CALL FOR PAPERS

SPECIAL ISSUE ON

DEA in Healthcare Management in Conjunction with Data Science

SPECIAL ISSUE EDITOR:

Vincent Charles, Professor of Management Science and Director of Research, Buckingham Business School, University of Buckingham, Hunter Street, MK18 1EG, Buckingham, United Kingdom. Email: v.charles@buckingham.ac.uk

SCOPE:

Among the challenges faced by the healthcare sectors worldwide are the increases in medical costs and time, the low efficiency of the sector, and the poor quality of patient service. Data envelopment technique (DEA) is one of the most powerful management science techniques that can be used to study the performance of healthcare providers. Nevertheless, studying the performance of the healthcare system is not only challenged, but also heightened, by many factors, such as the increasing amount of information that the healthcare sector produces on a daily basis and the marked presence of unstructured data. The exploration of such factors via Data Science techniques can complement the traditional DEA analyses and provide novel insights for strategic decision-making to increase the sector’s productivity. It is not too bold to say that the healthcare sector is one of the sectors that will benefit the most from the existence of Data Science techniques; nevertheless, studies dedicated to exploring the intersection of these fields are almost non-existent.

This Special Issue aims to fill this gap and to this end, it encourages original research papers of high quality that focus on novel ways of using the existing Data Science techniques and/or the development of novel Data Science techniques in conjunction with DEA to improve the performance of the healthcare sector. Empirical research studies, as well as the development of new or modified DATA SCIENCE methodologies to address challenging and emerging issues in HEALTHCARE are of considerable interest. Contributions from both the academic and the practitioner communities are encouraged. This Special Issue should be of interest to healthcare providers, researchers, and practitioners alike.

DATA SCIENCE TECHNIQUES covered include but are not limited to:

- CART
- Cluster analysis
- Data visualization
- Deep learning algorithms
- Discriminant analysis
- Elastic net
- Gradient descent
- k-means clustering
- k-nearest neighbours classifier
- LASSO
- Logistic regression
- Maximum entropy classifier
- Naïve Bayes classifier
- Neural networks
- PLS Regression
- Principal component analysis
- Random forest
- Regression
- Ridge regression
- Sentiment analysis
- Support vector machine
- Text analysis
It is to be noted that this Special Issue is intended for manuscripts that go beyond purely employing DEA to study the performance of healthcare organizations and should clearly demonstrate the applicability of Data Science techniques to complement the classic analyses of performance.

SUBMISSION OF MANUSCRIPTS:

Authors are invited to submit their manuscripts by selecting Special Issue on “DEA Health & Data Science” at http://www.editorialmanager.com/hcms/default.aspx on or before the indicated submission deadline. The corresponding author, on behalf of all authors, must declare that the manuscript has not been previously published, has not been accepted for publication, nor is currently under consideration for publication elsewhere.

All submissions will undergo a double-blind peer-reviewed process, with two rounds of reviews. The major acceptance criterion for a submission is the quality and originality of the contribution.

For further information or clarifications about this Call for Papers, please do not hesitate to contact the Special Issue Editor directly.

IMPORTANT DATES:

09/30/2018       Submission deadline
01/15/2019       Notification of first round of review results
04/15/2019       Notification of status and acceptances after second round of review

Accepted manuscripts will be published online as they are accepted and within a month of acceptance and the hard copy of the Special Issue will be published in Volume 22 Issue 4 in 2019.