Article Summary: Achieving Business Process

This article precisely explains the utility of semantic integration in the field of computing to ensure interoperability of information systems. By focusing on the semantic interoperability of business process models, the authors demonstrate that despite the frequency with which two alternative concepts—meta-models and ontologies—are proposed as potential solutions, their use is often approached without first reflecting deeply on their respective characteristics and the relationship they have. Thus, the article takes the direction of providing a comprehensive explanation of these two concepts and their combination to achieve true semantic interoperability in the context of business processes. On one hand, meta-models are presented as tools describing modeling languages, and on the other hand, ontologies are described as tools defining the natural semantics of concepts. The authors emphasize that to obtain a complete semantic description of model elements, these two complementary approaches must be combined. Through this, they also analyze various basic approaches for projecting model elements and constructing ontologies. By highlighting the challenges and opportunities associated with each approach, the article also offers a conceivable vision for properly implementing the proposed interoperability approach, thus highlighting its potential benefits for those oriented towards services. Additionally, it provides an overview of related work in the field and presents a concept for semantic interoperability using meta-models and ontologies, thereby providing a solid foundation for efficient implementation. Finally, to illustrate their approach more clearly, the authors present an example of corporate merger that requires advanced semantic integration of business process models. Indeed, this example helps better understand the challenges and opportunities presented by semantic interoperability in an operational context. Here, the focus is on improving meta-model-based integration using techniques from computer science and text research. The authors explore how more advanced algorithms regarding string comparison can allow for a more comprehensive semantic analysis of business process models. However, they also recognize the limitations of these approaches, for example, regarding understanding the meaning of compared strings. Indeed, they highlight the challenges posed by homonyms and synonyms in business process models, and thus, the article will emphasize the importance of the relationship between model elements and ontology concepts in what is proposed, and explore different approaches to create these links effectively, notably the manual, flexible, and advantageous approach. This overall shows that a solid framework is laid out to address the complex challenges of semantic interoperability in the context of business process models, paving the way for new advancements in this increasingly important field of modern computing.