

Exploring the Intersection of the Digital Divide and Artificial Intelligence: A Hermeneutic Literature Review

Poster

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ABSTRACT

As rapid advancements in Information Communication Technology (ICT) result in social and technical recalibration worldwide, it is imperative for researchers and practitioners to understand the impact of emerging phenomenon, such as Artificial Intelligence (AI), on organizations and society. In February 2019, the President of the United States (US) signed an executive order to further prioritize AI, asking the federal government to dedicate more resources to AI research and initiatives (Pamuk and Shepardson 2019). In addition to the US, other countries are also investing resources in the development of AI technologies. For instance, Tianjin, a Chinese metropolis, is establishing a \$15.7 billion AI fund to develop AI-related projects and initiatives (Jing 2018).

Research indicates ICT advancements may widen or deepen social disparity (Oh et al. 2018). The digital divide was initially described as an uneven separation between groups who have access to an ICT and those who do not (Riggins and Dewan 2005). Despite decades of research and initiatives to eliminate the digital divide, not only is it still prevalent (Bose 2018), but also additional elements of the divide have emerged (e.g., skills and outcomes). The diffusion of AI initiatives may result in more pronounced advantages for certain entities (e.g., individuals or organizations) better equipped to capitalize on these innovations, and hence widen the existing divide. To-date, few studies have explored the digital divide in relation to AI innovations. This study utilizes a hermeneutic literature review to

assess the current state of the digital divide as it relates to AI. Three theoretical framings emerged from the literature review: conceptualizing the AI divide, modeling the AI divide and analyzing the AI divide. These framings synthesize the essence of the digital divide in relation to AI and provide the foundation for a socio-technical research agenda.

Our study makes several important contributions to extant literature. It (1) synthesizes three theoretical framings that extend the understanding of the digital divide in relation to AI; (2) provides a comprehensive conceptual model as a roadmap for future researchers to conceptualize, model and analyze the digital divide; and (3) utilizes the theoretical framings to provide insights on current gaps in the literature and opportunities for future research in this emerging area and a research agenda to assist researchers in investigating the divide and disparity brought by AI.

Keywords

Digital Divide, Artificial Intelligence, Digital Literacy, Socio-technical.

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