Finance Big Data: Management, Analysis, and Applications

Special Issue of *International Journal of Electronic Commerce*

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Big data is an emerging paradigm in almost all industries. Finance Big Data (FBD) is becoming one of the most promising areas for management and governance in the financial sector. It is significantly changing business models in financial companies. Many researchers argue that big data is fuelling the transformation of finance and business at large in the ways that we cannot as yet assess. A new research area is evolving to study quantitative models and econometric approaches for financial studies that can bridge the gap between empirical finance research and data science. In this fascinating area, experts and scientists can propose novel finance business models by utilizing the Big Data methods, present sophisticated methods for risk control with machine learning tools, provide visualization tools for financial markets analysis, create new finance sentiment indexes by mining public feelings from the massive textual data from social networks, and deploy the information-based tools in other creative ways.

Due to the 4V characteristics of Big Data: volume (large data scale), velocity (real-time data streaming), variety (different data formats), and veracity (data uncertainty), a long list of challenges for FBD management, analytics, and applications exist. These challenges include: 1) to organize and manage FBD in effective and efficient ways, 2) to find novel business models from FBD analytics, 3) to handle traditional finance issues like high frequency trading, sentiments, credit risk, financial analysis, risk management and regulation, and others, in creative Big-Data driven ways, 4) to integrate the variety of heterogeneous data from different sources, and 5) to ensure the security and safety of finance systems and to protect the individual privacy in view of the availability of Big Data. To meet these challenges, we need fundamental research on both data analytics technology and finance business.

The Special Issue aims to bring together research efforts focused on the development of methods, tools and techniques for the handling of various aspects of FBD from academia and industries. We solicit high-quality contributions with consolidated and thoroughly validated application-oriented research results in the area of FBD engineering that are worthy of archival publication in the top-ranked *International Journal of Electronic Commerce*.

The solicited papers include, but are not limited to, the topical areas listed below:

- FBD organization and modeling
- Big Data analytics vs. financial econometrics
- Novel finance business models in view of Big Data
- Financial sentiment and news analysis in view of Big Data
- Behavioral finance in view of Big Data
- Security and privacy issues in FBD
- Big data and credit rating
- FBD visualization
- Big Data-driven relations network analysis for listed companies
- Data integration in finance
- High-frequency trading and algorithmic execution
- Systems and application for finance business in view of Big Data

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Submission Guidelines

Manuscripts submitted to the Special Issue should contain original material not published in and not submitted to other journals. Please send your submission to the guest editor Yunchuan Sun (yunch@bnu.edu.cn), with "IJEC Special Issue – Finance Big Data" as the subject, follow the journal format described at http://www.ijec-web.org/information-for-contributors/, and do not exceed 40 pages, with a potential online supplement. The review process is double-blind.

Time-line

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