
Editorial

Rameshwar Dubey

Symbiosis Institute of Operations Management,
Symbiosis International University,
Plot No. A-23, Shravan Sector, CIDCO,
New Nashik – 422008, India
Email: rameshwardubey@gmail.com
and
Electrical and Electronics Department,
South University of Science and Technology of China,
1088 Xueyuan Blvd., Shenzhen, Guangdong, 518055, China
Email: rameshwar@sustc.edu.cn

Biographical notes: Rameshwar Dubey is currently working as an Associate Professor at Symbiosis International University (on sabbatical leave) and Visiting Research Associate Professor and President Fellow at South University of Science and Technology of China in the field of big data and predictive analytics, smart manufacturing, sustainability and disaster relief operations. He is a proud gold medal recipient of AIMS International Youngest Researcher Award of 2011–2012 and two times outstanding reviewer award by Emerald. He is also serving as an Associate Editor of *Global Journal of Flexible Systems Management* (Springer) and *International Journal of Innovation Science* (Emerald). He has edited over eight special issues with SCOPUS/SCI/SSCI/ABS indexed journals. He has over 72 papers to his credit which are indexed in *Scopus* and *Web of Science*.

1 Introduction

Big data and predictive analytics (BDPA), in recent years, has been recognised as one of the organisational capabilities which can be exploited by the organisation to gain sustainable competitive advantage (Gunasekaran et al., 2016; Akter et al., 2016). Waller and Fawcett (2013), in one of their seminal articles, argue that data science and predictive analytics may have revolutionary impact on supply chains design. However, Hazen et al. (2014) argue that despite of immense potential, the BDPA success revolves around quality of data. Akter et al. (2016) argue using resource-based view (RBV) logic that quality of data is one of the important organisational resources to build BDPA capability. In one of the exploratory research (see, Schoenherr and Speier-Pero, 2015) administered among 531 SCM professionals have noted that BDPA can help “to improve supply chain related decisions, supply chain visibility, reduce supply chain costs, improvement in supply chain risk management, enhanced bargaining position with suppliers, improvement in supply chain efficiencies, enhanced demand planning capabilities, enhanced S&OP capabilities, responsiveness, enhanced SRM and enhanced CRM”.

However, despite of increasing application of BDPA the literature focusing on applications of BDPA in operations and supply chain management (O&SCM) literature is

limited to some notable exceptions (see Hazen et al., 2014; Wang et al., 2016; Gunasekaran et al., 2016). Hence, we address this as gap. In an attempt to address the pressing call of some notable scholars like Waller and Fawcett (2013), Fawcett and Waller (2014) and Hazen et al. (2014), we have decided to organise a special issue (SI) on popular and emerging theme: big data and predictive analytics applications in supply chain management for *International Journal of Automation and Logistics*.

Table 1 Review of articles

<i>Serial number</i>	<i>Contributors</i>	<i>Objective</i>	<i>Contribution</i>
Paper 1	Roberts and Hazen	Theoretical framework for omni-channel supply chain management using big data.	It makes theoretical contributions to omni-channel retailing and offers future research directions.
Paper 2	Lamba and Singh	Theoretical framework to address procurement and facility layout related issues using big data angle.	The study offers interesting contributions to the procurement and facility layout literature.
Paper 3	Bag	How to select big data professionals.	This study makes interesting contribution to supply chain skill literature. In this study, authors have addressed pressing concerns of availability of right professionals which is one of the major roadblocks in front of the organisations using BDPA.
Paper 4	Jeble et al.	To identify gaps in BDPA literature.	This is a review-based article in which authors have undertaken an extensive review of extant literature to identify future research opportunities surrounding big data, predictive analytics and its applications in O&SCM field.
Paper 5	Sharma et al.	To detect supply chain finance fraud using BDPA.	The study addresses some of the key supply chain risk management issues and identifies future research directions.
Paper 6	Kadam et al.	Bibliometric analysis of transportation literature.	In this study, authors have undertaken an extensive review of literature using popular scientific databases to understand the current state of research, authors diversity, and identifies potential research gaps.
Paper 7	Ramanathan and Bangali	To address the privacy related issues with big data and how to protect the data from being exploited.	In this study, authors have highlighted one of the major ethical concerns and the legal solutions to prevent the misuse of the data.

2 Methods

In this SI, we have published call for papers (CFP) in advance in which we have explained the overall objective of the SI and described the coverage of the possible contributions but not limited to the stated coverage areas, but also includes those areas which contributes to O&SCM literature using BDPA lens. In response to CFP, we have attracted significant papers. The papers which somehow was not a proper fit for this SI, we desk rejected so that authors may find any suitable outlets for their manuscript. We have undertaken extensive review process guided by journal guidelines (see, notes for authors). Finally, we accepted seven papers which we believe makes significant contribution to the O&SCM literature using BDPA angle.

We now discuss each contribution in detail (see Table 1).

Hence, with these seven articles our SI, addresses some of the key issues related to supply chain management and big data are:

- 1 Highlights the importance of BDPA in omni-channels supply chain and use of big data and predictive analytics to address the barriers and performance related issues.
- 2 The BDPA can helps to exploit 3Vs characteristics of the data to improve decision related to procurement and facility layout.
- 3 To select right big data professional using multiple criteria decision making (MCDM) tool.
- 4 Fraud analytics may help to mitigate the risk in supply chain.
- 5 The legal framework may exert pressures on the big data analytics that in process of extracting valuable information related to customers or competitors, they should violate the privacy or misuse the data.

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References

- Akter, S., Wamba, S.F., Gunasekaran, A., Dubey, R. and Childe, S.J. (2016) 'How to improve firm performance using big data analytics capability and business strategy alignment?', *International Journal of Production Economics*, Vol. 182, pp.113–131.
- Fawcett, S.E. and Waller, M.A. (2014) 'Supply chain game changers – mega, nano, and virtual trends – and forces that impede supply chain design (i.e., building a winning team)', *Journal of Business Logistics*, Vol. 35, No. 3, pp.157–164.

- Gunasekaran, A., Papadopoulos, T., Dubey, R., Wamba, S.F., Childe, S.J., Hazen, B. and Akter, S. (2016) 'Big data and predictive analytics for supply chain and organizational performance', *Journal of Business Research*, in press [online] <http://dx.doi.org/10.1016/j.jbusres.2016.08.004> (accessed 9 August 2016).
- Hazen, B.T., Boone, C.A., Ezell, J.D. and Jones-Farmer, L.A. (2014) 'Data quality for data science, predictive analytics, and big data in supply chain management: an introduction to the problem and suggestions for research and applications', *International Journal of Production Economics*, Vol. 154, pp.72–80.
- Schoenherr, T. and Speier-Pero, C. (2015) 'Data science, predictive analytics, and big data in supply chain management: current state and future potential', *Journal of Business Logistics*, Vol. 36, No. 1, pp.120–132.
- Waller, M.A. and Fawcett, S.E. (2013) 'Data science, predictive analytics, and big data: a revolution that will transform supply chain design and management', *Journal of Business Logistics*, Vol. 34, No. 2, pp.77–84.
- Wang, G., Gunasekaran, A., Ngai, E.W. and Papadopoulos, T. (2016) 'Big data analytics in logistics and supply chain management: certain investigations for research and applications', *International Journal of Production Economics*, Vol. 176, pp.98–110.