Introduction to the HICSS Minitrack “The Dark Sides of AI”

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Artificial intelligent (AI) is believed to bring about significant changes to the business, and it facilitates smart services and digital transformation. In particular, AI is regarded among the current top five emerging technologies when organizations execute the digital first strategy. The Gartner survey showed that 59% of organizations are gathering information to build their AI strategies, while the remainder have already made progress in piloting or adopting AI solutions [5], indicating that we are facing a new era of AI, which brings both unprecedented opportunities and emerging challenges. Academically, AI has attracted some initial attention in business research with respect to its possible applications in the field of information systems [3], tourism and hospitality [4], marketing [6], and financial management [2], to change the interaction between organizations and customers, gain new insights and obtain greater business values (e.g., increasing efficiency and effectiveness).

Regardless of the numerous opportunities that AI offers, there are undoubtedly plentiful dark sides of AI that present enormous risks for individuals, organizations and society, which are considered as three most important dimensions for digitalization [1]. From an individual perspective, the issues of AI discrimination have been reported by consumers in content recommendation and product recommendation in electronic markets. From an organizational perspective, the introduction of AI based technologies is likely to influence the profitability of companies, but in electronic markets the negative side of high-frequency trading has also been reported on. Organizations also face significant issues where the lack of a strategy relating to implications of AI could affect critical business areas and fail to address concerns from human workforce. From a societal perspective, AI could potentially widen the gap amongst emerging and developed markets as well as the rich and poor. 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 negative or detrimental consequences of AI to individuals, organizations and society remain to be examined and are worthy of further research attention. The purpose of this mini-track is to report on the state-of-the-art research and practice in an important research area that deals with the dark sides of AI. Three papers are published in this mini-track, which all went through a rigorous review by at least two experts prior to acceptance for publications.

The first paper entitled “Privacy Discrimination: What It Is and Why It Matters”, co-authored by Luis Hillebrand, Sebastian Hermes, and Markus Bohm, used a case study to show that it is technically feasible to infer users’ privacy concerns from basic sociodemographic data about them. Online companies might be able to introduce “privacy discrimination” in the sense that they might apply varying levels of privacy protection to users, based on their privacy concerns.

AI has also been frequently adopted in various service industries to serve customers. The second paper entitled “Does Customers’ Emotion Toward Voice-based Service AI Cause Negative Reactions? Empirical Evidence from a Call Center”, co-authored by Bin Li, Luning Liu, Weicheng Mao, and Yongcuomu Qu, examined the relationship between customers’ emotions to voice-based AI service and customers’ negative reactions. This study adopts RoBERTa model and textual analysis to analyze the data from a telecom firm’s call center in China. The empirical results indicate that customers’ emotion toward voice-based AI service has an influence on their complaint behavior. It confirms the moderating role of the exchange round of human-computer interaction in the relationship between customer emotions and customer complaints. This study helps business decision-makers seek a trade-off between the benefits and drawbacks when they introduce AI to their customer service platforms.

The ever-increasing misbehaviors of artificial intelligence makes algorithmic fairness an important issue in recent years. The third paper entitled "Fair Engineering of Machine Learning Systems – Lessons Learned from a Literature Review", co-authored by Julian Sengewald and Richard Lackes, summarized the current research on algorithmic fairness and fairness metrics by conducting a literature review. The authors systematically analyzed papers published from 2016 to 2021 on this topic, and the results identified a series of future research opportunities in this field.

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