A Few Words about the Book:
Application of Machine Learning Techniques and Artificial Intelligence to Detect Financial Irregularities in Commercial Companies

Marek Masztalerz

(https://orcid.org/0000-0003-3122-2717)

The author of this paper, Joanna Wyrobek, takes up a highly topical issue (from the moment accounting came into existence) of detecting financial irregularities (manipulations) in companies. This issue is important from a scientific (theoretical) and practical point of view. Noteworthy is the fact that this is the first such comprehensive study I know of that deals not only with various methods of detecting accounting manipulation, but also with the use of machine learning and artificial intelligence methods. In this regard, the book stands out strongly from other publications devoted to the problem of detecting irregularities in financial statements.

The starting point is a review of previous research on detecting financial manipulation and studies using *black box* algorithms. The author identifies 18 models for detecting financial fraud and synthesises them to then present and systematise previous research using *black box* algorithms. Then the biggest financial scandals of the last century are presented, with an indication of the mechanisms of accounting manipulation (mainly in US companies), while it is worth adding that this is presented in a synthetic way, which allows the reader to grasp the essence of the various cases of manipulation identified. In the next chapter, the author attempts to build a financial fraud detection model for Polish listed companies. This chapter is the most extensive part of the work, which is justified by the type and scale of the empirical research conducted. The author introduces machine learning methods and then describes selected supervised learning methods in detail, providing a theoretical introduction to her own research. Using selected algorithms, the author positively verifies the hypothesis that entities suspected of fraud/financial manipulation can be identified using machine learning and artificial intelligence algorithms, and rejects the hypothesis that models developed in the US market achieve high efficiency for

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detecting fraud in the Polish market. The author also points out potential reasons for the low effectiveness of the U.S. models in relation to Polish companies.

The work is innovative (especially in the methodological layer) and is sure to become a source of inspiration for other researchers interested in the problem of detecting manipulation in financial statements. The monograph is scholarly in nature, but it can be an extremely interesting publication not only for researchers, but also for students in the fields of economics (especially such as finance and accounting or management) and practitioners (accountants, statutory auditors, CFOs, business consultants, company board members, financial controllers and others).

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