

TIME SERIES FORECASTING MODEL FOR
TOURIST ARRIVAL IN NATIONAL PARK
KUALA TAHAN, PAHANG

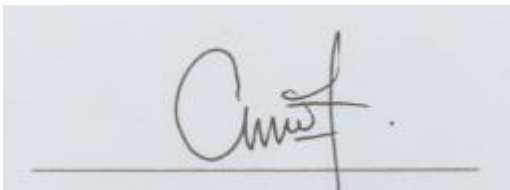
MEGAT MUHAMMAD AFIF BIN MEGAT
MUAINUDDIN

Master of Science

UNIVERSITI MALAYSIA PAHANG

SUPERVISOR'S DECLARATION

We hereby declare that We have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Master of Science.



(Supervisor's Signature)

Full Name : DR. NORATIKAH BINTI ABU

Position : SENIOR LECTURER

Date : 29/3/2021



(Co-supervisor's Signature)

Full Name : DR. WAN NUR SYAHIDAH BINTI WAN YUSOFF

Position : SENIOR LECTURER

Date : 29/3/2021



STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

A handwritten signature in black ink, appearing to be 'M. M. Afif Bin Megat Muainuddin', is written over a light grey rectangular background.

(Student's Signature)

Full Name : MEGAT MUHAMMAD AFIF BIN MEGAT MUAINUDDIN

ID Number : MSE 17001

Date : 29/3/2021

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MEGAT MUHAMMAD AFIF BIN MEGAT MUAINUDDIN

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

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ABSTRAK

Ramalan pelancongan boleh menjadi satu unsur penting dalam industri pelancongan untuk memastikan setiap pelaburan yang dibuat oleh individu, syarikat dan kerajaan membuahkan hasil yang menguntungkan. Daripada perspektif ekonomi, eko-pelancongan adalah sebuah perniagaan yang semakin meningkat naik dan mampu menjadi penunjuk utama dalam industri pelancongan. Ia juga boleh menjana pendapatan kepada pemilik dan komuniti di sekitar. Kajian ini bertujuan untuk meramalkan permintaan eko-pelancongan berdasarkan bilangan ketibaan pelancong di Taman Negara Kuala Tahan, Pahang bagi pelancong tempatan dan luar. Model ramalan yang digunakan adalah purata bergerak bersepadu autoregresif bermusim (SARIMA) dan pelicinan eksponen. Sisihan peratusan mutlak min (MAPE), ralat rata kuadrat rerata (RMSE) and ralat mutlak (MAE) digunakan bagi mengira ketepatan ramalan dan perbandingan bagi model ramalan terbaik. Hasil dapatan menunjukkan model ramalan terbaik bagi meramalkan bilangan ketibaan pelancong di Taman Negara Kuala Tahan adalah SARIMA $(1,0,0)(1,0,1)_{12}$ berdasarkan nilai MAPE, RMSE dan MSE yang terkecil. Oleh itu, model pelicinan eksponen tidak sebaik model SARIMA dalam meramalkan ketibaan pelancong. Untuk kajian pada masa hadapan, model SARIMA boleh digunakan untuk membandingkan antara data ketibaan pelancong tempatan dan pelancong luar bagi destinasi eko-pelancongan.

ABSTRACT

Tourism forecasting can lead to an important element in tourism industry to ensure that each investment by individuals, companies and government is profitable. From economy perspective, eco-tourism is a growing business and it is an important indicator to the tourism industry. It also generates income revenue to the owner and surrounding communities. This research aims to forecast the eco-tourism demand based on number of tourist arrival for both local and foreign tourist at National Park Kuala Tahan, Pahang. The forecasting models used are seasonal autoregressive integrated moving average (SARIMA) and exponential smoothing. Both forecasting models are compared and assessed using Mean absolute percentage error (MAPE), root mean square error (RMSE) and mean absolute error (MAE). The result demonstrated that the best model to forecast the number of tourist arrival in National Park Kuala Tahan, Pahang is SARIMA $(1,0,0)(1,0,1)_{12}$ which is based on the smallest value of MAPE, RMSE and MSE. Hence, the exponential smoothing is not as good as the SARIMA model in forecasting tourist arrival for the data used. In future study, SARIMA model can be used to compare between the local and foreign tourist arrival for eco-tourism destination.

TABLE OF CONTENT

DECLARATION	
TITLE PAGE	
ACKNOWLEDGEMENTS	ii
ABSTRAK	iii
ABSTRACT	iv
TABLE OF CONTENT	v
LIST OF FIGURES	ix
LIST OF SYMBOLS	x
LIST OF ABBREVIATIONS	xi
CHAPTER 1 INTRODUCTION	12
1.1 Preface	12
1.2 Research Background	12
1.3 Problem Statement	14
1.4 Research Questions	15
1.5 Research Objectives	15
1.6 Research Scope	16
1.7 Research Significance	16
1.8 Thesis Organisation	16
CHAPTER 2 LITERATUR REVIEW	18
2.1 Introduction	18
2.2 Forecasting	18
2.2.1 Demand Forecasting	18
2.2.2 Tourism Forecasting	20

2.2.3	Ecotourism Product Forecasting	25
2.3	Forecasting Model	27
2.3.1	SARIMA Models	27
2.3.2	Exponential Smoothing Models	32
2.4	Gap of Knowledge in the Study	36
2.5	Conclusion	36
 CHAPTER 3 METHODOLOGY		37
3.1	Introduction	37
3.2	Research Design and Procedure	37
3.2.1	Data Collection	38
3.2.2	Data Screening	39
3.2.2.1	Data Transformation	39
3.2.2.2	Portmanteau Test	40
3.3	ARIMA Models	41
3.4	Exponential Smoothing Models	44
3.5	Forecast Evaluation	46
3.6	Conclusion	47
 CHAPTER 4 ECOTOURISM FORECASTING: A CASE STUDY		48
4.1	Introduction	48
4.2	Data Collection	48
4.3	Data Screening	52
4.3.1	Data Transformation	52
4.3.2	Portmanteau Test	54
4.4	SARIMA Models	54

4.5	Exponential Smoothing Models	60
4.5.1	Simple Exponential Smoothing Model	60
4.5.2	Double Exponential Smoothing Model	62
4.5.3	Holt-Winter's Model	63
4.5.4	Comparison of Best Exponential Smoothing Models	64
4.6	Conclusion	65
CHAPTER 5 COMPARISON OF FORECASTING MODELS		67
5.1	Introduction	67
5.2	Validation of Forecasting Model	67
5.3	SARIMA Model for Testing Data	68
5.4	Exponential Smoothing Model for Testing Data	70
5.5	Comparison of Best Models	71
5.6	Conclusion	73
CHAPTER 6 CONCLUSION		74
6.1	Introduction	74
6.2	Summary of Research	74
6.3	Conclusion	74
6.4	Limitation & Recommendation	75
REFERENCES		76
APPENDICES		82

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