

ECIS 2017 CALL FOR TRACKS

INFORMATION SYSTEMS FOR A SMART, SUSTAINABLE AND INCLUSIVE WORLD - JUNE 5-10 2017 IN GUIMARÃES PORTUGAL
25TH EUROPEAN CONFERENCE ON INFORMATION SYSTEMS

T04

Big Data Analytics and Business Transformation

The notion of big data and its application in driving organizational decision making has attracted enormous attention over the past few years. Associated with the notion of big data are aspects such as the diversity of data, the frequency by which it is updated, and the speed at which it grows. Companies are realizing that the data they own and the way they use them can differentiate them from competition, and even provide them with a competitive edge. As such, today's companies try to collect and process as much data as possible (Zuhoff, 2015). The need to harness the potential of rapidly expanding data volume, velocity, and variety, has seen a significant evolution of techniques and technologies for data storage, analysis, and visualization. Yet, there is limited understanding of how organizations need to change to embrace these technological innovations, and the business shifts they entail (McAfee et al., 2012). As big data tools and applications spread, they will inevitably change long-standing ideas about decision making, management practices, and most importantly competitive strategy formulation (Kalinikos & Constantiou, 2015). But as with any major change, the challenge of becoming a big data-driven enterprise can be enormous. Nevertheless, it's a transition that executives need to navigate through, with limited empirical knowledge to guide their decisions.

This track is directly aligned with the theme of ECIS 2017 "Information Systems for a Smart, Sustainable and Inclusive World", as well as the Europe 2020 strategy goal. The track aims to explore the business transformations big data entail, and how they are harnessed to enable innovative ways of conducting business and to support rapid decision making with external stakeholders such as business partners, customers, and public authorities. Already big data business analytics ecosystems have been described as the next frontier of innovation (Chen et al., 2012; Manyika et al., 2011). Yet, to understand how big data can be of value requires an examination of the interplay between various factors (e.g., social, technical, economical, environmental). In order to gain insight and solve such challenges, research methods and accompanying theoretical perspectives need to go beyond the traditional scope of Information Systems (Constantiou & Kalinikos 2015; Ketter et al., 2015). The focus should be shifted on how companies optimally deploy and exploit big data as part of their competitive strategies, as well as how the analytic methods, tools, and techniques are best utilized to support business operations. In this respect the track will be revolved on themes such as how big data are effectively leveraged in a range of contexts and industries (e.g. technology, retail, oil and gas, healthcare, telecommunications), and what critical factors drive successful diffusion.

Papers that address topics on how information sources, technological infrastructure, human skills and knowledge, organizational/team structures, and management practices coalesce to achieve desired ends, are of increased interest. Furthermore, outcomes that demonstrate critical success factors on the organizational impact of big data and business analytics in terms of competitive performance, innovativeness, increased agility, and market capitalizing competence are encouraged. A strong emphasis will be placed on interdisciplinary papers that bridge the domains of organizational science, information systems, strategic management, information science, marketing, and computer science. The track aims to add in this direction and therefore welcomes quantitative, qualitative, and mixed methods papers, as well as reviews, conceptual papers, and theory development papers.

Suggested topics include, but are not limited to big data and business analytics:

- Emerging concepts and methodologies on big data and analytics
- Big data and management
- Organizational learning and innovation from big data and business analytics

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- Data-driven competitive advantage
- Human resource management in the data-driven enterprise
- Big data digital business models
- Proactive strategy formulation from big data analytics
- Data and text mining for business analytics
- Big data and analytics to create business value
- Social media analytics for business
- Data quality improvement for business analytics
- Big data and its impact on business strategy-formulation
- Digital ecosystem big data

Constantiou, I. D., & Kallinikos, J. (2015). New games, new rules: big data and the changing context of strategy. *Journal of Information Technology*, 30(1), 44-57.

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Ketter, W., Peters, M., Collins, J., & Gupta, A. (2015). Competitive Benchmarking: An IS Research Approach to Address Wicked Problems with Big Data and Analytics. *MIS Quarterly*. (forthcoming)

McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big data. *The management revolution. Harvard Business Review*, 90(10), 61-67.

Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., and Byers, A. H. 2011. "Big Data: The Next Frontier for Innovation, Competition, and Productivity," McKinsey Global Institute. <http://www.mckinsey.com/business-functions/business-technology/our-insights/big-data-the-next-frontier-for-innovation>; access on 4 March 2016.

Kallinikos, J., & Constantiou, I. D. (2015). Big data revisited: a rejoinder. *Journal of Information Technology*, 30(1), 70-74.

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		<p>University. He also serves as the Associate Dean of Research, Doctoral Programs, and Strategic Initiatives. He also directs the university-wide Big Data Institute at Temple University. Paul received his Ph.D. from the University of Southern California. He was ranked first in the world in publications in the two top MIS journals (MISQ and ISR) for 2010-2014. His work has been cited over 20,000 times by Google Scholar. Paul was recognized among the “World’s Most Influential Scientific Minds” by Thomson Reuters based on analysis of “Highly Cited” authors during the 2002-2012 period. Paul won several Best Paper recognitions for his research, including the Maynard Award nomination for the “Most Significant Contribution to Marketing” in the Journal of Marketing in 2015, the ISR Best Paper award in 2007, and the 2006 IS Publication of the Year award, and others.</p>
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