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Summary:

Research papers delve into the identification of various factors that either promote or hinder the widespread adoption of artificial intelligence. Overarching objective of our papers is to establish a taxonomy for conversational process modeling applications, thereby providing a structured framework for understanding their functionality and impact. Specifically within the realm of business process management (BPM), there has been a recent emergence of natural language processing (NLP) tools designed to aid domain experts in creating and refining process models.

One such tool is Conversational Process Modeling (ConverMod), which involves a transformative approach wherein domain experts directly engage with chatbots to create, analyze, and refine process models throughout the BPM lifecycle. This assessment is conducted using key performance indicators (KPIs) as well as user surveys to gather feedback and insights regarding the usability and effectiveness of the chatbot-generated models – Aiming to gain a nuanced understanding of the strengths, limitations, and potential areas for improvement.

ConverMod applications span various stages of the Business Process Management (BPM) lifecycle. These stages include process identification, discovery, analysis, monitoring, implementation, and redesign. Within each stage, there are key activities such as gathering and preparing process descriptions, generating and assessing process models for quality, and supporting process redesign efforts. These activities have been identified as suitable for chatbot support, indicating the potential for automation and assistance in streamlining BPM tasks.

Drawn from the study is that generative artificial intelligence, such as ConverMod, can significantly enhance the BPM lifecycle by streamlining process model creation and redesign. The structured framework provided by the BPM lifecycle, as delineated by Dumas et al. (2013), highlights how ConverMod can be integrated across various process-oriented tasks without the need for additional tools. This integration has the potential to generate business value by improving efficiency and effectiveness in managing processes.

The study suggests a growing preference for chatbot-like models among users, indicating a potential shift in future process modeling practices. Future work aims to expand its utility by incorporating additional tools and systems, such as process engines or process-aware information systems, to address these aspects of the BPM lifecycle.

Several others models exist outside of the ConverMod realm, but still within the Natural Language Processing (NLP) paradigm, offer promising capabilities. One such model is ProcessGPT, which is derived from Generative Pre-trained Transformer (GPT) technology. ProcessGPT is designed to generate new process models, automate tasks, and provide insights for process improvement across various sectors. The effectiveness of models like ProcessGPT has already been demonstrated in real-world applications. For instance, they have been successfully utilized to maintain data ecosystem processes in banks, automate exam marking in education, or provide a hybrid model for law enforcement workflows. These applications serve as tangible proof of the potential of NLP-based models to streamline operations.

Future developments in these NLP-based models are expected to focus on exploring multi-modal capabilities to process a wider range of data types. Incorporating features such as image and video processing alongside text analysis. This shift towards multi-modal capabilities represents one of the most anticipated transformative approaches to Business Process Management (BPM), with the potential to reshape models across various industries.