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BDA/Business_process_analysis/L2_AissataDIAW/L1_AngéliqueCHAGNEAU/L0_SAMAROOSharmila/Predictive analysis.pdf at main · BigData2024/BDA (github.com)

Paper title – Article : Predictive analysis of business process using neutral networks with attention mechanism.

This article was written by Patrick Philipp with the help of other members. The main subject in this article is to predict future events, because companies need to prepare their activities in order to anticipate financials loses. Today, it is possible to prevent future events.

Principal goal of preventing / forecasting future events is to :

- Once companies are able to predict events, this leads to a competitive advantage.
- It help to create "*desire flow event*" and "*can influence the decisions on the distribution of strategies resources* ". Extract from the article.
- The manager can anticipate risks and plan the resources needed to limit production risks.
- Today, however, it is complicated, difficult to understand the underlying problem of the next element.

Resources needed to predict future events :

When enterprises want to predict these elements, they need data, which comes from "event logs", allowing companies to try out this data and find out whether or not is sufficient for prediction. On the other hand, the past events are used by companies to predict the future events.

They used 2 mechanisms to predict future events : advantages and disadvantages

- BPI challenge 2013 – use a large database to prevent events, more complex, – use powerful coding and ratio with parameter : 80% for training, 10% validation and 10% test. They use it to validate the prediction result.
- N-grams or dataset approach : limited : can only be used with simple data. They made an example with the same ratio (80% for training, 10% validation and 10% test). But BPI was more effecient.

Event log : have multiple cases, but a case is always assigned to an event.

The observation that they made : N-grams

When they use a large amount of data, predictions have many unique cases. This makes it difficult to predict the future. When using this approach, it can be interesting to use additional process to improve their performance.

We can **conclude** that BPI Challenge 2013 can be an interesting way of preventing future events, when the enterprise has a large amount of data at its disposal.