The Evolution of Process Mining with the Incorporation of Artificial Intelligence: Implications for Business Process Management and Operational Efficiency

Introduction

In contemporary business environments, the continuous evolution of technology is reshaping traditional processes and operations. One such evolution is the incorporation of Artificial Intelligence (AI) into Process Mining methodologies. This dissertation explores the consequences of this integration on Business Process Management (BPM) and operational efficiency.

Literature Review

Process Mining is a data-driven methodology used to analyze business processes based on event logs generated by information systems. It provides valuable insights into process execution, identifying deviations, inefficiencies, and compliance issues. AI, on the other hand, encompasses technologies such as machine learning and natural language processing, enabling predictive analytics, automation, and decision-making.

Methodology

This study employs a literature review and a case study to explore the implications of integrating AI into Process Mining. The case study examines two companies: one that primarily uses Process Mining for continuous improvement and another that integrates AI for predictive maintenance and process automation.

Results

The analysis reveals that integrating AI into Process Mining enhances the ability to identify and address process inefficiencies. For example, AI algorithms can analyze large volumes of data to predict process bottlenecks or deviations before they occur, thereby increasing operational efficiency.

Discussion

The findings suggest that the incorporation of AI into Process Mining presents significant opportunities for Business Process Management (BPM) and operational efficiency. Organizations can achieve improved accuracy, agility, and cost savings by leveraging the strengths of both methodologies. However, careful consideration must be given to data privacy, transparency, and ethical concerns.

Conclusion

To conclude , the integration of AI into Process Mining offers considerable potential for enhancing Business Process Management (BPM) and operational efficiency. This dissertation highlights the implications of this evolution through a literature review and a case study. A balanced approach that considers the benefits and challenges of integrating AI into Process Mining is recommended for organizations seeking to optimize their processes and operations.