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Towards Felicitous Decision Making: An Overview on Challenges and Trends of Big Data

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#### ACCEPTED MANUSCRIPT

# Towards Felicitous Decision Making: An Overview on Challenges and Trends of Big Data

Hai Wang <sup>a</sup>, Zeshui Xu <sup>a,b,\*</sup>, Hamido Fujita <sup>c</sup>, Shousheng Liu <sup>d</sup>

#### **Abstract**

The era of Big Data has arrived along with large volume, complex and growing data generated by many distinct sources. Nowadays, nearly every aspect of the modern society is impacted by Big Data, involving medical, health care, business, management and government. It has been receiving growing attention of researches from many disciplines including natural sciences, life sciences, engineering and even art & humanities. It also leads to new research paradigms and ways of thinking on the path of development. Lots of developed and under-developing tools improve our ability to make more felicitous decisions than what we have made ever before. This paper presents an overview on Big Data including four issues, namely: (i) concepts, characteristics and processing paradigms of Big Data; (ii) the state-of-the-art techniques for decision making in Big Data; (iii) felicitous decision making applications of Big Data in social science; and (iv) the current challenges of Big Data as well as possible future directions.

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