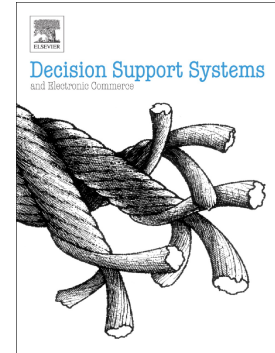


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**Evaluating the effect of best practices for business process redesign:
an evidence-based approach based on process mining techniques**

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Abstract

The management of business processes in modern times is rapidly shifting towards being evidence-based. Business process evaluation indicators tend to focus on process performance only, neglecting the definition of indicators to evaluate other concerns of interest in different phases of the business process lifecycle. Moreover, they usually do not discuss specifically which data must be collected to calculate indicators and whether collecting these data is feasible or not. This paper proposes a business process assessment framework focused on the process redesign lifecycle phase and tightly coupled with process mining as an operational framework to calculate indicators. The framework includes process performance indicators and indicators to assess whether process redesign best practices have been applied and to what extent. Both sets of indicators can be calculated using standard process mining functionality. This, implicitly, also defines what data must be collected during process execution to enable their calculation. The framework is evaluated through case studies and a thorough comparison against other approaches in the literature.

Keywords: Process redesign, best practice, process performance indicator, process mining, case study, business process management

1 Introduction

Business processes are at the heart of modern organizations and continuously evolve to address changing business requirements [1]. Their execution is often supported by advanced business process management systems [2], which collect and make the available large amount of data for process analysis and improvement [2]. The availability of these data pushes business process (re-)design and improvement to

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