Unlocking Value from Ubiquitous Data

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Abstract. Data is growing at an alarming rate. This growth is spurred by varied array of sources, such as embedded sensors, social media sites, video cameras, the quantified-self and the internet-of-things. This is changing our reliance on data for making decisions, or data analytics, from being mostly carried out by an individual and in limited settings to taking place while on-the-move and in the field of action. Unlocking value from data directs that it must be assessed from multiple dimensions. Data's value can be primarily classified as "information," "knowledge" or "wisdom". Data analytics addresses such matters as what and why, as well as what will and what should be done. In recent days, data analytics is moving from being reserved for domain experts to becoming necessary for the end-user. However, data availability is both a pertinent issue and a great opportunity for global businesses. In effect, data ubiquity is helping manufacturers, retailers, mobility sector and logistics firms, for example, foster an integrated decision-making environment supporting real-time, information-based business networks. New IT architectures enabled by big data, internet-of-things, cloud computing, and other technologies are helping optimize a business environment with common real-time data, workflow, and alerting capabilities. Business success will be centered around the timely and effective analysis of the large-scale data sets generated by business and sensor networks and the ways in which organizational insights are used to assess and affect potential impacts and risks to their business. This talk will present recent examples from work in our research team on ubiquitous data analytics and open up to a discussion on key questions relating methodologies, tools and frameworks to improve ubiquitous data team effectiveness as well as the potential goals for a ubiquitous data process methodology. Finally, we give an outlook on the future of data analytics, suggesting a few research topics, applications, opportunities and challenges.

Keywords: Big data, analytics, ubiquitous, internet-of-things, supply chain, business, mobility sector.