

Do the Descriptions in the MD&A Section Contribute as a Red Flag for the Early Detection of Fraudulent Accounting Firms in Japan?

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Abstract

Accounting fraud is defined as the intentional material misstatement of financial statements or disclosures (in notes to financial statements or SEC filings) or the commission of an illegal act that has a material direct effect on financial statements or financial disclosures. The early detection of accounting fraud is important because fraudulent activity reduces public confidence in capital markets and hinders economic development. Therefore, studies have been conducted to develop accounting fraud detection models using quantitative data, such as accounting and financial information, and qualitative data, such as descriptions of securities filings. Previous studies using Form 10-K extracted words that were highly associated with fraudulent accounting activities and used an SVM (Support Vector Machine) to construct a fraudulent accounting detection model. To build the model, fraudulent and non-fraudulent accounting firms were used as samples. By contrast, this study constructs a fraudulent accounting detection model that samples fraudulent accounting periods and other periods (non-fraudulent terms) of companies with fraudulent accounting experience and extracts words that capture the signs of fraudulent accounting. A fraudulent accounting detection model is constructed following the procedures of previous studies on companies listed on the Tokyo Stock Exchange from 2004 to 2017. In addition, we constructed detection models using several classification algorithms (SVM, RF, LR, and XGB) and compared their accuracies. The results show that SVM is better at detecting accounting fraud than other classification algorithms, with a sensitivity (accuracy rate for accounting fraud firms) of 60%.

Keywords

accounting fraud, financial statements, SVM, Random Forest, and XGB.

Biographies

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