

DATA SCIENTIST DREAM JOB

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Companies need two things if they are going to successfully exploit the enormous business potential of big data analytics: an understanding of the analysis methods used for large volumes of data, and expertise in the application context. Professionals and graduates in interdisciplinary subjects are therefore in great demand.

Due to digitization, companies currently have vast amounts of data – Big Data – available to them. These come from very many sources. Social media, discussion forums, wikis or ratings communities on the Internet are just as much a part of this as company-internal databases or sensor readings. The targeted and comprehensive analysis of this data using statistical and quantitative methods and models has powerful business potential – for business decisions, innovation management, product development, marketing, customer relationship management and internal knowledge management.

Many companies therefore set up so-called “Analytics Labs”, i.e. units that are separate from day-to-day operations and the line management organization. According to Harvard scientist Thomas H. Davenport, anyone who works there has the “sexiest job in the 21st Century”: Data Scientist. But are Analytics Labs and Data Scientists really able to pick out from the flood of data precisely those results and recommendations for action that will help companies to work more efficiently and effectively? Not necessarily!

DANGEROUS FOCUS

The added value of a data analysis depends significantly on the skills of the analytics team. In-depth understanding of the methodologies for analyzing big data needs to go hand-in-hand with comprehensive knowledge of the application context and of your own business. The focus on highly specialized methodology experts with a background in mathematics, statistics or physics, known as quantitative analysts or “quants”, can be risky. Because no matter how sophisticated the mathematical methods and models may be, if you feed them incorrect, inadequate or poor quality data then they will follow the GIGO or “garbage in, garbage out” principle, leading inevitably to false conclusions and business decisions that do more harm than good. The same applies when methods and models used by Data Scientists do not properly reflect reality and are based on critical assumptions. A prominent example of this is the financial crisis. The assumptions that were used just did not apply.

IT ALL DEPENDS ON THE MIX

For companies, the job profile of Data Scientist is therefore only really “sexy” from an interdisciplinary viewpoint. It assumes that the universities are also keeping their teaching up-to-date. Because there are still too few multi-disciplinary study courses, lectures or project work that teach skills in both quantitative methodologies and business expertise. Business studies graduates with IT skills and knowledge of statistical and quantitative methods and models do have excellent career opportunities in exciting, interdisciplinary fields of activity.

Many students have known this for a long time. It is not only at the University of Ulm that there is a veritable stampede for classes that teach the methods for evaluating big data in a business context. In practice, you must have both: on the one hand, methodology experts with domain knowledge who understand the technical implications and limits of analyses and are able to explain this to colleagues and decision-makers. On the other hand, specialists and domain experts who have enough methodological know-how to professionally evaluate the results



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of analysis and their scope and draw the right conclusions from them.

With a mixed degree behind them, both business graduates and quants have the tools to step up to the challenging interdisciplinary job description. In this way, they can make a decisive contribution to Big Data Analytics by marrying business skills with methodology skills, and technical skills with communication skills. They will therefore ensure that the analysis of large volumes of data deliver exactly the results and recommendations for action that really help companies move forward. That is when Big Data will truly add value. ■



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