Analysis of business processes using process mining: what role does artificial intelligence play in process discovery, compliance and improvement?

Business process optimization is a major challenge for businesses, whether small, medium or large. The introduction of artificial intelligence (AI) has significantly transformed the way we approach these processes. One of the most powerful tools for understanding, analyzing and improving these processes is process mining, which relies on AI and its data analysis capabilities to extract valuable insights from a company's event logs. Information system.

Here we will discuss how AI, through process mining, can contribute to business process discovery, compliance and improvement. We will also detail the benefits and challenges of using these technologies.

I. Discovery of business processes

AI, through process mining, offers a new and analytical perspective on a company's operational processes. By analyzing event logs and using data mining techniques, it can identify the most frequently taken paths, exceptions, inefficiencies and delays.

Ex : -A large retail network can utilize process mining to analyze customer purchases. By examining transaction data, the network can discover purchase trends, identify popular products, and pinpoint opportunities to enhance the customer experience.

-A pharmaceutical company might apply process mining to track the stages of drug development, ensuring compliance with regulatory standards from initial research to approval processes.

II. Process compliance

Process compliance is essential in many industries, including finance, healthcare and manufacturing. AI, via process mining, makes it possible to compare actual processes to defined processes. It can identify cases of non-compliance, obsolete or inefficient processes and propose corrective measures.

Ex : -A medical equipment manufacturer might use process mining to ensure compliance with manufacturing standards, comparing actual processes with established norms to identify deviations that may indicate quality issues.

III. Process improvement

Once processes are understood and non-compliance issues are identified, AI can play a key role in improving them. Machine learning techniques can be used to identify patterns in data and provide solutions to optimize existing processes.

IV. Benefits and Challenges

Benefits: AI through process mining enables real-time process analysis, inefficiency detection, process improvement, and dynamic adaptation to business changes.

Challenges: This often requires company reorganization, mindset change and employee awareness. Additionally, the quality of the data used and the complexity of the processes can be obstacles.

Conclusion

In conclusion, AI through process mining offers a powerful approach for business process analysis. It offers many benefits, but it also requires effort to collect data, train staff and integrate changes into the business.