

ABSTRACT

Financial statements serve as the primary medium for publicly listed firms to communicate their financial performance and condition. The increasing occurrence of fraudulent financial reporting has raised serious concern regarding corporate integrity and investor protection. The Beneish M-Score is a well-established model for identifying potential earnings manipulation, yet traditional approaches struggle to manage the complexity and scale of modern financial data. This Study aims to detect financial statement fraud by classifying firms based on eight Beneish M-Score variables using the Random Forest algorithm. The dataset comprises 300 financial statements from non-banking firms listed on the Main Board Index of the Indonesia Stock Exchange. Data preprocessing addressed missing values and inconsistencies, while class imbalance was mitigated using the Synthetic Minority Over-sampling Technique (SMOTE). Grid Search based Threshold Optimization were employed to enhance model performance. The optimal Random Forest model with SMOTE and a threshold of 0.65 achieved an accuracy of 96.67%, with precision, recall, and F1-score of 80.00%. The findings indicate that integrating the Beneish M-Score with Random Forest, supported by SMOTE and threshold optimization, provides a robust and adaptive approach for detecting potential financial statement fraud.

Keywords:

Financial Statement Fraud Detection, Main Board Index Beneish M-Score, Random Forest, SMOTE, Threshold Optimization.