

## Exploring Social Impact of Emerging Technologies from Futuristic Data

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**Abstract :** Despite the highly touted benefits, emerging technologies have unleashed pervasive concerns regarding unintended and unforeseen social impacts. Thus, those wishing to create safe and socially acceptable products need to identify such side effects and mitigate them prior to the market proliferation. Various methodologies in the field of technology assessment (TA), namely Delphi, impact assessment, and scenario planning, have been widely incorporated in such a circumstance. However, literatures face a major limitation in terms of sole reliance on participatory workshop activities. They unfortunately missed out the availability of a massive untapped data source of futuristic information flooding through the Internet. This research thus seeks to gain insights into utilization of futuristic data, future-oriented documents from the Internet, as a supplementary method to generate social impact scenarios whilst capturing perspectives of experts from a wide variety of disciplines. To this end, network analysis is conducted based on the social keywords extracted from the futuristic documents by text mining, which is then used as a guide to produce a comprehensive set of detailed scenarios. Our proposed approach facilitates harmonized depictions of possible hazardous consequences of emerging technologies and thereby makes decision makers more aware of, and responsive to, broad qualitative uncertainties.

**Keywords :** emerging technologies, futuristic data, scenario, text mining

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