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Summary:

Advancements in technology have led to a continuous increase in the volume of data being generated. This data originates from various sources such as mobile phones, computers, and smart home devices, resulting in a constant flow of information. This abundance of data presents both opportunities and challenges for organizations.

The influx of data often leaves companies uncertain about how to harness this wealth of information. The rapid pace of technological advancements exacerbates the challenges associated with data management. Survey findings indicate that digitalization affects all respondents to varying degrees of concern. A comprehensive 100% of participants report being impacted, with 59% expressing very strong concerns, 35% stating strong concerns, and only 6% indicating a low level of concern. Within companies, 38% are experiencing growth, 51% are in transition, and 11% are at the initial stages of implementing digitalization.

In this case, implementing BPM processes lead to efficient system usage and minimize the risks of underutilization and wasted investment in a context where users estimate their use of BPM and automated process management better than in reality and 45% of the compiled data from the companies are not used or effectively controlled. There exists various process mining techniques and their applications across different industry segments are tailored for this challenge.

Among the methods from our papers, two stand out prominently: the "Decision Support Method" and the "Process Enhancement" methods. The Decision Support Method focuses on reusing successful patterns from past solutions to expedite the development of new solutions. Process Enhancement methods address resource unavailability and potential bottlenecks in the system.

An additional noteworthy approach involves a "bio-inspired" method, where a computational element, inspired by biological systems, is injected into the model to optimize process flow. This method introduces a computational element into the model, mimicking biological agents, to efficiently allocate resources and identify the most suitable configuration. Furthermore, another method analyzes resource trends by breaking down data sources into business process components. This decomposition enables the identification of workload patterns and changes in resource usage over time.

SHAMASH tool:

This tool is used for process modeling that eliminates the need for manual input. It focuses on organizing processes around activities, with a focus on resource allocation to meet user requirements. The system consists of four subsystems: The author subsystem allows users to define standards, processes, and organizational structures via a command interface, enabling step-by-step process descriptions and connections for simulation and optimization. The simulation subsystem identifies process behavior issues and produces optimized models. The text generation subsystem ensures consistency in representations of processes generated, while the workflow translates process models into a compatible language.

In the realm of Business Process Management (BPM), there's also Integrated BPM (IBPM), where cloud computing platforms offer various services like virtualized computing resources and software applications over the internet. Implementing IBPM can be challenging due to high costs and a lack of understanding of its value. IBPM helps manage risks and respond quickly to market shifts, meeting the growing need for responsiveness. IBPM streamlines operations, automates processes, aligns with organizational objectives, and reduces reliance on key performance indicators.