

Industrial Intelligence in Supply Chain Network Design

Identification of Value Creation Potentials in Your Logistics Chain with Deep Qualicision

- + Analysis of process data streams through qualitative labeling for anomaly detection and improvement of planning quality through artificial intelligence (AI)
- + Data harmonization in M&A projects to accelerate integration
- + Analysis of customer ordering behavior to reduce logistics costs
- + Evaluation of shipment data to generate multi-criteria transport tariffs
- + Forecast of seasonal/volatile order and shipment data to increase planning reliability

+ Deep Qualicision and Machine Learning

AI analyzes data streams

As a component of the PSI Framework for Industrial Intelligence, the qualitative labeling of Deep Qualicision AI prepares raw process data for the process owner in an intelligible form. This is done by qualitatively evaluating directly measurable data with KPIs in business processes and, for example, automatically learning negative correlations such as delays compared to planned dates on this data (see Fig.1). This technology represents a bridge to machine learning.

Detecting anomalies in master data

The use of artificial intelligence offers the possibility of fully automated comparison of large volumes of data and, for example, to detect anomalies in master data. Anomalies with the same ordering behavior of customers (master data) with slightly different addresses or the same article characteristics but different article numbers are compared and displayed for verification. This way, errors in the basic data can be detected and corrected at an early stage as well as corrected in the source systems.

Data harmonization in M&A projects

In the context of M&A projects, data harmonization is usually inevitable. In this case, AI supports the merging of two databases, the matching of customer/article master data and the identification of identical articles.

Analysis of customer ordering behavior

Which articles are often ordered or delivered together? AI will provide answers. After all, it is precisely these items that should possibly be produced or stored at the same location. Complex logistics processes can thus be optimized and costly consolidation transports avoided – the basis for scenario management. This ensures that customers receive only one shipment per order. In intralogistics, order picking, storage and packaging costs can be saved by storing articles together or by forming kits.

Generating multi-criteria transport tariffs

Shipment data can be evaluated in detail so that the determination of transport costs can be calculated in a very differentiated manner, taking into account various criteria (in addition to weight and distance classes, criteria such as source/destination regions, article properties, surcharges or discounts).

Forecast of seasonal/volatile order and shipment data

By combining historical data with article- and customer-specific, regional sales forecasts as well as demographic or weather or seasonal data, exact forecasts can be generated about the expected development of order and shipment data – a decisive basis for the quality and reliability of all planning scenarios.

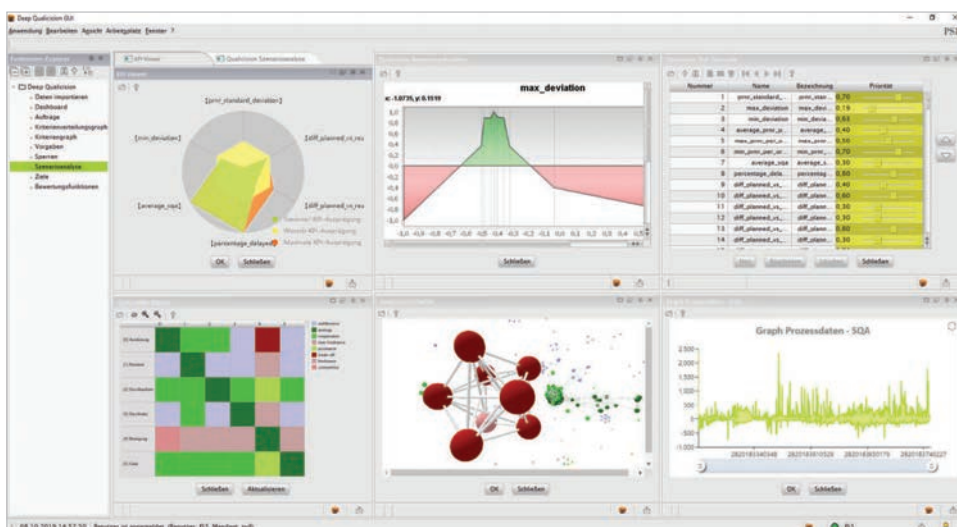


Figure 1:
Deep Qualicision AI