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Challenges in Process Mining

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This paper explores the experimentation of a process mining software called ProM. ProM is the only comprehensive framework capable of supporting a wide range of process mining techniques at once. This experiment brought to light various challenges facing process mining in business process management. Firstly, as the paper reminds us, process mining relies on the recording of event logs, which are analyzed to obtain information about the process of the domain being analyzed, and this information is then translated to obtain a process model.
This can be summarized as follows:

This study shows that, despite the potential of automated process mining tools, this research discipline is not yet fully mature. First of all, process mining software is very much mixed up with the different processes it supports. This leads to an explosion in the amount of data to be processed, as the data is not recorded in a uniform way (since there are different treatment processes). As a result, the data is less effectively exploited.

Some process mining models, such as process improvement, simulation, certification or workflow automation, can be of poor quality and are not used on a day-to-day basis.

Three major challenges emerge from this article:
- Challenge 1: Making "business process maps" that are as good as the geographic maps made by cartographers.
- Challenge 2: Supporting tomorrow's auditor by providing "business process forensics" based on process mining.
- Challenge 3: Providing organizations with "TomTom-like navigation functionality" based on process mining.

The first challenge lies in the fact that, in business processes, there is no such thing as a precise, interactive process map like today's navigation maps. Business management maps are generally not well understood by users. Event logs (the platform on which data is recorded) are often incomplete, making the process discovery stage difficult and sometimes laborious. This makes it difficult to extract relevant behaviors from the logs.

The second challenge lies in predicting behavior based on the reliability of the data entered in the event logs. It is therefore imperative not to modify, remove or add to the data that will be shared and processed. Moreover, very few systems support prediction, and there are very few predictions in terms of business processes or project processes.