



DIGITAL REVOLUTION IN SALES

Evaluate results, prepare projections, develop strategies – we are very familiar with these processes when it comes to small amounts of data. But we quickly hit our limits when processing large, complex volumes of data. Thanks to digitization, increasingly massive amounts of data – big data – are available. To exploit the information potential therein, *entirely new approaches to forecasting are needed* – especially in sales.

BY SABINE HARTJE, THORSTEN LIPS,
AND THOMAS-LUDWIG MAYER

Plan, implement, quantify, assess – that is how the controlling cycle usually works. The strengths of big data and smart analytics primarily come into play during the assessment phase, because a key element in that process is the estimation of future developments. A particularly significant added value can be obtained if the turnover forecast in sales is optimized with digital methods. In addition to the benefits that precise projections provide for sales functions, other operational functions – such as purchasing or production – can also benefit.

Today, turnover forecasts are usually created by sales employees and managers, sometimes with the help of projections and simple statistical techniques. The drawback: The creation processes are resource-intensive and, at the same time, the quality of the preview information does not always meet the expectations of management. In this way, different experiences and underlying conditions for the participants, such as incentives, can lead to subjectively influenced forecasts and thereby produce differing forecasts for the same initial data. In addition, a great deal of coordination is needed to consolidate a forecast across the different levels. Those are just a few of the reasons why companies usually only perform comprehensive forecasting a few times a year. This means that it is not always possible for manage-

ment to make operational business decisions based on forecasts. In addition, the inconsistent quality of projections limits their possibilities for use by corporate management.

More Flexible, More Precise, Faster

To better manage a company or department with less uncertainty, decision-makers require continual forecasts that provide high-quality preview information on the basis of all available data. If this type of model is automated, the costs for creating the forecast sink rapidly. In addition, consistent forecasts across all regions, divisions, and functions can be ensured methodically in this way.

With advanced mathematical-statistical models, external and internal company information can be used to help make computer-aided predictions about incoming orders and other parameters that affect turnover, for example. These automated projections are given to sales employees so that they can be corrected, if necessary. These expert estimations help the learning forecast model to constantly improve the quality of preview information.

As they are used more often and are able to collect an increasing number of data points and additional information dimensions, the computer-based models will



Digital forecasts with a uniform data base can replace resource-intensive forecasting processes.

become more precise and reliable. Subjective influence from people's different background experiences is excluded in the process. But it is not just the machine that learns. The employees involved are also able to give increasingly better market assessments. A further benefit: Digital forecasts can be generated much more quickly when they are automated and thus can be used as the basis for process optimization.

Digital forecasts provide very good results for developments that follow clearly recognizable trends. In contrast, sudden, previously unheard-of events – like the VW exhaust emissions scandal – cannot be predicted with any validity. "Business radars" that can identify early indicators of disruptive events offer an ideal addition in this case.

Components of Digital Forecasts

The effectiveness of digital forecasts is essentially dependent on three components: The data, the algorithms, and the visualization. Digital forecasts require data from internal – and sometimes external – sources that is as extensive as possible. The digital forecasts are then adjusted and enriched using data cleansing. While conventionally generated forecasts can only make data manageable using aggregations and simplifications, the results of machine-calculated forecasts improve when the available data is more comprehensive and detailed. Powerful algorithms generate projections on this basis. Visualization, on the other hand, makes it possible for the user to see the projections, making it easy to use the information. Ideally, user interfaces are designed in such a way that the forecasts – with complexity reduced accordingly – can be called up via a mobile network and in real time on different devices. If the experts are able to record their estimations of the forecasts using the interfaces, this contributes to machine learning and improves future projections.

More Accurate Forecasting Thanks to Big Data

With support from Horváth & Partners, KSB, one of the world's leading manufacturers of pumps and valves, developed a digital forecast to predict incoming orders (see page 28). At the beginning of the project, an analysis was made as to which data could be used for the forecast. In the process it became apparent that very good projections could be generated just using historical data from CRM and ERP. Even after a two-month running period, models and algorithms were available that predicted the probability of an incoming order much better than previously: The accuracy of the forecasts with regard to all opportunities rose from 63% to 79%. Data scientists in the Steering Lab developed the models and algorithms (see page 27).

This and further projects demonstrate that digital forecasts can be calculated using advanced models and algorithms; these forecasts outperform previous projections when it comes to quality and, at the same time, are available more quickly. In this way, the data from well-curated CRM and ERP systems can usually achieve at least the quality of manual forecasts. Additional, external data in particular, make it possible to expand the forecast period, to further increase the quality and thus improve the sales and operations planning process as a whole. Now the task is to exploit the use of digital forecasts under the specific framework conditions of a company and collect experience from doing so. One thing is certain: In the face of its enormous potential, digital forecasts will become established as "good practice" in all companies. ■

// Sabine Hartje
 SHartje@horvath-partners.com
 Tel. +49 89 544625-1486

THE STEERING LAB

One team at Horváth & Partners specializes in advanced analytics from their base in Munich. The Quantitative Business Modelers of The Steering Lab develop digital value-creation models for companies, based on big data. *Alexander Vocelka, Partner at Horváth & Partners and Head of the Steering Lab answered three questions for us:*

WHAT KIND OF DATA IS NEEDED FOR A DIGITAL SALES FORECAST?

MR. VOCELKA / Master data, customer requests for proposals, or offers that contain information about products, volumes, prices and dates. The bid history and all interactions with the customer are meaningful: How many offers did they receive, how were they offered, how many of them were commissioned or rejected, how did customer communication go starting with initial contact? The data for this is usually available in the CRM and ERP systems. Also valuable: External micro-information about customers like sales potential or profitability and macro-determining factors for demand such as the economy and exchange rates.

HOW IS USEFUL INFORMATION GLEANED FROM THAT DATA?

MR. VOCELKA / First, target functions are defined during model scoping. Then data integration and preparation follow, usually through a pipeline of configurable

data cleansing and enrichment algorithms. The data is subsequently standardized to be logically correct and have the necessary density and resolution. Afterwards, two or three different models are chosen and trained on the data to learn them. In the end, the best model is used.

WHAT ARE THE BENEFITS OF MACHINE FORECASTS?

MR. VOCELKA / Machine models form a system of relevant parameters that is as complete as possible, including key external determining factors. This makes it possible to more precisely and objectively describe the future development of the target dimension with more detail than is possible through conventional processes while also reducing effort by 90%. The models also contain many precisely functioning levers. This makes it possible to derive strategies and courses of action for developing the portfolio, adjusting the offer strategy, or improving customer communication, for example. ■