

SECTION 3

Mathematical methods, models and information technology in the management of economic systems

3.1. RESEARCHING OF DATA MINING ALGORITHMS IN DETERMINING FRAUD IN A NETWORK

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Social networks, created by the evolution of the Internet (Web 2.0), are today a major communication and work tool for enterprises as well as for individuals. Affecting an extremely wide audience (people of all ages, status, category and domain) because of its many benefits (social activity, financial transactions, exchange and sharing of information, collection of knowledge), these networks represent a market of first plan which is no longer ignored by companies. Indeed, the business world quickly understood the interest of using social networks, for financial purposes to promote the management of their e-reputation [1]. Some companies have decided to use them for professional purposes, in order to involve their employees and sometimes their customers in the life of the company. Today, all enterprises have to do with social networks, which allow them to manage their image, develop financially and enrich their experience in the web market that offers new opportunities, previously nonexistent.

However, despite the many benefits of using social networks in today's lives, their expansion over the years has also led to the proliferation of fraudsters and cybercriminals given the quantity and quality of information which are increasingly stored on these networks. No more than a week goes by without the news bulletins reporting a cyberattack against an organization, company, group or individual [2]; attacks or frauds being of various kinds, given the unlimited imagination of the fraudsters. Here we mention the attacks on the goods of someone (credit card fraud, insurance fraud, redirected financial transactions, hacking, etc.) and the attacks on people (usurpation identity, misappropriation of confidential data, propagation of false information or destructive information, etc.). These fraud attempts, which have been drastically increasing in recent years, make fraud detection more important than ever. This is why organizations or companies must create a barrier between them and cyber-fraudsters.

Consider the credit card fraud on networks when there are bank card transactions on the internet. These transactions are processed by the EIG BC (Economic Interest Grouping Bank Card) which manages the authorization process for Visa and MasterCard cards on the networks. This is how the EIG BC network is