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Business_process_modeling

Subject: Doc 4 comparative ANALYSIS of business process modelling techniques.

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Laden Aldin and Sergio de Cesare's paper offers a detailed comparative study of business process modeling approaches, which is currently among the top priorities of both academia and industry in terms of guidelines for selecting specific techniques and methods. The business process modeling is the foundation of organizations' communication and understanding improvement, with many methods available, each one of them providing a different perspective and different features and capabilities.

The study introduces a comparative framework based on five key criteria: adaptability, simplicity, intelligibility, simulation support, and comprehensiveness.

Such a framework not only enables to single out the major paradigmatic differences among the assessed techniques but also forms a basis for more thorough analysis of further methods and devising selection procedures.

The background part depicts the role of business process modeling in the process adaptation and evolution which is triggered by both external and internal factors. The numerous modeling techniques, each targeting different business processes facets, is such a sign of the complexity of this decision. For example, RADs (Role Activity Diagrams) point at the roles' interactions within an organization, while DFDs (Data Flow Diagrams) focus on the data flow. The comparative analysis ranges over these seven common business process modeling methods and grades them by the set of standards.

This analysis shows diverse strengths and weaknesses across the techniques, thereby identifying the modeling method that should be employed depends on the specific modeling task needs. Techniques such as flow charts and Petri nets are defined by their simplicity and ease of use, but they are widely different in their support for simulation and flexibility. On the other hand, more advanced techniques such as Business Process Modeling Notation (BPMN) provide a rich semantic framework with a wide scope, which can be used to model the process in detail, making it suitable for simulation and having strong support for all the key elements of business process modeling.

The paper ends in a demand for both academic and industrial exploitation in comparative study of business process modeling methodologies. Such research is crucial for our gaining a better understanding of how these approaches are used in the course of MDSD and how efficient the modeling for the response of the system development to the changing service paradigm is.
The research is also critical in the way that it makes the entire business process modeling

techniques landscape simple for the practitioners to navigate. In addition, it is a contribution to the ongoing debate about the best way to optimize business process management and modeling in the context of organizational change and digital transformation.