Call For Papers: A Special Issue on

"Big Data and Analytics for a Better World"

Background:
The recent explosion of big data has radically changed the way managers can measure and gain insights about their businesses (McAfee and Brynjolfsson 2012). Application analytics and big data approaches enable measurement and creation of knowledge that helps organizations make effective decisions and gain high performance in various business functions. The adoption of a data driven culture and the use of big data approaches for decision-making has the potential to lead organizations towards sustainable competitive advantage and productivity gains (Watson 2014).

As organizations in various sectors re-formulate IT strategies and investments for the evolving market, it is imperative to understand how big data can be used effectively for decision-making purposes. Companies are actively seeking for mechanisms to outrun their competitors through analytics driven innovation. For example, companies are strategizing to increase their customer base by developing a better and deeper understanding of customer needs through big data analytics.

Scientific community has a strong focus on understanding the paradigm shifts resulting from increased use of big data from multiple sources for decision-making. The management, processing and use of these large data sets present new challenges for organizations and society. Consequently, big data has become fertile grounds for further development of new areas that will lead to improved functioning of various components of society. Beyond organizational impact, analytics is starting to play a critical role in non-profits, non-government and government entities to address several social and global challenges. As a result, there is considerable interest worldwide in examining how big data and related new computing paradigms can improve or alter processes and core functionalities while improving outcomes and key performance indicators.

This special issue of Information Systems Frontiers on 'Big Data and Analytics for a better world' seeks theory building, design science, behavioral research and emerging applications in innovative areas of big data use, analytics, and decision support. Topics of interest include, but not limited to:

- Energy analytics – sustainability, smart grid, etc.
- Health care analytics – personalized medicine, population health management, smart HIT systems, fraud prevention, etc.
- Analytics for improved disease management, diagnostics, endemics, and rural health
- Analytics in developing and underdeveloped nations, smart resource sharing and allocation
- Analytics for climate and weather, environment and pollution management

- Analytics for open government and data portals
- Big data approaches applied to improve cognitive performance and reduce the dark side of technology, (e.g. information overload, techno stress, technology addiction, etc.).
- Application of analytics for global development
- Security and privacy in the social media and big data context;
- Case studies utilizing disparate and big data emphasizing on high global and societal impact or problems of high value;
- Application of social network analysis (SNA) on big data in collaborative systems,
- Transportation and traffic safety

A major focus of the issue will be on novel and high impact problems having a positive impact on global and societal issues. However, the special issue will also solicit original research on topics related to innovative design and development of analytics models as applied to solve such problems using approaches including but not limited to:

- Analytics for Decision Support: visual analytics; data warehousing; OLAP and executive support; big data and large-scale data storage; in-memory analytics;.
- Analytics for smarter Knowledge management: smart expert systems applications using data from disparate sources and methodologies such text mining, data mining, rule-based systems, semantic web technologies to address specific decision support needs; mobile technologies.
- Predictive Analytics and descriptive analytics applied to large scale datasets.
- Document-driven Analytics: knowledge coding, analysis, search and retrieval for decision support for a variety of devices (e.g., tablets, smartphones).
- Analytics using social media, identifying socio-technical gaps, benefits and challenges for collaboration in Big Data; novel storage and management approaches for big data;
- Decision Outcomes and Performance Evaluation: effects of using decision technologies, designing for improved decision performance; metrics for data warehousing, BI, and analytics.

Projected Time Line:
Deadline for original submissions: October 15, 2015
Final notifications to authors: July 15, 2016

Opportunity to Fast track papers: In addition to direct submissions, appropriate Track/Mini-track chairs of the following conferences will be contacted to recommend high quality papers that fit the theme of the special issue: ECIS, SHARP, ICIS, Pre/Post-ICIS workshops, HICSS and AMCIS.

References
McAfee, Andrew and Erik Brynjolfsson. (2012) "Big Data: The Management Revolution". *Harvard Business Review,* October.
Watson, Hugh J. (2014) "Tutorial: Big Data Analytics: Concepts, Technologies, and Applications," *Communications of the Association for Information Systems*: Vol. 34, Article 65.

Editors Biography

Lakshmi Iyer is an Associate Professor and Director of Graduate Programs in the Information Systems and Supply Chain Management Department, Bryan School of Business and Economics at the University of North Carolina Greensboro (UNCG). Her

research interests are in the area of business analytics, knowledge management, emerging technologies & its impact on organizations and users, and diversity in computing. She is a Board member of Teradata University Network, Chair of the Special Interest Group in Decision Support and Analytics (formerly SIGDSS). She has served as a Guest Editor for *Communications of the ACM*, and the *Journal of Electronic Commerce Research*. She is also co-editor of a forthcoming book: Annals of Information Systems Special Issue on "Reshaping Society through Analytics, Collaboration, and Decision Support: Role of BI and Social Media," from the 2013 pre-ICIS workshop in Milan, Italy.

Ashish Gupta is the founding Director of Big Data & Analytics Research Center (BDARC) and an Associate Professor of Analytics & IS in the College of Business at the University of Tennessee Chattanooga. His research interests are in the areas of analytics, big data, healthcare informatics, and smart grid. His recent articles have appeared in journals such as *Journal of Biomedical Informatics*, *IEEE Transactions, Information Systems Journal*, *European Journal of Information Systems*, *Decision Support Systems*, *Information Systems Frontiers*, and *Communications of the Association for Information Systems*. He has edited 4 book volumes (springer) and guest edited special issues of journal such as Decision Support Systems, Information Systems journal, etc.

Amit Deokar is an Assistant Professor of Management Information Systems in the Black School of Business at Penn State University Erie. His research interests include predictive analytics, business intelligence, process management, and collaboration processes and technologies. His work has been published in journals such as Journal of Management Information Systems, Decision Support Systems (DSS), The DATA BASE for Advances in Information Systems, Information Systems Frontiers, Business Process Management Journal (BPMJ) and IEEE Transactions. He is currently a member of the editorial board of DSS and BPMJ journals. He has been serving as the Business Analytics, Big Data and Knowledge Management Track Chair at the international AMCIS 2014 and 2015 conferences, and Program Chair-elect of the AIS Special Interest Group on Decision Support and Analytics (SIGDSA). He was recognized with the 2014 IBM Faculty Award for his research and teaching in the areas of analytics and big data.

Ramesh Sharda is the Vice Dean of the Watson Graduate School of Management, Watson/ConocoPhillips Chair and a Regents Professor of Management Science and Information Systems in the Spears School of Business at Oklahoma State University. He has coauthored two textbooks (Business Intelligence and Analytics: Systems for Decision Support, 10th edition, Prentice Hall and Business Intelligence: A Managerial Perspective on Analytics, 3rd Edition, Prentice Hall). He is a member of the editorial boards of journals such as the Decision Support Systems, Decision Sciences, and Information Systems Frontiers. He is also serving as the Executive Director of Teradata University Network.

Dave Schrader had over 22 years of experience as a marketing director at Teradata, where he marketed the Teradata® Unified Data Architecture™ Big Data and Active Intelligence™ initiatives. Throughout his career, Schrader assisted Teradata customers use both traditional and big data to create analytical insights and predictive models. He continues as a board member of the Teradata University Network, giving talks at universities. He is known for creating 12 episodes of "Business Scenario Investigations" (BSI), a CSI-like "show" on YouTube that shows how data forensic investigators can better use data. Schrader holds a Ph.D. in computer science from Purdue University, has published in the areas of customer management and business intelligence, and is a popular conference speaker.