FACULTY OF SCIENCE
CHIANG MAI UNIVERSITY

Title :   Analysis and Forecasting of the Number of Shipping Bills at Each Destination Station of Nim See Seng Transport (1988) Co., Ltd.

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ABSTRACT

Nim See Seng Transport (1988) Co., Ltd. continuously collects shipping data; however, the complexity of this data may hinder analysis and forecasting. Efficient data management is therefore crucial.

This project aims to enhance data processing through data cleaning, product categorization, forecasting, and data visualization. The Typhon model achieved 77.20% accuracy in product classification, outperforming traditional dictionary-based keyword matching methods. For forecasting the number of shipping bills, five models—Prophet, LSTM, ARIMA, SARIMA, and ETS—were evaluated. Prophet demonstrated the most favorable performance, with the lowest error, yielding a Mean Absolute Error of 444.82 and a Root Mean Square Error of 745.45. Therefore, the Prophet model was selected for forecasting.

Furthermore, an interactive dashboard was developed using Streamlit, allowing users to filter forecasting results by product category or destination station. This project improves resource allocation and optimizes transportation processes within the organization.

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