



DETECTION OF FINANCIAL INFORMATION MANIPULATION BY AN ENSEMBLE-BASED MECHANISM

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Abstract: Complicated financial information manipulation, involving heightened offender knowledge of transactional procedures, can be damaging to the reputations of corporations and the auditors, as well as cause serious turbulence in financial markets. Unfortunately, most incidents of financial information manipulation involve higher level managers who are truly knowledgeable and comprehend the limitations of standard auditing procedures. Thus, there is an urgent need for additional detection mechanisms to prevent financial information manipulation. To address this problem, the author proposes an ensemble-based mechanism (EM) consisting of feature selection and extraction ensemble and extreme learning machine (ELM). The model not only counters the redundancy-removing problem, but also gives direction to auditors who need to allocate limited audit resources to abnormal client relationships during the auditing procedure and protect the CPA firms' reputation. The experimental results demonstrate that the model is a promising alternative for detecting financial information manipulation, and one that can ensure both the confidence of investors and the stability of financial markets.

Key words: *Feature selection and extraction ensemble, decision making, extreme learning machine, financial information manipulation*

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1. Introduction

Since the boom of information technology and the invention of modern devices, there have been an extreme increase in financial information manipulation (deceptive cases) associated with all aspects of the real business world [64]. These deceptive cases are generally composed of credit card fraud, e-commerce transaction fraud, insurance fraud, telecommunication fraud, money laundering, computer

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