Guest Editorial Preface

Special Issue on Big Data Analytics in Supply Chain Management

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In recent years business analytics has come to play a pivotal role as firms seek to leverage big data and business analytics into strategic competitive advantages. Advances in data storage and data mining capabilities have enabled firms to preserve and analyze increasing amounts of data, enhancing the benefits that business analytics can bring to improving performance and managing costs; Hence, it has drawn much attention in today's energy sector, especially the supply chain management. Indeed, several scholars have recognized the supply chain management as one that is well-positioned to appropriate gains from the use of big data analytics (e.g., Hassani & Silva, 2018; Muhammad et al., 2019; Patel et al., 2020).

The supply chain industry faces many challenges. Few industries are as volatile and yet as crucially important to daily life as the logistics sector. With a myriad of complications stemming from such disparate sources as geopolitical unrest, performance improvement issues, regulatory shifts, evolving stakeholder and consumer sentiments, equipment life cycle management issue, logistics complexities, etc., this industry is uniquely positioned to investigate the capabilities of big data and business analytics in a highly dynamic environment. Furthermore, the recent COVID-19 pandemic has hard hit this industry, causing a sharp plummet in demand, resulting in low prices and decreased or congested services. It is crucial to understand how the vast amount of data generated by these companies can surmount these challenges through providing meaningful insights though the application of big data analytics.

While researchers have leveraged the energy industry as a focal domain for studies into a variety of issues, such as "Green" human resource practices (Obeidat et al., 2020), accident prevention (Lamnisos et al., 2019), news sentiment and its influence on stock returns (Gupta & Banerjee, 2019), organization knowledge loss (Muhammad et al, 2018), there has been only limited investigation of the means by which big data and business analytics can add value to the supply chain management.

This special issue of the *International Journal of Business Analytics* (IJBAN) contains three revised and extended papers from the 2022 American Collegiate retailing Association (ACRA 2022), March 2-4, 2022, New Orleans, Louisiana, USA and one related paper from general submission. This well-established conference series extends the theory and practice of in retailing and supply chain management. It fulfils the need for stimulating critical debate on and research into theories, approaches, principles, applications, and the implementation of big data analytics.

The three papers in this special issue cover a range of aspects of big data analytics in supply chain management. Each of the four submitted papers has undergone full double blind peer review, prior to being selected for this special issue.

In the first paper, titled "Efficacy of Electronic Monitoring: An Investigation of Electronic Data Logging Regulation and Motor Vehicle Crash Fatalities," the author explores the effect of a federal regulation mandating the adoption of electronic data logging devices for commercial truck drivers in late 2017 and the efficacy of this regulatory effort in improving safety through an analysis of motor vehicle fatalities pre- and post-mandate. Results of a difference in difference estimation show the ELD mandate failed to reduce motor vehicle fatalities, and, in fact, may have increased overall fatality rates. These findings suggest that the expected benefits of electronic monitoring are likely to be highly contingent on proper design and implementation and a failure to consider the broader effects may lead to negative outcomes.

The second paper, titled "Applying Machine Learning to Study the Marketing Mix's Effectiveness in a Social Marketing Context: Fashion Brands' Twitter Activities in the Pandemic," examines the effectiveness of the marketing mix practiced on Twitter across high-end and low-end fashion brands, and explores whether any four Ps activities have changed across the different pandemic stages. A quantitative research method was designed to analyze text data scraped from identified fashion brands' Twitter accounts. A classification instrument was developed to group tweets based on the four Ps marketing mix. Then the developed instrument was applied to a small set of 145 tweets randomly sampled from the collected data. Logistic regression models were then trained using the sample set to predict four Ps activities on all the collected 144k tweets. The numbers of likes per tweet and frequencies of being retweeted per tweet were used to measure engagement effectiveness across brands.

In the third and final paper, "Fashion or Function: Examining Consumers' Perceived Values of Mass-Customized Menswear via a Content Mining Approach," authors endeavor to fill the void through a content mining exploratory, qualitative study using customer value theory to evaluate individual consumers' actual customization experiences. Results identified that functional value, self-expressive value, and aesthetic value were derived from menswear customization experiences. Among them, functional value (e.g., quality, fit) is the dominant dimension of value derived from menswear customization experiences and it determined consumers' overall attitudes toward mass customization of menswear.

As the guest editor, I am pleased to introduce this compilation of articles on the big data on supply chain management. These articles provide academic insights into, and managerial implications for, today's dynamic supply chain environment. Therefore, they match the mission of our journal. The authors of this special issue have done an excellent job and I think you all will enjoy this special issue.

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