



SAP's Data Science Group: Bringing Clarity to Executives Making Key Decisions



The Best-Run Businesses Run SAP™

Expertise to transform Big Data into strategic insight

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Today's executives need to **turn Big Data into timely and impactful strategic decisions**. SAP's Data Science group can help. Our services – based on real-world industry expertise, proven algorithms, and Big Data-enabled software – can move you to the forefront of business analytics to proactively plan and manage each stage of your business.

Upper-level managers need strategic insight to deal with unexpected market changes, heightened competition, partnership challenges and opportunities, and increasing globalization. Yet despite an abundance of Big Data to support strategic decisions, the reality is that executives are often overwhelmed by unwieldy amounts of information or, even worse, out-of-date or misleading data that can yield suboptimal conclusions.

SAP's Data Science group offers a solution. Rather than base strategies and business goals on rules of thumb and gut feel, our data science services provide quantitative decision support and visualization to assess alternative scenarios. Instead of sensing and responding using generalized business rules and ad hoc calculations, your organization can predict and act, resulting in optimized business performance.



Industry-specific advanced analytics solutions

Industry-specific advanced analytics solutions

What makes our data science services unique?

Services that provide the answers

Differentiating science that makes a difference

With top PhD-level experts and intellectual property for delivering breakthrough business results, SAP's Data Science group has gained global credibility working with over 100 customers around the world on high-impact use cases. We provide differentiating science and innovation that enable you to gain insights from Big Data, forecast and simulate future performance, and shape and optimize outcomes.

SAP's Data Science group extends the company's strength in IT transaction-based efficiencies. We combine software, industry-specific experience, and scientific and technological know-how for you to make clearer decisions and achieve breakout business

results from Big Data initiatives. Using leading-edge modeling, forecasting, and performance and predictive analytics, we can optimize results – whether you're in retail, consumer goods, oil and gas, utilities, or manufacturing. Our services leverage the following key differentiators:

- **People** – Highly skilled experts with industry experience and advanced analytics training
- **Scientific algorithms and intellectual property** – Patented, leading-edge approaches that bring clarity to business decisions
- **Technology** – Analytics software for gaining insights, setting strategy, and managing your business effectively
- **Innovation** – Scientific and technology-enabled decision support to maximize ROI



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Our experts provide advanced scientific and analytics skills, plus an in-depth understanding of industry and line-of-business key performance indicators, analytic applications, engines, and accelerators. We help you identify, develop, and drive high-value, innovative business ideas and provide trusted advice throughout the execution of these ideas.

Our data mining and processing algorithms allow the efficient handling of Big Data. Accurate and robust supply-and-demand models enable reliable forecasting, simulation, clear interpretations, insight, and decision support. Optimization algorithms help you achieve the most valuable outcomes, and decision-support tools help you gain business insight, set strategy, and manage and monitor your business effectively.

We can also provide you with access to the software that supports our data science services via a hosted model. This model lowers the typical barriers to the adoption of new technology, so you can more readily visualize and assess future trends and opportunities, set strategy, and manage the impact to your business.

What's more, SAP's Data Science group leverages the company's ongoing commitment to innovation and technology-enabled decision support to provide the greatest return on your investment. And our services are adaptable to your changing needs and performance goals.



Services that provide the answers

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Our data science services help answer the following types of industry-specific questions:

- **Retail and consumer products**

- How do you balance profitability with long-term customer loyalty?
- Does beating the competition on price improve price image?
- How do you efficiently cater to local product and pricing preferences?

- **Fashion retail**

- How do you optimize the depth and timing of markdowns to boost sales?
- Are you providing the right sizes to meet local shopper demands?
- Which promotions are most impactful? Are they the same in all locations?

- **Utilities**

- How will you manage information from advanced metering and smart grid technologies?

- How can you optimize decisions to fund new technology initiatives?
- Do you have the right information to optimize plant efficiency?
- How do you deal with an aging infrastructure's rising costs, decreased reliability, and high risk of failure? How can you perform real-time forecasting to prevent outages?
- How can you monitor substations more quickly and effectively and optimize network investments?

- **Manufacturing**

- How can research and development improve product reliability?
- Which service levels are needed for warranties?
- Which spare parts are needed where and when?
- How can you reduce service and operational cost?
- How can you reduce energy consumption and improve safety?



Differentiating science that makes a difference

Industry-specific advanced analytics solutions

What makes our data science services unique?

Services that provide the answers

Differentiating science that makes a difference

Numerous general analytics tools are available in the market today that do not adequately address the challenges of efficient data processing and cleansing, model accuracy and robustness, and clear business interpretation of results. We apply advanced models that help you consider alternative future outcomes through better planning and decision support, key customer and product insights, and optimized results such as product pricing. For a detailed picture of how our data science services stack up against general analytics tools, see the [table](#) on the next page.

Our data science services leverage proprietary, leading-edge mathematical models to obtain business insights from Big Data. This approach gives your company significant advantages over competitors by optimizing business transformations and improvements. Our models capture key aspects specific to the line of business. They provide accurate, quantitative insights into customer behavior while taking into account all major factors that influence demand and supply. Our solutions are engineered to maximize the value found in the data and transform it into tangible benefits.

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Objectives

Solution

Benefits

Quick Facts

Industry-specific advanced analytics solutions

What makes our data science services unique?

Services that provide the answers

Differentiating science that makes a difference

CHALLENGE	GENERAL ANALYTICS TOOLS	SAP'S DATA SCIENCE GROUP
Efficient processing of massive data volumes	Data cleansing	
	Unknown impact of outliers, leading to bad strategies that damage the business	Sophisticated cleansing algorithms, together with highly trained consultants
	Data structuring	
	Nonexistent data structuring, resulting in lost information or significant manual updating and rework	Efficient updating and scientific approach to fully leverage all available information
	Data aggregation	
	Huge amount of time and dedication of technical staff required	Aggregation algorithms, enabling advanced parallel processing and in-memory modeling
Algorithm structure		
Unacceptably long processing time due to the application of generic algorithms to process billions of combinations	Engineered to process massive data challenges efficiently and in a timely manner	
Model accuracy, reliability, and interpretation	Model efficacy	
	Models lack: <ul style="list-style-type: none"> • Robustness and reliability over time • Accuracy over time • Clear business interpretation 	Models have: <ul style="list-style-type: none"> • One standard form and approach for a class of industry-specific problems • Ability to adapt with new data over time • Parameters related to your actual business for clear interpretation



Bottom-line benefits

Bottom-line benefits

Executives today are looking for new and better ways to improve business performance. SAP's Data Science group provides a means to achieve this objective and turn challenges into opportunities (see [figure](#) on next page).

With our data science services, you can achieve a fast time to value and ROI. Our services are designed to give you immediate results and value via short deployment cycles by focusing specifically on your most pressing business issues.

You'll also receive tangible results. Because our data science services address real business issues, the results are business oriented – enabling benefits such as increased revenue, greater profitability, and improved ability to link strategy to execution.

By providing critical insights for business leaders and decision makers, our data science services support proactive business management. Advanced analytics deliver insight into key performance indicators, while science-based services help you predict business trends and make sound decisions.

To optimize business performance, we can assist your decision-making process with industry-specific focus and line-of-business guidance. Our data science services shed deep insights into the key decisions and opportunities that drive differentiating value for your organization.

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Bottom-line benefits



Figure: Transforming Challenges into Opportunities



Objectives

Solution

Benefits

Quick Facts

Summary

SAP's Data Science group moves decision making from sensing and responding to predicting and acting – even in today's Big Data era. Our services merge deep industry knowledge with mathematical modeling, forecasting, and optimization strategies to drive business performance. Leveraging the SAP HANA® platform, Big Data-enabled applications, and analytics tools, our services can move you to the forefront of business analytics to proactively plan and manage your business.

Objectives

- Use massive amounts of data (structured and unstructured) to inform strategic business decisions
- Access predictive business insights to help identify strategic options
- Identify better ways to model and adapt to improve performance

Solution

- Industry expertise
- Scientific algorithms
- Predictive and performance analytics
- Scientific and technology innovation

Benefits

- Faster time to value through short deployment cycles focused on your most pressing issues
- Increased profitability via bottom-line-oriented insight
- Better alignment of strategic business areas by understanding the best options to meet objectives
- More proactive business management through advanced analytics and science-based insight
- Improved decision support and performance optimization through industry and line-of-business guidance

Learn more

To find out more, call your SAP representative or visit www.sap.com/bigdata.



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