



DATA-DRIVEN PURCHASING OPTIMISATION

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Big data & data science in purchasing

Reducing your costs with data-driven purchasing optimisation

Intelligently assembling data from multiple sources. Using data science to evaluate and derive meaningful conclusions from the data and make recommendations for action. And all in a way that reduces costs or avoids them altogether.



In a nutshell, these are the goals of data-driven purchasing optimisation. It's a principle that your company reap great benefit from. Open Logic Systems can help you to implement the concept by providing tailor-made initiatives that turn what could otherwise be a complex challenge into a cost-efficient, user-oriented solution.

Purchasing and procurement are fundamental cost factors for any company. International corpo-

rations can be involved in thousands of procurement decisions every day. So it's no wonder that this area is one of increasing strategic importance for companies, as is the requirement for increased efficiency. This is where big data and data science solutions have a decisive role to play.

Structure please

Orders, contracts, supplier data, inventories, conditions – behind all purchasing processes there is a mountain of data and information. This information is often stored decentrally in various SAP and other systems. So a more harmonised and logically connected approach can create enormous potential.

Classification system of leaves



Especially those companies experiencing strong inorganic growth are faced with the challenge of integrating new data sources and IT systems. Ever-increasing data volumes and the need to embed information from external data into in-house systems turn reporting and analysis into increas-

ingly complex tasks. Meanwhile, political and commercial pressures such as globalisation or raw material bottlenecks can create additional problems.

We turn data into knowledge

Open Logic Systems can help your company generate valuable knowledge from pre-existing data. Together with our research partner, the Fraunhofer Institute IAIS, we have developed intelligent algorithms for the targeted optimisation of purchasing. And we've placed great emphasis on making them user-friendly. No special knowledge is required to use the output for the benefit of your company.

Our solution for data-driven purchasing optimisation

- gives you an integrated, real-time view of all purchasing activity across your business areas
- allows you to apply effective strategies that only work under specific conditions, and to use these strategies to improve your purchasing performance
- enables double-digit percentage cost savings
- enables you to predict the effect and savings potential of organisational and strategic change before the change is implemented
- enables company-wide and systems-wide information searches to be carried out in one harmonised datapool

Proven methods for individual solutions

No two companies are alike. So when it comes to the optimisation of purchasing procedures, there's no one-size-fits-all solution. Our first task is to take a snapshot of your company's current situation. Then we can create an individually tailored solution that addresses your unique requirements.



This might include the following measures and methods:

- Integrating the various data sources (e.g. SAP, ProSupply, scoring systems, Excel maps, enterprise social media, external benchmarks, market data, text documents etc.) into one big data platform
- Identifying the relationships between the various data sources
- Developing a business taxonomy to harmonise different organisational structures and IT systems
- Creating a framework for the automatic identification of purchasing strategies, classifications and orders that are likely to have been implemented given the stated objectives and applicable rules (‘if-then’ statements)
- Modules for reporting, analysis and visualisation
- Current and future scenarios

What does this mean in practice?

The following usage options and insights show how you can benefit from successful, data-driven purchasing optimisation.

Increased overview and efficiency

Successful purchasing requires knowledge. Fast and easy access to information is vital for joined-up purchasing. But having to work with a wide range of autonomous, decentralised systems will decrease your purchasing efficiency.

In the past, a lack of information was often responsible for the procurement of identical items from different sources under different terms. If your aim is to reduce costs, that too requires knowledge of the alternatives and innovations available. This knowledge is often acquired by working in partnership with suppliers. But in order to be of use, it must be stored and accessible centrally.

Consolidating existing IT systems, or inputting the information into all your systems, could help you to meet this challenge and avoid inefficient processes. But the expense and time involved would be huge. A far superior solution is to homogenise and enrich your data in one downstream data warehouse or big-data system. In this way planned purchasing can be seen as one single, company-wide block in order to enable the efficient bundling of orders.

For many companies, the use of information deriving from supply chain management (e.g. regarding political unrest or natural disasters) is already standard practice. But there is still a great deal of untapped potential in the use of one harmonised datapool to conduct company-wide, cross-system searches for, say, framework contracts, external and internal supplier appraisals, or information from social media and partners.

The 'price screw' cannot be turned indefinitely. Identifying the cost-driving factors is therefore of central importance for smart purchasing.

What does this mean in practice?

Interactive analysis: visual analytics

Visual analytics combines the visualisation of results with machine learning. To this end, we have developed additional modules that allow the visual identification of patterns between product groups and of cost savings, cost reductions and business units.

The use of pre-assembled data sets enables the user to analyse supplier relationships and noteworthy patterns extremely quickly and effectively.

Using the visual analytics tools developed by the Fraunhofer Institute IAIS, we can discuss the contexts and interrelationships uncovered with the relevant specialists. This enables patterns, rules and the overall picture to be assessed easily and effectively.



What does this mean in practice?

Realignment and repurposing of management-level reporting

Existing reporting procedures are designed to accommodate existing organisational structures. The question is: can this established way of looking at things be justified? In most cases cross-structural clusters can be of far greater informational value than the predetermined structures typically derived from a company's existing systems.

Using the results of the analysis, management reporting can be repurposed and realigned to reflect

the most important influences. For the IBM Cognos BI business intelligence solution, models and in-memory cubes make it possible to carry out a structured analysis of typical clusters. These models can be easily transferred to other BI solutions.

Simulated scenario

How critical is the number of purchasing employees in localised teams specialising in the purchasing of specific categories of goods? The lean procurement approach many companies apply leaves hardly any room for further reductions in manpower. In the teams affected, this approach can have negative consequences for the reduction of costs.

The use of information from internal wikis and social media such as Socialcast or Yammer promotes

the exchange of information regardless of job hierarchies. What role does its application play in the effectiveness of procurement staff and on cost reduction and cost avoidance?

Our solution allows such scenarios to be simulated and analysed in real time.

Predictive Maintenance & Co - focused on the future

Many companies find themselves having to deal with changing order processes (e.g. predictive maintenance). In the future, automatically generated orders will have to be met with fast reaction times.

This will require systems that can act and make decisions in real time. In the words of Dietmar Dresch, Group Director of Procurement at telco VimpelCom:

'2016 will be the year that saw purchasing being totally consumed by the digital revolution. E-procurement as we know it is dead. In the future, systems will talk to one another and create millions of tenders per second. The role of purchasing will be to create a framework in which this can happen.'

It is for precisely this purpose that the solutions and methods developed by Open Logic Systems and the Fraunhofer Institute IAIS provide an optimal basis. Together with our partners, one of the issues we are currently looking into is the influence of predictive maintenance on supply chain management and purchasing.

For more [information](#), or to discuss your [requirements](#) and any questions you might have, please do not hesitate to call us on +49 (0)2547 93998 - 0.

