BUSINESS INTELLIGENCE AND ANALYTICS: A SURVEY

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ABSTRACT

As organizations initiate to use Business Intelligence to improve decision making, cut costs and identify new business opportunities, Business intelligence and analytics (BI&A) has emerged as an important area of study for both practitioners and researchers, reflecting the importance and impact of data-related problems to be solved in contemporary business organizations. This paper explores the evolution, applications, and emerging research areas of BI&A. BI&A 1.0, BI&A 2.0, and BI&A 3.0 are defined and described in terms of their key characteristics and capabilities. The study travels around the current research in BI&A and analyzes the challenges and opportunities associated with BI&A research. The paper also report a review and study of critical BI&A publications, researchers, and research topics that were based on past decades of related academic and industry publications. As a final point, those articles that were surveyed for this study paves way for the forthcoming researches by introducing and characterizing the emerging work in terms of the proposed BI&A research outline.

KEYWORDS: Business intelligence and analytics, big data analytics, text analytics, web analytics, network analytics, mobile analytics.

REFERENCES

- [1] Barabási, A. 2003. Linked: How Everything Is Connected to Everything Else and What it Means for Business, Science, and Everyday Life, New York: Plume.
- [2] Bitterer, A. 2011. "Hype Cycle for Business Intelligence," Gartner, Inc., Stamford, CT.
- [3] Chaudhuri, S., Dayal, U., and Narasayya, V. 2011. "An Overview of Business Intelligence Technology," Communications of the ACM (54:8), pp. 88-98.
- [4] Davenport, T. H. 2006. "Competing on Analytics," Harvard Business Review (84:1), p. 98-107.
- [5] Doan, A., Ramakrishnan, R., and Halevy, A. Y. 2011. "Crowdsourcing Systems on the World-Wide Web," Communications of the ACM (54:4), pp. 86-96.

- [6] Fortunato, S. 2010. "Community Detection in Graphs," Physics Reports (486:3-5), pp. 75-174.
- [7] Frank, O., and Strauss, D. 1986. "Markov Graphs," Journal of the American Statistical Association (81:395), pp. 832-842.
- [8] Hevner, A., March, S. T., Park, J., and Ram. S. 2004. "Design Science Research in Information Systems," MIS Quarterly (28:1), pp. 75-105.
- [9] O'Reilly, T. 2005. "What Is Web 2.0? Design Patterns and Business Models for the Next Generation of Software," September 30.
- [10] Pang, B., and Lee, L. 2008. "Opinion Mining and Sentiment Analysis," Foundations and Trends in Information Retrieval (2:1-2), pp. 1-135. Russom, P. 2011. "Big Data Analytics," TDWI Best Practices Report, Fourth Quarter.
- [11] Sallam, R. L., Richardson, J., Hagerty, J., and Hostmann, B. 2011. "Magic Quadrant for Business Intelligence Platforms," Gartner Group, Stamford, CT.
- [12] Salton, G. 1989. Automatic Text Processing, Reading, MA:Addison Wesley.
- [13] Schonfeld, E. 2005. "The Great Giveaway," Business 2.0 (6:3), pp.80-86.
- [14] Turban, E., Sharda, R., Aronson, J. E., and King, D. 2008. Business Intelligence: A Managerial Approach, Boston: Pearson Prentice Hall.