

UNIVERSITI TEKNOLOGI MARA

**TRAVEL BOOKING ANALYSIS AND
PREDICTION FOR NZ MALAYA
USING PREDICTIVE ANALYTICS**

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ABSTRACT

This project focuses on analysing and predicting travel booking patterns using predictive analytics to address common challenges such as unorganized booking data, poor demand forecasting, and the lack of a visual dashboard to support better decision-making. The objectives of the study were to identify existing problems in the current business process, to implement predictive analytics for forecasting travel bookings, and to present the outcomes through an interactive dashboard. The methodology was guided by the CRISP-DM framework, which is made up of six distinct phases: business understanding, data understanding, data preparation, modelling, evaluation, and deployment. A total of 751 historical booking records from the year 2024 were analysed using RapidMiner. For the three prediction experiments on trip package selection, marketing effectiveness, and sales forecasting three ML algorithms were applied: Decision Tree, Random Forest, and Naïve Bayes. Random Forest provided the best results among the three algorithms achieving 80.00% accuracy in trip package prediction, 81.82% in marketing prediction, and 75.00% in sales forecast accuracy. These Power BI dashboards presented real-time data insights to NZ Malaya's management and marketing teams, allowing predictive outcomes and informed decisions to be made. This project greatly helps the company improve its forecasting and operational planning as well as carve out a new niche in the tourism industry.

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