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

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Business Analytics and Data Science for Business Performance

Gartner, Inc. forecasts that the number of connected devices (Internet of Things) will reach 21 billion by 2020. This, among many other drivers, is fueling performance improvements due to the assimilation of business analytics and data science approaches within organizations of various industries and sizes. It is projected to further escalate at an unprecedented pace. Consequently, organizations are pushed to bring a change to their technological infrastructure, applications, and workforce skills so they can process and interpret large and disparate amounts of data in a timely fashion. Many scholars are now emphasizing the importance of big data, business analytics (BA) approaches, and information assets for efficient and effective decision support, management, operations and/or leadership. Consequently, BA is essential for organizations' daily business, directly influencing competitive advantage and business development in a global world.

BA and data science approaches are not limited to traditional and isolated organizationfocused applications. They enable us to integrate, analyze, visualize and ultimately understand how to improve the complex processes that not only increase organizational performance but also make up our digitized world. Such approaches are, therefore, great enablers for knowledge discoveries that benefit people, organizations, and societies, while also leading to the development of smart technologies. Improved communication, more sustainable processes as well as new business models are examples for the innovative usage of disparate data originating from sources such as mobile, Internet of Things/ wearable/ real time data streams, and social media data. This changes the nature of interaction and the use of information exchange technologies along with the information is consumed at the individual, team, and organizational level, or even in the global settings.

Extant BA research primarily explores organizational and technological advances to improve business performance in a continuous and iterative way. It includes exploratory data analysis techniques for developing new insights through the use of predictive, descriptive, and prescriptive techniques. Various business intelligence (BI) approaches that typically include ETL, OLAP as well as related technologies to provide historical and current views of the business relate more to the descriptive analytics. However, limited attention has been given to the individual's perspective focusing on personal objectives and characteristics as enabling or suppressing factors to BA utilization. The big data challenge, fueled by increasing variety, volume, velocity, and veracity of data, bares large potential for research and practice by extending existing analytics beyond the traditional organizational borders. New phenomena or paradigm changes from the use of analytics approaches emerge the same way as other business models do. Furthermore, the availability of practically unlimited computing and cheap storage capabilities available through the cloud computing enables new opportunities in providing a global gateway to information as a service.

Motivated by the explosion of interest in these emerging fields, the *Business Analytics and Data Science for Business Performance* track aims to promote multidisciplinary contributions dealing with managerial, economic, methodological, cultural, and technological perspectives. Submissions based on theoretical, design science, action, empirical or behavioral research are encouraged. We welcome full research papers, research in progress papers, and prototype

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papers.

Topics of interest include, but are not limited to:

Business Intelligence and Analytics (BI&A)

- Strategic and change management issues stemming from BI&A
- Adoption, implementation, routinization and use of BI&A
- Organizational issues in BI&A implementation and success

• Descriptive, predictive and prescriptive analytics for operational process and outcome improvements

• Real-time analytics (streaming), data warehousing, and operational BI, event-driven BA, business activity monitoring

• BI&A's new frontiers: e.g. social (media) BI&A, BI&A in the cloud, BI&A as a service

• Applications (e.g. Supply Chain Management, Customer Relationship Management, Human Resource Management) and success of BI&A

• BI&A for decision support; visual analytics; in-memory analytics

Data Science

- Big data driven business model innovation and applications
- Adoption and utilization of big data analytics for improving process and firm performance
- Big data for better people, organizations, and markets
- Architectures, technical and organizational approaches to facilitate the handling of big data
- Applications of various analytics approaches in healthcare, sports, education, habitat planning, smart cities, etc.
- Applications using wearable and other Internet of Things enabled devices.

<u>Selected Bibliography</u> relevant to the proposed track:

• Agarwal, R. & Dhar, V. (2014). Big Data, Data Science, and Analytics: The Opportunity and Challenge for IS Research. *Information Systems Research*, 25(3), 443-448.

• Chen, H., Chiang, R. H. L., & Storey, V. C. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, 36(4), 1165-1188.

• Holsapple, C., Lee-Post, A., & Pakath, R. (2014). A unified foundation for business analytics. *Decision Support Systems*, 64, 130-141.

• Sharma, R., Mithas, S., & Kankanhalli, A. (2014). Transforming decision-making processes: a research agenda for understanding the impact of business analytics on organisations. *European Journal of Information Systems*, 23(4), 433-441.

Publishing Opportunities in Leading Journals

Track co-chairs have a strong track record for guest editing special issues of premier IS journal. Aleš Popovič is presently a guest editor for a special issue of *International Journal of Business Intelligence Research* (IJBIR) on business analytics and digital transformation. Christian Janiesch is currently guest editor for an Information Systems and e-Business Management journal special issue. Barbara Dinter has been the guest editor for the aforementioned IJBIR special issue.

We have tentatively secured a special issue in *International Journal of Business Intelligence Research* (IJBIR) for selected high-quality papers from our track.

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	Track Co-Chairs		
1	Name - Surname (primary contact)	Aleš Popovič	
	Title	Associate Professor	
	E-mail	ales.popovic@ef.uni-lj.si	
	Affiliation	University of Ljubljana - Faculty of Economics	
	URL	http://alespopovic.com	
	Short Biography	Aleš Popovič is an Associate Professor in the Academic Unit for Business Informatics and Logistics at the Faculty of Economics University of Ljubljana and a visiting professor at Information Management School - Universidade NOVA de Lisboa (NOVA IMS). He received his Ph.D. in Information Management at University of Ljubljana. His research interests include understanding business intelligence value, success, and related business process change, both within and between organizations. Aleš's works appear in a variety of academic journals, such as Journal of Strategic Information Systems, Decision Support Systems, Government Information Quarterly, Journal of Business Research, Journal of the Association for Information Science and Technology, International Journal of Information Management & Data Systems, among others. Aleš has chaired the BI track at ECIS 2015, as well as (mini-)tracks at AMCIS. He has served has served at many major IS conferences as an Associate Editor.	
2	Name - Surname	Barbara Dinter	
	Title	Professor	
	E-mail	barbara.dinter@wirtschaft.tu-chemnitz.de	
	Affiliation	Chemnitz University of Technology	
	URL	http://www.tu-chemnitz.de/wirtschaft/wi1/team/barbara-dinter/	
	Short Biography	Barbara Dinter is Professor and Chair of Business Information Systems at Chemnitz University of Technology, Germany. She holds a Ph.D. from the Technische Universität München, Germany, where she previously earned a master's degree in computer science. Barbara worked for several years at University of St. Gallen, Switzerland as a Post-Doc and project manager. In her role as an IT consultant, she worked with a variety of organizations. Her research interests include business intelligence and analytics, big data, data driven innovation, and information management. Barbara has published in renowned journals such as Decision Support Systems, Journal of Database Management, and Journal of Decision Systems, and on conferences such as ICIS, ECIS, and HICSS. She has chaired the BI track at ECIS for five years, as well as (mini-)tracks at HICSS, AMCIS, Pre-ICIS Business Analytics Congress, She has served at many major IS conferences as an Associate Editor.	

3	Name - Surname	Christian Janiesch
	Title	Assistant Professor
	E-mail	christian.janiesch@uni-wuerzburg.de
	Affiliation	Julius-Maximilians-Universität Würzburg
	URL	http://www.wiwi.uni-wuerzburg.de/lehrstuhl/bwljp1/
	Short Biography	Christian Janiesch is an Assistant Professor at the Julius-Maximilians- Universität in Würzburg, Germany. He received his Ph.D., MSc, and a BSc in Information Systems from the University of Münster. Christian worked full-time at the European Research Center for Information Systems (ERCIS) in Münster, at the SAP Research Center Brisbane at SAP Australia Pty Ltd, and at the Karlsruhe Institute of Technology. His research is at the intersection of BPM and BI with a current focus on real-time, event-driven applications. Christian has served as a track chair at ACIS 2010, ECIS 2013-2015, and the BPM workshop series on Event-Driven BPM as well as BPM in the Cloud. He has been reviewing for various ACM and IEEE journals as well as BISE and BPMJ. His work has appeared in Communications of the AIS, Business Process Management Journal, Business & Information Systems Engineering, Future Generation Computer Systems as well as various major international conferences including ICIS, ECIS, and HICSS and has been registered as U.S. patents.

		Track Associate Editors
1	Name-Surname	Stephan Aier
	Title	Assistant Professor
	E-mail	stephan.aier@unisg.ch
	Affiliation	University of St. Gallen, Switzerland
2	Name-Surname	Shahriar Akter
	Title	Senior Lecturer
	E-mail	sakter@uow.edu.au
	Affiliation	University of Wollongong, Australia
3	Name-Surname	Henning Baars
	Title	Assistant Professor
	E-mail	Baars@wi.uni-stuttgart.de
	Affiliation	University of Stuttgart, Germany
4	Name-Surname	Sule Balkan
	Title	Associate Professor
	E-mail	sule@nctu.edu.tw
	Affiliation	National Chiao Tung University, Taiwan
5	Name-Surname	Mustafa Baydogan
	Title	Assistant Professor
	E-mail	mustafa.baydogan@boun.edu.tr
	Affiliation	Boğaziçi University, Turkey
6	Name-Surname	Elsa Cardoso
	Title	Assistant Professor
	E-mail	elsa.cardoso@iscte.pt
	Affiliation	ISCTE - Instituto Universitário de Lisboa, Portugal
7	Name-Surname	Jesus Carretero
	Title	Professor
	E-mail	jesus.carretero@uc3m.es
	Affiliation	Universidad Carlos III de Madrid, Spain
8	Name-Surname	Mauro Castelli
	Title	Assistant Professor
	E-mail	mcastelli@novaims.unl.pt
	Affiliation	NOVA IMS, Lisbon, Portugal
9	Name-Surname	Joe Clark
	Title	Assistant Professor
	E-mail	joseph.w.clark@asu.edu
	Affiliation	Arizona State University, USA
10	Name-Surname	Patrick Delftmann

	Title	Professor
	E-mail	delfmann@uni-koblenz.de
	Affiliation	University of Koblenz, Germany
11	Name-Surname	Amit Deokar
	Title	Assistant Professor
	E-mail	amit.deokar@uml.edu
	Affiliation	University of Massachusetts Lowell, United States
12	Name-Surname	Ashish Gupta
	Title	Associate Professor
	E-mail	ashish.gupta@auburn.edu
	Affiliation	Auburn University, Alabama
13	Name-Surname	Adir Even
	Title	Lecturer
	E-mail	adireven@bgu.ac.il
	Affiliation	Ben-Gurion University of the Negev, Israel
14	Name-Surname	Roland Holten
	Title	Professor
	E-mail	holten@ise.uni-frankfurt.de
	Affiliation	University of Frankfurt, Germany
15	Name-Surname	Oyku Isik
	Title	Assistant Professor
	E-mail	oyku.isik@vlerick.com
	Affiliation	Vlerick Business School, Belgium
16	Name-Surname	Lakshmi Iyer
	Title	Associate Professor
	E-mail	Lsiyer@uncg.edu
	Affiliation	University of North Carolina, United States
17	Name-Surname	Jurij Jaklič
	Title	Professor
	E-mail	jurij.jaklic@ef.uni-lj.si
	Affiliation	University of Ljubljana, Slovenia
18	Name-Surname	Ralf Knackstedt
	Title	Assistant Professor
	E-mail	ralf.knackstedt@uni-hildesheim.de
	Affiliation	University of Hildesheim, Germany
19	Name-Surname	Marek Kowalkiewicz
	Title	Professor
	E-mail	marek.kowalkiewicz@qut.edu.au
	Affiliation	Queensland University of Technology, Australia

20	Name-Surname	Uday Kulkarni
	Title	Associate Professor
	E-mail	Uday.Kulkarni@asu.edu
	Affiliation	Arizona State University, USA
21	Name-Surname	Vikas Kumar
	Title	Professor
	E-mail	prof.vikaskumar@gmail.com
	Affiliation	Sharda University, India
22	Name-Surname	Nuno Laranjeiro
	Title	Assistant Professor
	E-mail	cnl@dei.uc.pt
	Affiliation	University of Coimbra, Portugal
23	Name-Surname	Alexander Mädche
	Title	Professor
	E-mail	alexander.maedche@kit.edu
	Affiliation	Karlsruhe Institute of Technology, Germany
24	Name-Surname	Olivera Marjanovic
	Title	Professor
	E-mail	olivera.marjanovic@sydney.edu.au
	Affiliation	The University of Sydney, Australia
25	Name-Surname	Martin Matzner
	Title	Research Assistant
	E-mail	martin.matzner@ercis.uni-muenster.de
	Affiliation	University of Münster, Germany
26	Name-Surname	Oliver Müller
	Title	Assistant Professor
	E-mail	oliver.mueller@uni.li
	Affiliation	ITU Copenhagen, Denmark
27	Name-Surname	Dirk Neumann
	Title	Professor
	E-mail	dirk.neumann@is.uni-freiburg.de
	Affiliation	University of Freiburg. Germany
28	Name-Surname	Tiago Oliveira
	Title	Assistant Professor
	E-mail	toliveira@novaims.unl.pt
	Affiliation	NOVA IMS, Lisbon, Portugal
29	Name-Surname	Alejandro Rabasa
	Title	Professor
	E-mail	a.rabasa@umh.es

	Affiliation	Miguel Hernández University, Spain
30	Name-Surname	Greg Richards
	Title	Professor
	E-mail	richards@telfer.uOttawa.ca
	Affiliation	University of Ottawa, Canada
31	Name-Surname	Jose-Antonio Robles-Flores
	Title	Assistant Professor
	E-mail	jrobles@esan.edu.pe
	Affiliation	ESAN Business School, Lima, Peru
32	Name-Surname	Anna Sidorova
	Title	Assistant Professor
	E-mail	anna.sidorova@unt.edu
	Affiliation	University of North Texas, USA
33	Name-Surname	Myra Spiliopulou
	Title	Professor
	E-mail	myra@iti.cs.uni-magdeburg.de
	Affiliation	University of Magdeburg, Germany
34	Name-Surname	Lisa Seymour
	Title	Associate Professor
	E-mail	Lisa.Seymour@uct.ac.za
	Affiliation	University of Cape Town, South Africa
35	Name-Surname	Arvind Tripathi
	Title	Associate Professor
	E-mail	a.tripathi@auckland.ac.nz
	Affiliation	University of Auckland, New Zealand
36	Name-Surname	Ozgur Turetgen
	Title	Professor
	E-mail	turetken@ryerson.ca
	Affiliation	Ryerson University, Canada
37	Name-Surname	William Yeoh
	Title	Senior Lecturer
	E-mail	william.yeoh@deakin.edu.au
	Affiliation	Deakin University, Australia