



Educating the next generation of managerial high-flyers

Real-world teaching and innovative research with SAS data and text mining

HHL-Leipzig Graduate School of Management is one of Germany's leading business schools, and at the same time the oldest German private institution of higher education. Founded in 1898, HHL was the first college to teach business administration as an academic discipline. In 1992 HHL returned to private ownership and was granted university status in 1994 .

HHL currently offers approximately 300 students a four-semester course in business management, majoring in company leadership, as well as an MBA programme.

HHL attaches great importance to work experience in its curriculum. Consequently students are required to undertake, among other things, a semester-long project with an external organization, an on-site placement and one semester abroad. Moreover, in the individual subjects, real-life business problems play a major role. Dozens of renowned companies work with HHL to provide a comprehensive impression of the challenges of the business world. Hardly surprising then, that HHL's graduates have excellent prospects for a very attractive career.

Practical learning with SAS

In seminars and compulsory subjects HHL students familiarize themselves with the business world's top software solutions and technology tools: HHL sees this as an essential element in their preparation for a future career, as does the Chair of the E-Business Department, Prof. Dr Myra Spiliopoulou. Spiliopoulou has introduced training on SAS® Enterprise Miner™ into her lecture course "Knowledge Discovery for E-Business Applications". Her goal is to show students how the decision-making process can be supported by the discovery of relevant knowledge in business data.

Website optimization

In this respect Prof. Dr Spiliopoulou has focused very clearly on practical, real-world experience. The methods employed in the lecture to generate knowledge are applied to concrete business problems such as customer segmentation, risk analysis or website optimization. For example, students are asked to analyse hits on the website of Leipzig's St Thomas Church (Thomaskirche), discover which navigation paths visitors use most frequently, and at which point visitors most often leave the site. Evaluation of webserver files with the appropriate data mining procedures sheds light on the situation: associa-



Customer	The Handelshochschule Leipzig
Sector	Higher education
Business Issue	Needed analytical solutions for teaching business intelligence
Solution	SAS® Enterprise Miner™ and SAS® Text Miner solutions
Benefits	Rapid and flexible analysis and reporting



“The special functions of the SAS Text Miner were responsible for the success of this practical project.”

Prof. Dr Myra Spiliopoulou

Chair of the E-Business Department

tive and sequential analysis in SAS Enterprise Miner enables the students to work out some recommendations that will help motivate the visitor to purchase concert tickets and souvenirs.

SAS itself makes case studies available that help the students to gain experience with Enterprise Miner, a service that Prof. Dr Spiliopoulou values highly. She says that SAS has become “the tailor-made solution for teaching, above all because of the active support during the learning process – SAS provides suitable learning materials and specific case studies”. Other reasons for the choice of SAS cited by Prof. Dr Spiliopoulou include the company’s reputation and the software’s performance: “We educate high-flyers at HHL so we want to want to give them access to high-quality software.” Prof. Dr Spiliopoulou is planning to add SAS’ data mining competition, the SAS Mining Challenge, to the course curriculum. The objective of the SAS Mining Challenge is to further familiarize the students with the analytical capabilities of SAS Enterprise Miner, using live data.

SAS is also involved in structuring course content: SAS experts present seminar papers and participate in workshops on topics such as CRM or e-intelligence as guests of the Leipzig School of Management.

Transforming words into knowledge: research into text mining

Research activities in Prof. Dr Spiliopoulou’s department address an exceptional phenomenon of the information society: the ever-increasing volume of electronic documents and, in particular, unstructured text documents.

Prof. Dr Spiliopoulou’s research work into text mining brings some structure and insights to this information jungle. Text mining is a process-oriented method for discovering important and economically valuable knowledge in huge text archives. SAS Text Miner has been successfully applied to the analysis of large volumes of corporate ad hoc reports that are published every day. It’s difficult to get a practical overview of such reports to determine, for example, what information is significant to investors and shareholders. The HHL team succeeded in identifying information of relevance to the capital markets through a classification system, a project carried out in cooperation with the department of Prof. Dr Stehle at the Humboldt University in Berlin. In contrast to a profile-based or collaborative information filtering system, the team developed a classification filtering ad hoc news based on their likely impact on stock prices.

Prof. Dr Spiliopoulou has recently taken up a post at the University of Magdeburg, where she is now team leader in “Knowledge management and knowledge discovery in Information Systems”. However, she maintains her relationship with the Leipzig Graduate School of Management as a visiting lecturer.

DIAsDEM – semantic text structuring

The investigation of ad hoc news with SAS Text Miner is embedded within the DIAsDEM project, which is basically concerned with the integration of legacy data and unstructured documents using data mining techniques, and is being undertaken together with Düsseldorf University and the Deutsche Forschungsgemeinschaft (the German Research Foundation). The pre-processing and annotation of text into semantically structured XML documents is one of Prof. Dr Spiliopoulou core competencies, and forms one of the basic building blocks of the University's success. At the moment, the academics are working on an innovative development of the software, pursuing new paths in automated text processing.

SAS and Higher Education

SAS' Academic Initiative aims to synchronize education and practical experience. Seminars, workshops, visiting lectures and events such as KSFE the annual conference for SAS users in R&D, enable students to learn about leading solutions for data mining and data warehousing in the course of their studies.

With its Fellowship Stipendium SAS also supports purposeful and targeted academic projects through the provision of software and training. The SAS Academic Club Internet forum www.sas.de/academic is at the centre of this initiative, serving as an information exchange between SAS and students and communicating the achievements of the Academic Initiative.



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