

Pricing Analytics: Five Steps to a Long-Lasting Increase in Sales and Profit

In many companies, possible margins are literally given away every day. However, each company can better manage and improve both their pricing as well as the pricing processes.



Price optimization is the most effective lever for increasing profits and giving companies more potential to grow. This is because price has a direct influence on product margins, sales volume, and revenues. On average, a price increase of 1% leads to a profit increase of approximately 9% (STAR Cooperation project results). Furthermore, pricing measures require low investments and show fast results. Considerable potential for improvement lies for example in the reduction of manual effort, increase in transparency, and consideration of the customer perspective (e.g. customers' price sensibility or willingness to pay).

Pricing decisions are both highly sensitive and complex. In most cases it's only the costs plus a mark-up that form the final price. To ensure holistic pricing, decisions should take three perspectives into account - **company, customer, and competition** – to ensure well-founded and data-based optimizations.

The Pricing Analytics Approach using KNIME

An example of a common challenge that companies face, is aligning price points within a product group. By aligning the price points, an increase in profits, the development of market shares, and customer satisfaction are addressed and expanded. Using KNIME, a five-step process (Fig 1.) was developed to ensure best practice when determining pricing.

1. Analyze product, price, and sales data to understand which factors influence sales performance on a granular level. KNIME is used to merge and transform data from different data sources. Grouping and pivoting as well as data visualization nodes are used when a deep-dive into the data is needed.

2. Discover the need for price adaption by analyzing and comparing the data. Pricing expertise as well as product, customer, and market knowledge are required to interpret the prepared data from step one.

3. Adjust prices systematically – for example with the value-based pricing approach or the price line optimization approach. Both take different value components of products into account and therefore promote data-driven pricing. KNIME is used to realize both approaches. For a value-based pricing approach, the KNIME rule engine helps apply a complex set of value driver rules. For a price line optimization approach, different statistical models for clustering and regression are applied and combined.

4. Calculate and evaluate the effects of the price adjustment. KNIME is used to simulate effects, however pricing expertise is needed to check the plausibility of new prices and to weigh up different pricing measures.

5. Approve the final prices and document these within the pricing system (completed by the pricing manager).

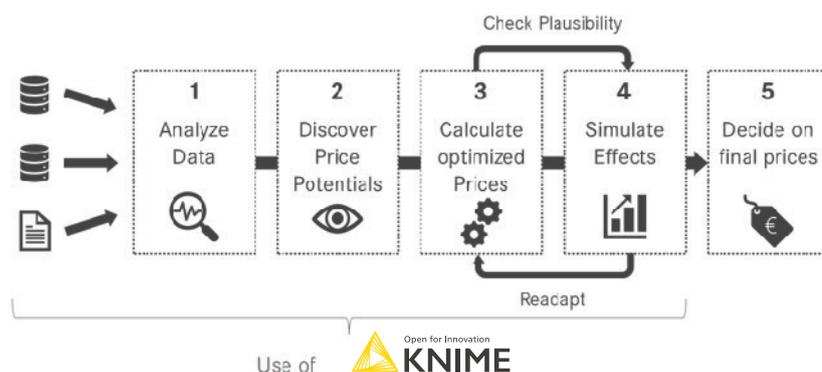


Fig. 1. The Pricing Analytics Approach using KNIME Software, developed by STAR Cooperation.

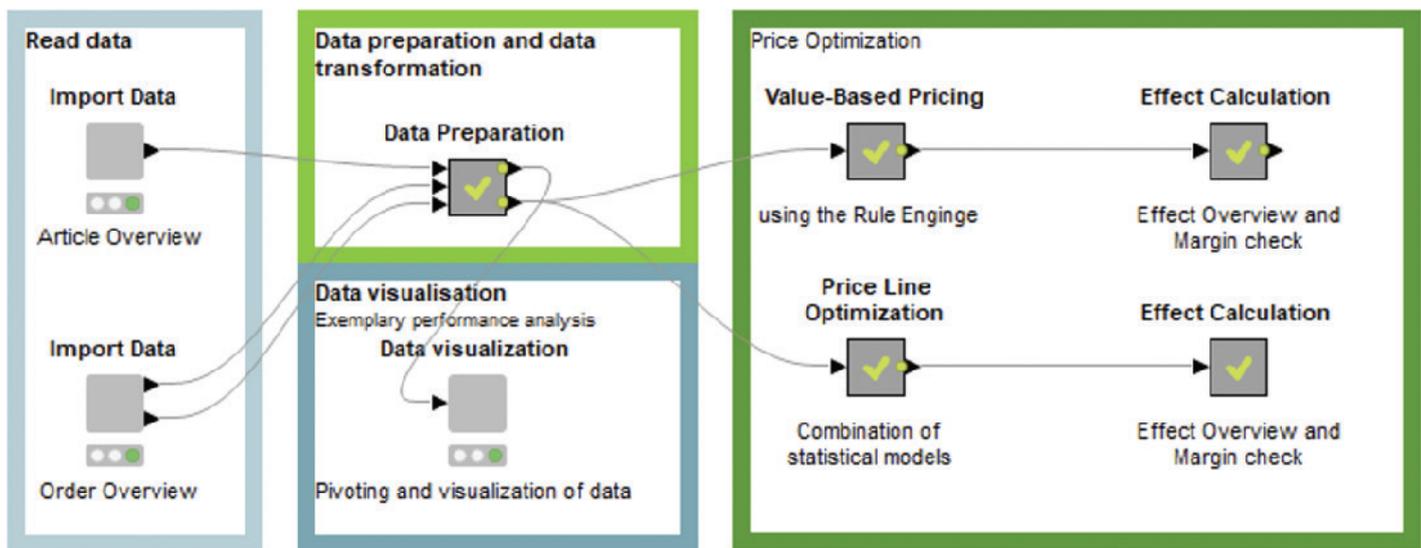


Fig. 2. Pricing Analytics high level workflow. The complete workflow, available on KNIME Hub, highlights how to prepare and analyze data, how to integrate competition information, and how to calculate prices and final effects.

Results:

With this Pricing Analytics Approach implemented in KNIME, manual pricing processes are implemented in tools based on Big Data and AI technologies. Product value drivers are identified and considered and, most importantly, products or spare parts with potential for high price optimization are automatically identified and price proposals are generated. Other results include:

- Transparency of existing optimization potentials
- Significant efficiency gains in pricing
- Profit increase of up to 9%

KNIME Analytics Platform enables business leaders to use data for better decision making and, in this case, optimize pricing with very little manual effort. One of the biggest advantages of KNIME is the ability to re-use a workflow repeatedly across different product categories. In pricing, an iterative approach via simulations is essential in determining the right price at the right time – and KNIME makes this simple to do. It's also possible to access and merge different data sources and formats, increasing the efficiency of the data scientists building the workflow.

