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Comprehensive Rule-Based Compliance Checking and Risk Management with Process Mining

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\textbf{Abstract}

Process mining researchers have primarily focused on developing and improving process discovery techniques, while attention for the applicability of process mining has been below par. As a result, there only exists a partial fit with the traditional requirements for compliance checking and risk management.

This paper proposes a comprehensive rule-based process mining approach for a timely investigation of a complete set of enriched process event data. Additionally, the contribution elaborates a two-dimensional business rule taxonomy that serves as a source of business rules for the comprehensive rule-based compliance checking approach. Finally, the study provides a formal grounding for and an evaluation of the comprehensive rule-based compliance checking approach.

\textit{Keywords:} Business Rules, Compliance Checking, Risk Management, Process Mining, Process-Aware Information Systems

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