MCIS 2017 TRACK PROPOSAL

Big Data and Business Analytics Ecosystems

Short Description of the Proposed Track

The notion of big data and its application in driving organizational decision making has attracted enormous attention over the past few years. As the label itself indicates, big data refers to large volumes of data generated and made available online and in digital media ecosystems[1]. 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[2]. 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. Thus, todays companies try to collect and process as much data as possible[3]. Big data and business analytics are also challenging existing modes of business and well-established companies[4]. 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[5]. Even more, the business value of big data and business analytics technologies still remain largely underexplored. 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[6]. But as with any major change, the challenge of becoming a big data-driven enterprise can be enormous[7]. Nevertheless, it's a transition that executives need to navigate through, with limited empirical knowledge to guide their decisions.

The purpose of this track is to shed some light on how big data and business analytics tools are reshaping contemporary companies. The focus is on how companies should 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 for supporting business operations. In this respect the track will be revolved on themes such as how big data are effectively leveraged in

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[1] 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.

[2] Boyd, D., & Crawford, K. (2012). Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon. *Information, communication & society*, *15*(5), 662-679.

[3] Zuboff, S. (2015). Big other: surveillance capitalism and the prospects of an information civilization. Journal of Information Technology, 30(1), 75-89.

[4] Erevelles, S., Fukawa, N., & Swayne, L. (2016). Big Data consumer analytics and the transformation of marketing. Journal of Business Research, 69(2), 897-904.

[5] 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.

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

[7] Whyte, J., Stasis, A., & Lindkvist, C. (2015). Managing change in the delivery of complex projects: Configuration management, asset information and 'big data'. International Journal of Project Management.

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 the organizational impact of big data and business analytics in terms of competitive performance, innovativeness, increased agility, and market capitalizing competence are encouraged. Emphasis will be placed on interdisciplinary papers that bridge the domains of organizational science, information systems strategic management, information science, marketing, and computer science. In addition, the track seeks to address the novel digital business strategies that emerge as part of these new technologies, and particularly the entrepreneurial wave and start-up business models that transpire due to these technological tools. Whereas much innovation is done within established organizations, a lot of the novel application of ICT is spearheaded by software start-ups. Start-up ecosystems are one of the most important economic drivers in today's economy.

Despite the hype surrounding big data, the aforementioned predicaments still remain largely unexplored, severely hampering the business potential of big data and business analytics. 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. Especially concerning the theory development papers, we highly encourage authors to explore how information systems, information management, and strategic management theories can be used or extended to explain big data and business analytics-related phenomena.

The track accepts both full research paper and research in progress papers.

Initial list of topics
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
- 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
- Behavioral and Recommender Systems Analytics
- Big data and analytics to create business value
- Social media analytics for business
- E-learning analytics
- Social media and learning analytics
- Data quality improvement for business analytics
- Big data and its impact on business strategy-formulation

- Digital ecosystem big data

Track Co-Chairs

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Short bios of track Co-Chairs

➢ **Ilias O. Pappas:** Postdoctoral researcher in the area of Business Management and Informatics. He received a BSc in Informatics (specialization in Humanities Informatics) and an MSc degree in Informatics (specialization in Information Systems) from the same university. His current research interests are in the areas of information technology adoption, customer behavior in online environments, personalization and recommendation agents, and customer emotions in Internet marketing. He has published articles in international journals and international conferences including Journal of Business Research, Electronic Markets and International Journal of Retail and Distribution Management.

- **Patrick Mikalef:** Postdoctoral researcher in the area of Information Systems Strategy. He received his B.Sc. in Informatics from the Ionian University, his M.Sc. in Business Informatics for Utrecht University, and his Ph.D. in IT Strategy from the Ionian University. He has published work in international conferences and peer-reviewed journal including Industrial Management & Data Systems, Journal of Theoretical and Applied Electronic Commerce Research, and Health Information and Libraries Journal.

- **Michail Giannakos:** is associate professor of Smart Environments, Ecosystems and Analytics for Learning, NTNU, Norway. He is member on the executive board of IEEE Technical Committee on Learning Technology. During the last years Giannakos has served as in 5 organization committees (e.g., associate chair, doctoral consortium chair), 14 program committees as well as reviewer, associate and guest editor on highly recognized journals; he has also organized 4 workshops and 3 tutorials at major in the area of Smart Environments, Ecosystems and Analytics for Learning.

  See here:

  - WAVe 2013: https://sites.google.com/a/ionio.gr/wave/

  - SE@VBL 2015: www.ask4research.info/seavbl/2015

- **John Krogstie:** is professor of Information Systems, NTNU, Norway. Chair of IFIP WG 8.1 on Design and Evaluation of Information Systems (2010-2015, vice-chair 2004-2009) (http://research.idi.ntnu.no/ifip-wg81/). Related to IFIP he has been involved in the organizing committee in a number of conferences including General chair of PoEM 2011. Co-organizer of EMMSAD 2001-2014 (Organized together with two international colleagues where he approximately every third year was the main organizer). Co-organizer of IFIP TC8 MOBIS 2004 and 2005, and IFIP TC8 conference at WCC 2006. Co-organizer of the IFIP8.1. conference ISDO in 1995 General chair of CAiSE'07, and member of the board of the CAiSE Steering committee since 2011.

- **George Lekakos:** is associate professor of e-Business, Athens University of Economics and Business (AUEB), Greece. He leads the Intelligent Media Lab (IML), a research group within the ELTRUN Research Center (http://www.www.eltrun.gr) at the AUEB. He has recently organized a track titled "Social Media Analytics and Intelligence" in AIS MCIS 2014. He is also member of the steering committee of the ACM TVX conference.