DECISION SCIENCES
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CALL FOR PAPERS
Special Issue on "AI-Driven Decision Sciences"

Submission Deadline: August 30, 2023

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Artificial Intelligence (AI) is becoming the new operational foundation of business that has transformed the very nature of how companies operate and how they compete (Iansiti and Lakhani, 2020). AI is believed to facilitate smart services and automate tasks traditionally performed by humans. As AI enables companies to reach unprecedented levels of scale, scope, and learning speed, organizations around the world are eager to participate in this AI transformation. However, the rise of AI is posing new challenges for business decision-making to understand how it works, when it is the most powerful, and how to optimize their AI strategies.

AI has created new business opportunities and facilitated business decision-making in numerous ways. For example, a chatbot is an AI application that can automate basic, repeatable, standardized interactions between customers and sellers. For instance, chatbots such as Amazon's Alexa and IKEA's Anna use voice or texts to automate communications and create personalized customer experiences. The market size of chatbots expanded from $250 million in 2017 to an estimated $1.34 billion by 2024 (Pise, 2018), and the adoption of a chatbot is estimated to save businesses $11 billion in annual costs by 2023 (Hampshire, 2018). AI has also greatly impacted the procurement process in business-to-business markets with automation and AI-assisted sourcing decision making, which is referred to as cognitive procurement (Loo and Santhiram, 2018). Surveys reveal that AI has been adopted to automate the request-for-quotation process in 60% of companies and to recommend new suppliers in 50% of companies (Tata Consultancy Services, 2016).

Regardless of the numerous opportunities that AI offers, there are many challenges for AI that presents enormous risks for business decision-making. From an individual perspective, the accuracy of AI algorithms is highly dependent on the training and analysis of mass user data, and it needs to acquire a large amount of user personal information to provide personalized and customized services, thus increasing the risk of personal/individual information leakage. From the firm's perspective, the AI-driven business decision-making surroundings will become more complex, which raises the mistakes and variability for managers in the realm of practical management decision-making process, thus generating a certain impact on the healthy and stable development of enterprises. Moreover, how to measure the value of and then justify the AI adoption from the very beginning is also of great interest to companies. From a societal perspective, AI could potentially widen the gap amongst emerging and developed markets. The issue of potential job losses due to AI technologies has also received widespread attention. Therefore, considering the ubiquitous use of AI in digital business today, the significant beneficial or detrimental

consequences of AI to operations decision-making remain to be examined and are worthy of further research attention.

In the academic literature, AI has attracted some initial attention in business decision making with respect to its possible applications in the field of operations management (e.g., Chen et al., 2022), business analytics (e.g., Cui et al., 2022), marketing (e.g., Simester et al., 2020), risk management (e.g., Araz et al. 2020), and financial management (e.g., Wu et al., 2022; Chod et al., 2020). However, relative to the potential in business practice, there is a relative dearth of academic research on AI, particularly in decision sciences.

We thus organize this special issue of *Decision Sciences Journal* and encourage authors to address this important but so far understudied topic in the decision sciences – **AI-Driven Decision Sciences**.

The main objective of this special issue is to create a platform to address the "AI-driven decision sciences" in digital networked business, including social networks, electronic commerce, digital platforms, procurement management, and intelligent manufacturing. Submissions adopting multi-methodologies from individual, organizational, and/or societal perspective, including analytical, empirical, simulation, and behavioral approaches, are strongly encouraged. Possible contributions may include, but are not limited to, the following topics:

1. Multi-method research on decision quality, decision efficiency and decision precision driven by AI.
2. Marketing and operations decision-making interaction driven by AI.
3. Business operations model innovation driven by AI.
4. Business intelligence and digital transformation driven by AI.
5. Demand forecasting and customized services driven by AI.
6. Global sourcing management and risk control driven by AI.
7. Operations decision-making of public health driven by AI.
8. New challenges in human resource management caused by AI.
9. Intelligent manufacturing aided by AI.
10. Coordination between human-workers and AI-assisted-robot-workers.
11. AI application in Industrial Internet.
12. Logistics management with AI.
13. Optimization of warehouse operations aided by AI.
14. Ethics and social supervision of business decision-making driven by AI.
15. The potential harm engendered by the widespread use of AI in business decision-making.
16. The measurement and balance between the benefits and the costs of using AI in business decision-making.
17. Approaches to regulating and controlling dark side behaviors and practices associated with AI usage in business decision-making.
18. Studies on opportunities and challenges of AI in other business decision-making settings.

The special issue co-editors welcome authors to contact them directly to discuss other possible topics for their suitability to the special issue. However, all submissions must fit the Journal's goal statements. All submissions will go through the same rigorous review process as regular submissions to the Journal. The journal has very specific expectations regarding submissions: "as of January 1, 2020, we ask all researchers who prepare manuscripts (via our Manuscript Preparation Guide and our first step in our submission page) to visit with industry, practitioners, retailers, users, consumers, government executives, and other constituents and acquire first-hand knowledge of the respective problems/challenges, conditions, assumptions, performance measures, etc. This can be a very insightful exercise as it can help motivate the specific topic and it can render more credibility to the authors' work. Who did you talk to that served as motivation for this inquiry? What insight did you attain from those discussions as it pertains to the realm of your study? Manuscripts that are not motivated via direct interactions with relevant constituents are typically "Desk Rejected" based on our policy. Note that we are not asking for a full empirical inquiry here just to motivate the topic or attain model assumptions etc. We are looking for enough information that demonstrates that the inquiry is driven by real challenges that keep the relevant constituents at a quandary. The research would be more convincing, and thus more suitable for our journal, if this inquiry benefited from direct interactions that served as motivation as well as a source for insights and assumptions." Authors are expected to document their direct interactions at such places as the introduction to drive motivation, the assumptions/parameters used for analytical purposes, and the discussion section for any insights.

Manuscript Preparation and Submission

To prepare manuscripts, authors are asked to closely follow the

Author Guidelines

https://onlinelibrary.wiley.com/page/journal/15405915/homepage/forauthors.html and

Manuscript Preparation Guide

https://mc.manuscriptcentral.com/societyimages/dsj/Decision%20Sciences%20Journal%20Manuscript%20Preparation%20Guide_April%2022%202020.docx

Papers should be submitted via the Manuscript Central portal (https://mc.manuscriptcentral.com/dsj) no later than August 30, 2023 and designated as a "Special Issue" manuscript. In Step 1 of the submission, authors should select "Special Issue" when asked to select an "appropriate department," and **then select Professor Meng Li as editor in Step 5**. Submitted papers should not have been previously published nor should they be currently under consideration for publication elsewhere.

Any inquiries should be addressed to: Dr. Meng Li, University of Houston, mli@bauer.uh.edu

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