Big Data – Between Innovation Potential and Protection of Privacy

ABIDA Interdisciplinary Project Explores Social Opportunities and Risks of the Use of Big Data – Action Options for Politics, Research, and Development

Today, digital tracks are left nearly anywhere: Responsible use of big data is studied by technology assessment experts of KIT. (Photo: Lydia Albrecht and Emanuel Jöbstl / KIT)

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Smartphones, social networks, and commodity items connected to the internet – more and more sources produce constantly growing data volumes. How can politics, industry, and actors in society use big data in a positive way? And how can the technology be brought in line with the protection of personal rights? These questions are studied by scientists of Karlsruhe Institute of Technology and the University of Münster under the project ABIDA – Assessing Big Data. The project is funded by the Federal Ministry of Education and Research (BMBF) with more than EUR 6 million for a period of four years.

Fitness wristbands inform their wearers about vital functions and document their state of health. When linked properly, such data may be used as a basis for novel medical studies and, hence, new therapies. However, there also is the risk of third parties taking possession of the data for surveillance or commercial purposes. “This example demonstrates that technical possibilities of recording, linking, and evaluating data for various purposes increase very rapidly, and

so does the uncertainty of what happens with the data," Armin Grunwald, Head of the Institute for Technology Assessment and Systems Analysis (ITAS) and spokesperson of the project, says. He emphasizes that the discussion of how this technology can be used responsibly and brought in line with our conceptions of data protection and privacy is still at its beginning. "With ABIDA, we want to provide the basis for an informed debate in society and identify action options for the future," Grunwald explains the goal of the project that is carried out in cooperation with the Institute for Information, Telecommunication, and Media Law (ITM) of the University of Münster, the Institute for Legal Informatics of the Leibniz University of Hanover, the Department for Technology Studies of TU Dortmund University, the Research Center for Information, Organization, and Management of Ludwig-Maximilians-Universität Munich, and the Berlin Social Science Center.

"So far, studies relating to big data have frequently concentrated on the aspect of technical or economic feasibility or on certain horror scenarios associated with the technology. The approach of shaping the technology for a better balancing of societal interests has been missed out," explains Carsten Orwat, who coordinates research at ITAS with his colleague Reinhard Heil. Instead, the scientists from Karlsruhe and Münster plan to address this topic from a fundamental and interdisciplinary perspective. For this purpose, sociologists, philosophers, economists, legal scholars, and political scientists work hand in hand. "Together, we want to gather existing knowledge about the handling of big data, deepen the findings, and disseminate them as widely as possible," Reinhard Heil says. "We apply typical technology assessment methods that are based on dialog and participation to study the impacts of big data on society."

Citizen Conferences, Expert Surveys, and Prognosis Methods

ABIDA will conduct among others three citizen conferences at different places in Germany. Together with a representative citizen survey, these conferences will provide information on the expectations and fears citizens associate with the new technology. Single studies and expert surveys made by the scientists will reveal the impacts big data applications, data flows, and business models already have on our life today. With the help of an expert delphi, scenarios for big data will be designed and discussed. This scientific method allows to estimate future technical development options. At the end of the project, the scientists plan to formulate concrete action options for politics, research, and development. These are to contribute to a use of big data with a good balance between the innovation potentials and the protection of privacy being ensured.

Further information on ABIDA can be found on the homepage of ITAS at http://www.itas.kit.edu/english/projects_grun15_abida.php

Karlsruhe Institute of Technology (KIT) is a public corporation pursuing the tasks of a state university of Baden-Württemberg and of a national research center of the Helmholtz Association. The KIT mission combines the three strategic lines of activity of research, higher education, and innovation. With about 9,400 employees and 24,500 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

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