Dear Readers,

The work on our last two big topics **"Big Data"** and **"Industrie 4.0"** has made it very clear just how strong the influence of comprehensive digitization already is on corporate performance management and how much stronger it will become in the future. The goal here is for controlling to make good use of the volume of very diverse data generated, which gives us our new topic of **"Business Analytics"**.

"Business Analytics" is the use of mathematical and statistical analyses to evaluate data (e.g. for optimizations and predictions) in order to foster better management decisions.

Before we focus on our new topic in this newsletter, we would like to report about the Green Controlling Prize 2015, which has its roots in the work of the Dream Factory on the topic of Green Controlling. Then, we take a closer look at what exactly is meant by business analytics. Finally, we shed light on the issues arising from business analytics for controlling.

We hope you enjoy reading this issue of the Dream Factory Quarterly.

Best regards,

Siegfried Gänßlen
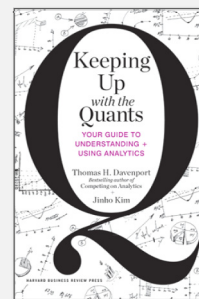*Chairman of the ICV board*

Prof. Dr. Heimo Losbichler
Deputy Chairman of the ICV board

Prof. Dr. Dr. h.c. mult. Péter Horváth
Head of the ICV Dream Factory

Dr. Uwe Michel
Head of the ICV Dream Factory

Suggested Reading

The book **"Keeping Up with the Quants – Your Guide to Understanding and Using Analytics"** by Thomas Davenport and Jinho Kim provides a comprehensive overview of the fields and possible applications of business analytics, including examples of real-world use cases from different industries. Davenport is a co-founder and scientific head of the International Institute for Analytics and is regarded as one of the leading experts in the field of business analytics.

The guidelines **"Big Data Technologies – Knowledge for Decision-Makers"** issued by the German Association for Information Technology, Telecommunications and New Media (BITKOM) deal with on the one hand the technologies necessary for business analytics and on the other with the analytical methods used (Chapter 4.3). The guidelines are aimed at controllers, IT specialists, auditors, research fellows and experts from further and higher education organizations.

29th Stuttgart Controller Forum | The Green Controlling Prize

As part of the 29th Stuttgart Controller Forum, on 23 September 2015 the award ceremony for the Green Controlling Prize of the Péter Horváth Foundation took place. The award comes with a €15.000 endowment and it is given in cooperation with the International Controller Association in recognition of innovative and effective "green" controlling solutions which focus on designing and implementing ecological strategies, programs and projects. The Green Controlling Prize has its roots in the work of the Dream Factory on the topic of Green Controlling and in past years was awarded during the specialist conference Controlling Competence Stuttgart (CCS). This year's award winners are Deutsche Telekom AG, VAUDE Sport GmbH & Co. KG and Voith GmbH.

Deutsche Telekom AG

As part of their Green Controlling, Deutsche Telekom set up a management control loop in which measures are honed and then reprioritized or redefined. The SAP system had already been expanded to include the collection of ESG data (environment, social and governance). The ESG data process was linked with the finance data process, thereby laying the foundations for integrating ESG KPIs into the company's annual report, a step which goes beyond merely monitoring climate protection targets.

VAUDE Sport GmbH & Co. KG

At VAUDE, Green Controlling is completely integrated into the corporate performance management process – on all levels and not as a separate system. Run by an interdisciplinary CSR team and divisional controllers, it supports the triad of economy, ecology and social issues. Here, Green Controlling is used as a process of continuous improvement. Together with the Management Board, the Controlling and Corporate Development functions have designed and implemented the target system – including sustainability KPIs.

Voith GmbH

The solution from Voith is characterized by an end-to-end combination of a top-down approach with a bottom-up approach: The top-down part uses analyses across all company units and locations and comparisons with other companies and best practices to define overriding corporate goals. The bottom-up approach uses location-specific analyses to initiate suitable measures for achieving the company's green targets. The established controlling cycle has been transferred from classic finance controlling to the Green Controlling.

The Green Controlling Prize 2015 awards (from left to right):

Siegfried Gänßlen (Chairman of the ICV board), **Erwin Gutensohn** (CFO, Vaude), **Isabel Stiefenhofer** (Controlling, Vaude), **Dr. Heinz-Gerd Peters** (Sustainable Development, Deutsche Telekom), **Silke Thomas** (Sustainable Finance, Deutsche Telekom), **Torsten Kallweit** (Head of Sustainability, Voith), **Prof. Dr. Dr. h.c. mult. Péter Horváth** (Founder of the Foundation and President of the Jury)

Controlling – Creating Future

Business Analytics | A look at forward-looking analyses

What do we mean by "Business Analytics"? "Analytics" is the comprehensive use of data, statistical and quantitative analyses and explanatory and predictive models (cf. Davenport/Harris, 2007). In this context, the term "business" emphasizes that these methods and models are used in the context of business and operations in order to foster data-driven management decision-making. In particular, data-driven predictions, forecasts and optimizations lead to improved management decision-making and thus allow companies to improve their competitive advantages (see Figure 1).

Descriptive, predictive and prescriptive analysis methods

Based on the underlying basic principles, business analytics methods can be broken down into descriptive, predictive and prescriptive analysis methods (cf. Davenport/Kim, 2014):

- **Descriptive** analysis methods include analyses which are aimed at evaluating the available data.

- **Predictive** analysis methods focus on the forecasting of future events based on historical causal links.

- **Prescriptive** analysis methods are used not only to make predictions but also to derive recommended actions. The focus here is to identify measures suitable for reaching a specific target or objective.

Use case "Optimizing working capital"

The possibilities for using business analytics methods in the work of controlling can be demonstrated using the example of a scenario from working capital management. Working capital management can be optimized through the use of forward-looking analyses. As a rule, working capital is used to analyze liquidity and it is the difference between current assets and short-term liabilities. By carrying out statistical analyses of current data it is, for example, possible to optimize warehousing and, thus, positively influence working capital. Based on current sales data, first the company predicts the expected requirements for raw materials and operating supplies and for finished products. This information is then used to build up or run down inventories (cf. Willems/Hees, 2014).
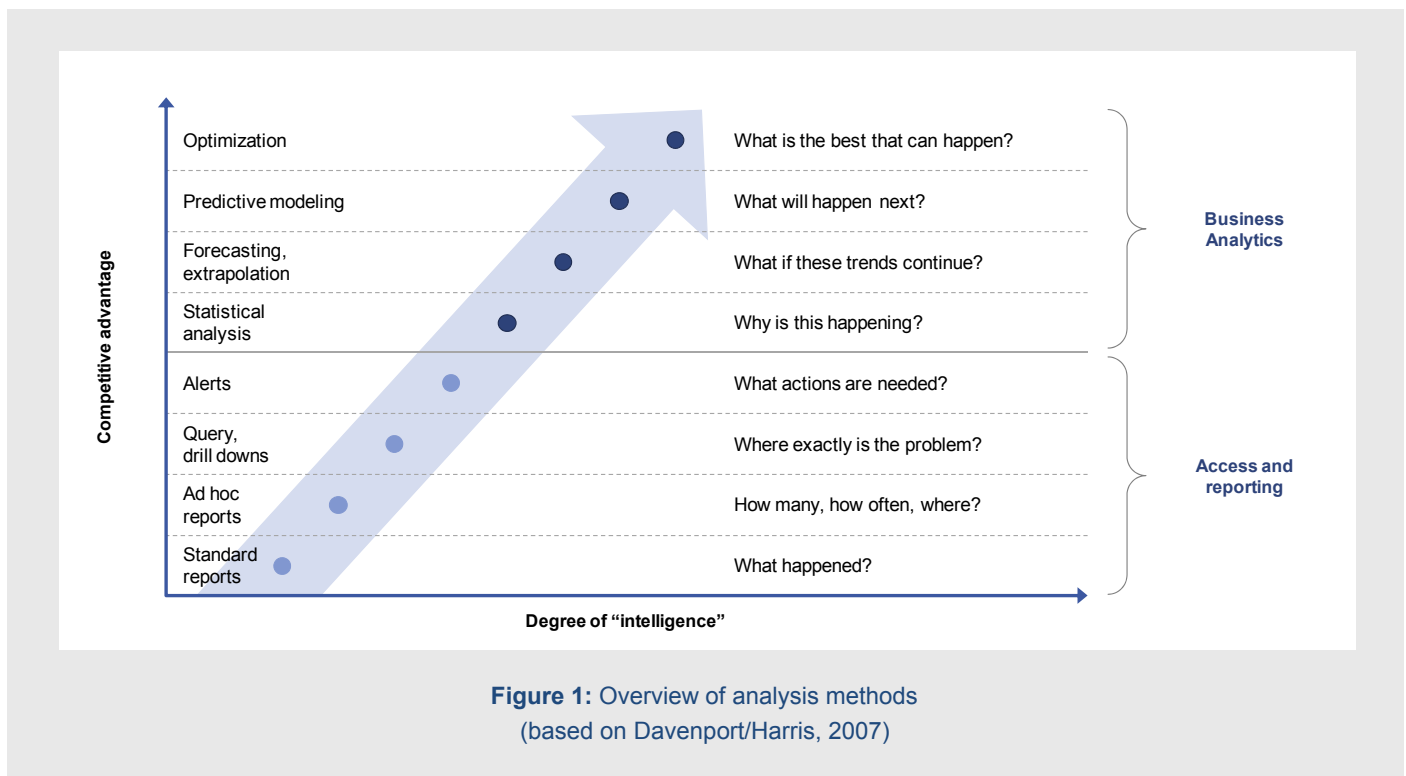

Figure 1: Overview of analysis methods
(based on Davenport/Harris, 2007)

Business Analytics and Controlling | Which questions arise from the controlling perspective?

Digitization continues to increase, generating huge amounts of data. Business analytics should make it possible to carry out meaningful analyses of these vast pools of data and to derive useful findings. The goal of our work at the Dream Factory is to find out how the use of business analytics affects controlling. Additionally, we want to show controllers solutions which can be used in their daily work. To this end, we will focus on four main questions (see Figure 2).

First we ask the question about the **added value** generated by business analytics for controlling, and the focus here is especially to identify concrete use cases in different industries which both clearly define the exact added value and prove it definitively.

In order to successfully introduce and use business analytics, controllers must be trained to understand and use it. This raises the next important question, namely which existing **skillsets** need to be further developed and which new skillsets need to be built up.

An important element of business analytics is the **methods and algorithms** used. What is interesting here is which methods and algorithms are relevant for typical controlling tasks and how they can be used.

The use of business analytics requires systematic **implementation**, which raises the question of how to design a roadmap for the introduction of business analytics and which typical challenges and risks need to be considered.

Figure 2: Important questions concerning business analytics from the controlling perspective
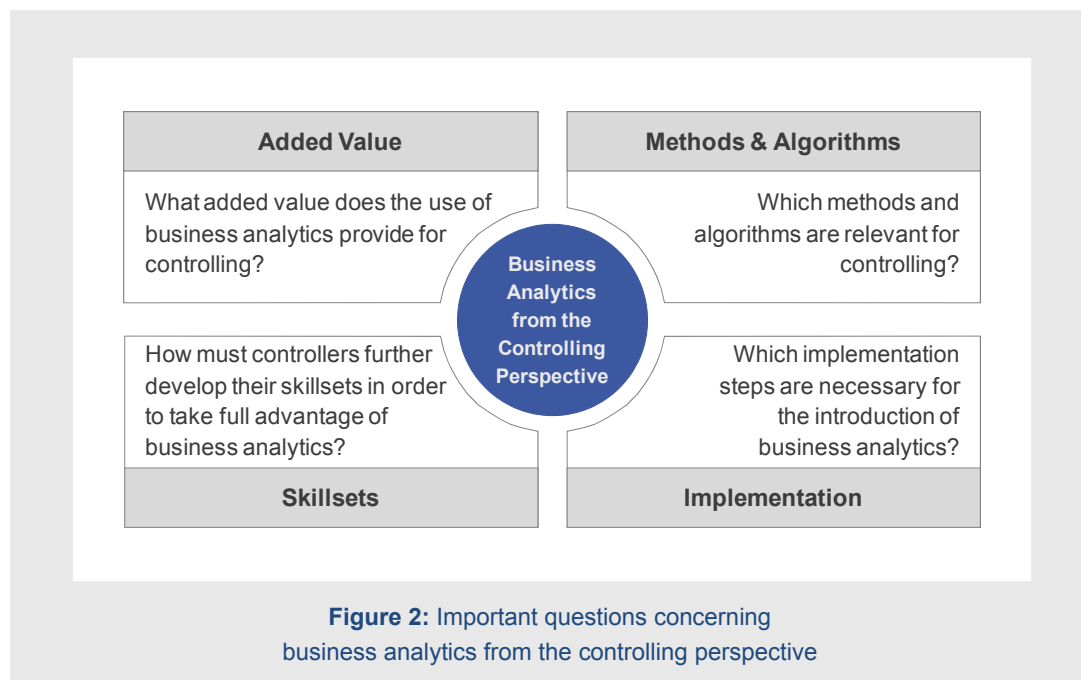
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