Putting It into Perspective

Analytics: The Data Is There, but How Will You Use It?

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Companies cannot ignore it: The amount of data is growing drastically, and advanced business insights will be the key factor for competitiveness. While organizations are very likely to agree with this statement, they are often overwhelmed by the sheer amount and variety of Business Intelligence (BI) and Analytics solutions. To make matters even more complex, new technology trends, such as the Internet of Things, Big Data and Predictive Analytics, have found their way into the world of Analytics. But what exactly do they mean? How can you use them to generate business value? And where do you start?

Solutions must support multiple types of users

Simply put, the line between the different approaches is blurred and not clearly defined. A common misunderstanding is to assume that one solution fits all requirements. While this can be true in some circumstances, most cases require a solution that supports multiple types of users. This expert paper shows you how you can look at Analytics from a new perspective.

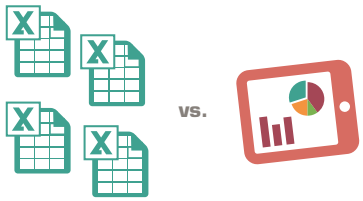
1. The Classic Analytics and Business Intelligence Solutions

These solutions delve into the past and present of an organization and the data that is generated within the business's existing ERP system landscape, for example. The following scenarios are a good starting point to benefit from BI and Analytics solutions:

Replace Your Spreadsheets

Even today, a large number of companies rely on spreadsheets and/or isolated data sources as a basis for operational reporting, but these can be cumbersome and time-consuming.

Figure 1: Replacing spreadsheets boosts efficiency



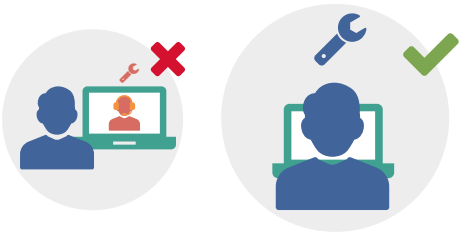
In-memory technology enables real-time insights

Modern BI solutions are the first step to replacing static and isolated reporting solutions.

Empower Your End Users to Perform Their Daily Tasks without Help from IT Experts

Self-service tools enable business users to access data without calling for support from the experts. This makes it much easier for nontechnical users to analyze larger volumes of data more frequently. As a result, analysis is becoming a part of their ordinary daily activities, rather than simply an occasional request to IT developers and business analysts.

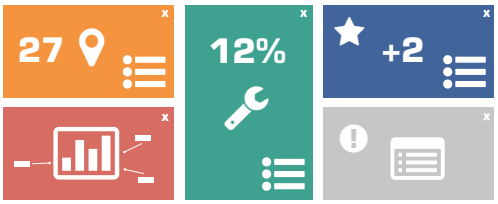
Figure 2: Self-service tools reduce the workload on IT specialists



Visualize Your Data and Present It More Clearly

Dashboards and visualization tools for standard operational reporting help users intuitively explore, understand, and present data to make better decisions and see a consolidated overview of all relevant KPIs. Remote access with mobile devices makes data available anytime, anywhere.

Figure 3: Intuitive dashboard



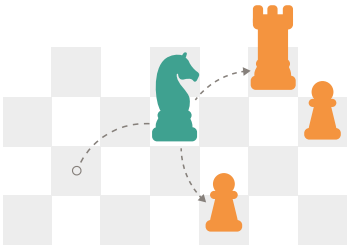
Improve Your Monitoring and Alerting

If you use operational monitoring and alerting to identify issues, analyze root causes, and determine the best actions based on these insights, your solution requires real-time data updates. In-memory technology such as SAP S/4HANA makes this possible. A further advantage of this technology is that you will no longer have to use cumbersome data warehouses for operational reporting. Having said this, the data warehouse is not entirely obsolete: it still plays an important role in tactical decision making and for strategic reporting requirements, for example.

Use Solutions to Support Tactical Decision Making

If your actions go beyond operational reporting, monitoring and alerting and focus on insights for tactical decision making, you require solutions for visual discovery and analysis. These activities are only loosely coupled with daily business and are therefore less time critical. They do, however, demand room for experimentation with a variety of data sources. It is important to iterate, carry out test-and-learn inquiries, and employ visual functionality for filtering, comparing, and correlating data. SAP data warehousing technology can still play an important role in these tasks, even if you are using in-memory technology.

Figure 4: Analytics solutions support tactical decision making



2. Big Data, Smart Data, the Internet of Things and Predictive Analytics

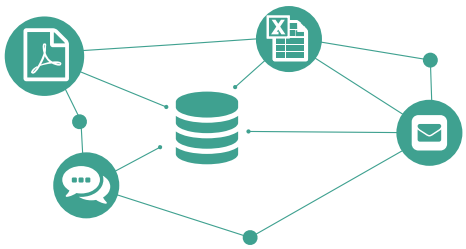
Big Data — Gain Insights from Unstructured Data

Today, lots of data is generated outside the company. This unstructured data is not stored in the organization's ERP system. Unstructured data is any kind of text-based content ranging from comments, ratings, and complaints on social media channels to machine error messages and multimedia content such as videos. It is difficult to analyze and gain insights from unstructured data, so organizations need technology that helps them to find and process it.

Big Data technology draws insights from unstructured data

Big Data technology is used to analyze unstructured data in order to identify new relationships or upcoming trends. However, Big Data is not a single solution and it is not new: Amazon and Google, for example, have been working on it for years already. Although the open source Hadoop framework is at the center of a large number of Big Data projects, there are many other alternative methodologies in use. SAP Vora, for example, enables the integration of SAP in-memory computing with the Hadoop technology stack.

Figure 5: Analyzing unstructured data



Technological advances are making Predictive Analytics a reality

Smart Data

Smart Data is often described as the next step in the evolution of Big Data. However, there is no consistent definition of the terms. The only important concern from a business perspective is to gain valuable insights from data, rather than simply collect it. It is entirely up to you whether you describe this approach as Big Data or Smart Data: the objective remains the same.

The Internet of Things — Machine and Tool Communication without Human Interaction

Since sensor technology is relatively affordable, the Internet of Things (IoT) is playing an increasingly important role. There are many definitions of the IoT.

Commonly, it is defined as the direct integration of machine-generated data, enabling direct communication between tools and devices with little or no human interaction. This data serves as a basis for a wide variety of Analytics scenarios. In-memory technology, such as SAP HANA, can contribute to the processing of such large amounts of data and make it available in real time — either in your own data centers or in the cloud.

Figure 6: Machine-to-machine communication

Predictive Analytics — See into the Future

Recently, predictive capabilities and the power to spot hidden risks, patterns and trends have become more and more relevant to organizations. Predictive Analytics can be used in marketing to analyze and forecast consumer behavior, for example. But one of the most prominent applications is predictive maintenance, where the condition of equipment is constantly monitored to enable businesses to predict when maintenance should be performed.

While the ability to see into the future has always been much sought after in business, it has only recently become a realistic option for most companies thanks to a huge increase in computing power and innovative new technologies.

Figure 7: Identify risks and future trends