Big Data Ecosystem Network Analysis and Community Structure Detection

Emergent Research Forum papers

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Abstract

There is “big data fever” in both industry and academia. Much of this fever has been on the analytic side of big data: big data as “large, diverse, and fast-moving datasets”, and processing and analyzing such datasets for challenging business and societal problems. There are many potential opportunities and good prospects: this analytic side of big data research can lead to better algorithms, methodologies, tools, and solutions (Agarwal and Dhar 2014). The goal of this research is to shed a different light on big data—big data as a digital service innovation. There are many examples of digital service innovation, and big data is considered the latest example of digital service innovation. This innovative side of big data pays attention to the novelty and evolution of big data ecosystems and of the diverse elements (e.g., businesses, technological resources, human capital, concepts). This research reviews some recent literature on digital innovation and service innovation, and uses an evolutionary, ecosystem-based framework to understand big data as a digital service innovation. The study adopts a digital research method in which the inquiry is based on digital trace data. Over 260,000 Twitter data containing the hashtag #bigdata, collected in two phases (March 2013 and June 2014), are processed and analyzed.

Keywords

Big data, digital service innovation, digital method, network analysis, community structure detection, Twitter API