Logistics Use Case: Description

Business Case:

The container transportation case has been adapted from a realistic process that was described and implemented in [3]. It describes the process of loading a vehicle at the origin and starting to move towards its destination. During the movement of the container temperature is constantly monitored. If the temperature exceeds a certain threshold for some time, the vehicle has to move back to its origin. Otherwise it continues to the destination where the containers are unloaded.

Goals:

Two main goals are identified:
- Derivation of a model for the transportation process
- Derivation of a decision rule on when to return the container to their origin before they were delivered.

Data Task:

Simulated data of the transportation process and the time series measurements of container transportation are used.

Logistics Use Case: Business and Data Understanding

Application Environment:

Similar to the pre-eclampsia use case, there is no detailed specification of the business environment defined. We consider a general problem for logistics and the scope of the business only refers to a small number of activities. The application scenario is using BI separated from business strategy for a specific sub-process of a possibly larger process but results can be used later on.

Business Perspective:

The logistic company is the process owner, the containers are the process subjects and further actors are personnel of the company. Since the containers are understood as customers involved in the transportation process, the main perspective is the customer perspective.

BI View:

We use the event view for the first goal and the state view for the second goal.

Analytical Goals:

For achieving the goals we formulate two analytical goals:
The first one is Process identification and the second one is classification of the different process instances in such way that an economically favorable decision strategy for returning to the origin can be formulated. Influential factors is the temperature of the container.

Assessment of Data:

Due to the fact that the data were simulated, data are already in a adequate format and are of good quality.