
MATHEMATICAL STATISTICS AND GRAPH THEORY METHODS PREVENTING FINANCIAL FRAUD

A.S. Portnova

portnova-a@mail.ru

Bauman Moscow State Technical University, Moscow, Russian Federation

Abstract

The study tested the mathematical statistics and graph theory methods allowing us to detect fraudsters in the information environment. The first method makes it possible to prevent illegal activities of the whole fraudulent structure, the second method enables us to determine who is engaged in illegal activity on the stock exchange, the third one is good for detecting the data falsification

Keywords

Antifraud, Benford's Law, Markov network, insider network

© Bauman Moscow State Technical University, 2016

References

- [1] D. Kavul T., Rugube T., Kawondera F., Chifamba N. A fraud detection tool in e-auctions. African journal of mathematics and computer science research, 2016, vol. 9, no. 1, pp. 1–11. DOI: 10.5897/AJMCSR2015.0593
- [2] Pandit S., HorngChau D., Wang S., Faloutsos C. NetProbe: a fast and scalable system for fraud detection in online auction networks. Sixteenth International World Wide Web Conference (WWW2007), Banff, Alberta, CANADA. 2007. May 8–12.
- [3] Yarygina I.Z., Kondrakhina N.G., eds. Slovar' finansovo-ekonomicheskikh terminov [Financial and economic terms dictionary]. Moscow, FU Publ., 2012. 172 p. (in Russ.).
- [4] Golbeck J. Benford's law applies to online social networks. PLoS ONE, 2015, vol. 10, no. 8. DOI: 10.1371/journal.pone.0135169

Portnova A.S. — student of the Department of Information Security, Bauman Moscow State Technical University, Moscow, Russian Federation.

Scientific advisor — N.S. Konnova, Assist. Professor of the Department of Information Security, Bauman Moscow State Technical University, Moscow, Russian Federation.
