

Continuous Monitoring with Interactive Data Visualization: An Application to Healthcare Processes

Abstract:

This paper discusses the utilization of interactive visualization and machine learning technologies for continuous monitoring (CM) tool design and its implementation in the real-world hospital payroll process. In this paper, we adopt a design science approach towards the CM artifact design and provide new solutions for monitoring controls over challenging and complicated business processes, thus contributing to the auditing literature. The evaluation of this tool design is from a project whereby a CPA firm, a firm client, and Rutgers CAR Lab work together to improve the assurance of payroll reviews. We show that emerging technologies substantially improve timely anomaly detection and loss prevention in practice.