1.3.7 The Department Chart	5
1.3.8 Industrial Training Task	6

## **CHAPTER 2 RESEARCH PROJECT**

2.1 Background Study	8
2.2 Problem Statement	9
2.3 Research Objective	10
2.4 Rationale of the Study	10
2.5 The Scope and Limitation	11

## **CHAPTER 3 LITERATURE REVIEW**

## **CHAPTER 4 RESEARCH METHODOLOGY**

4.1 Data Collection	15
4.2 Method of Data Analysis	
4.2.1 Component of the series	
4.2.1.1 Trend Component	15
4.2.1.2 Cyclical Component	
4.2.1.3 Seasonal Component	16
4.2.1.4 The Irregular Component	16
4.3 Method of Construct Each Model	17
4.4 Univariate Modelling Techniques	
4.4.1 The General Procedure to develop Univariate Model	17