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The Usage of ISOTYPE Charts in Business Intelligence Reports - The Impact of Otto Neurath Work in Visualizing the Results of Information Systems Queries

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Abstract

Business Intelligence (BI) systems are designed to provide managers a user-friendly way to build and analyze reports. Nowadays, BI systems make available a far range of graphics tools for displaying such reports. Nevertheless, these systems disregard so far the immense potential of using ISOTYPE approach for graphic display of statistics. ISOTYPE was created by the Austrian social scientist Otto Neurath (1882-1945). It is the acronym for International System of TYpographic Picture Education. ISOTYPE aims to create a system for communicating the analysis of social and management data for a broad audience that includes the laymen and the experts. The reason for not using ISOTYPE in BI systems may rely on the difficult to build algorithms that realize what Neurath described as the transformation phase of working over collected data. In this phase, data must be grouped in a proper way that facilitates further display and understanding about what we can conclude out of the data. In this article, we propose that BI systems could include ISOTYPE based tools for visualization. In order to illustrate our ideas we built a BI system that displays social statistics on maps and tables according to ISOTYPE approach.

Keywords: Business Intelligence systems, ISOTYPE

Biographies

André S. Monat completed his degree in Engineering at the Aeronautical Institute of Technology (ITA) in 1983. In 1988, he took his master degree in Computer Engineering at the Federal University of Rio de Janeiro, and finished his doctorate in Computer Science at University of East Anglia, in United Kingdom, in 1993. Since 1994 he is a professor at Rio de Janeiro State University (UERJ), working at the School of Design (ESDI) of this university. Professor Monat is currently taking a post doctorate in the Design Department of the Wuppertal University, in Germany, with the sponsorship of CNPq, the Brazilian research council.

Marcel Befort is Research Assistant and Doctoral Student at the University of Wuppertal in the department of Industrial Design in the field of design theory for methodology, planning and strategy (Prof. Dr. Brigitte Wolf). Since 2010 he analyses the »Exploration Competence within a Design Strategy« in small and medium sized companies (SME). Cultural diversity and the transfer of knowledge are important aspects within his research. Together with Prof. André Monat, PHD, and Prof. Dr. Brigitte Wolf he started in 2011 the project »Parallel Universe« in Rio de Janeiro which was funded by the BMBF. In the meanwhile he also studied Organisation and Marketing at Schumpeter School of Business and Economics, Wuppertal, related to his doctoral thesis. He is an accredited counsel in Rhineland-Palatinate in the field of Design Management, Identity and New Media focused on SME's.