Abstract

In this paper we investigate the most recent techniques that support the auditor in his audit activity. The review and evaluation process of internal accounting and financial control systems represents a major task to auditors and management due to the professional, legal, and economic concerns. Furthermore, there are other many reasons for the auditor to be able to effectively review and evaluate internal accounting and financial control systems; among them the economic reason becomes dominant. However, the competition within the auditing industry becomes tighter, and maintaining competitive auditing costs is crucial for any auditing company to survive. The auditing costs could be drastically reduced by using in auditing process the most advanced intelligent tools, adapting them to the internal accounting control systems, and by decreasing the scope of essential tests. Concluding, we tried to show in this research paper that the availability of process mining techniques, Fuzzy Logic modeling intelligent strategies combined with the well-known Unified Model Language (UML) diagrams, Petri nets modeling tools and the omnipresence of recorded business events will dramatically change the role of auditors.

Keywords: Audit process, Accounting control systems, Agent based modeling strategy, Process mining techniques, Colored Petri Nets models, Intrusion detection systems (IDS), Software Fault Tree Analysis (SFT), Computational Intelligence (CI)

JEL Classification: C88, M42