

Visual Text Analytics for Technology and Innovation Management

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Extended Abstract

Current markets are nowadays rapidly changing due to upcoming new technologies and technical procedures or the involvement of digitalization in general, which often impacts products and services of market players. To remain a successful player, especially in highly competitive markets, the providers and product owners have to investigate market changes in-depth and need to modify their products and technologies to meet the changed requirements and needs in the market. The downfall of a variety of well-known and established enterprises and global players such as Quelle, Kodak, AOL, Lycos, Commodore or Yahoo are just a few examples, who have missed market changes in time or where the strategic adaptation process took too long.

However, even if the relevance of market observation in perspective of trends is understood, it is yet challenging to sufficiently understand those trends, due to the lack of adequate and comprehensible analytics tools. In particular small and medium sized enterprises deal with the problem, due to limited resources, e.g. budget and experts. The market and technology analysis still remain a quite complex and difficult task for those enterprises. In particular, the identification, use and processing of relevant and necessary data for an advanced trend analysis are a challenging task too. Nowadays the analysis of patent is standard, but unfortunately the up-to-datedness of patent data is critical due to a many years consuming registration process, which results in a recognition of trends that are approximately two years old.

Through coupling of Data Mining, Visual Analytics and Business Analytics techniques, we created a novel solution for strategic market analysis with focus on early trend recognition. As fundament, we are able to consider a variety of text data, as for instance research publications available from a number of (open access) digital libraries, reports and other data from companies, web data about markets as well as news from companies or social media data etc. In an advanced and unified processing pipeline, the information is extracted and mined for a variety of analytical purposes. Via an interactive analysis user-interface, domain experts are able to analysis strong and weak signals in perspective of upcoming trends.

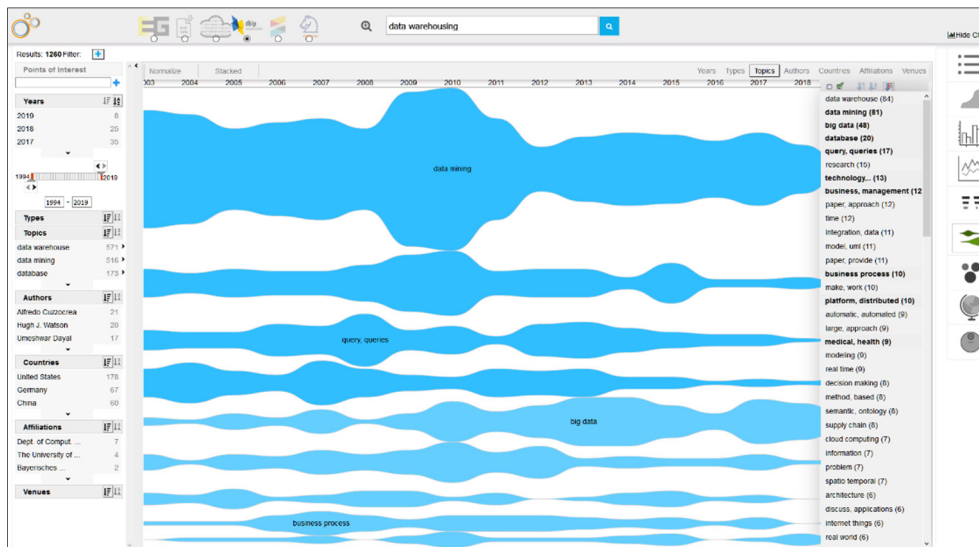


Figure 1. Topical Signal Analysis

The advanced analytical opportunities are not only given through the advanced processing pipeline, more important are the different and heterogeneous data fundamentals, which enable either an encompassing insight through extracting information from different sources to achieve a complete view on a certain topic. But furthermore, a comparative analysis can be performed by comparing for instance research versus market news data to validate possibly identified trends in perspective of market relevance.

The solution can be either shown in a presentation or demonstration.

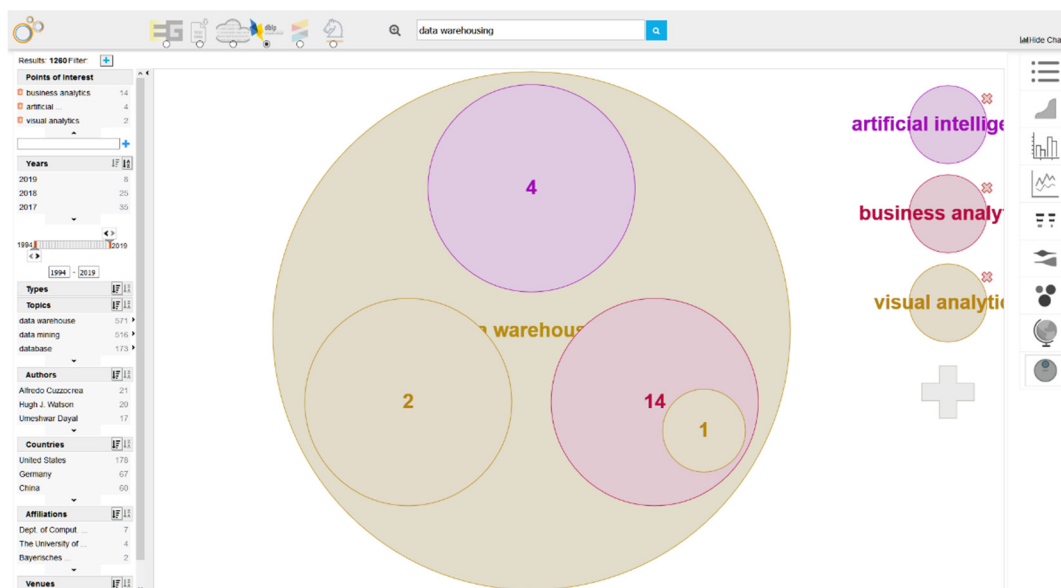


Figure 2. Graphical Search-in-Search

Citation suggestion

Nazemi, K., Burkhardt, D. (2019). Visual Text Analytics for Technology and Innovation Management. Presented at OpenRheinMain Conference (ORM2019). 13 Sept. 2019, Darmstadt, Germany. DOI: 10.5281/zenodo.3408391