The Dark Side of Information Technology: Introduction to Mini-track and Future Directions

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1. Overview

The dark side of information technology has been on the radar of researchers and practitioners alike for the past decade. This field of research examines a variety of phenomenon related to the use of technologies such as the Internet, smartphones, emails, and social media that, in any way, undermines the welfare of individuals, families, employees, organizations, or the society [1]. Example of these behaviors include, excessive, compulsive and addictive use of IT, technostress, IT interruptions, privacy and security violations, IT misuse, online deception and fake news spreading, cyber deviant behaviors, AI and algorithm biases, and other harmful IT-related behaviors [2, 3]. Recent findings show that such unexpected and/or undesirable use of hedonic or organizational technologies can have unexpected outcomes such as reduced academic performance [4], frequent distractions and loss of focus on productive tasks [5], psychological outcomes such as depression and loneliness [6], family and work conflict [7], among others. In additions, recently more research attention is spent on ways to reverse, regulate and reduce such negative behaviors via different strategies such as use discontinuance [8-10], short abstinence [11], use reduction [12] , self-regulation and external monitoring.

For the past few years, this minitrack has been hosting scholarly conversation regarding the dark side phenomenon and provided a forum for latest research progress and theory development on the relevant phenomena. This year was no exception; the pool of articles carefully screened for this year's minitrack cover insightful topics and findings on organizational security and privacy issues, technostress, addiction to social media and societal impact of digital innovations. We provide a brief overview of these papers, next.

2. Papers in this Minitrack

The first set of papers comprised of four articles that tap on important privacy and security concerns for individuals and organizations. In the first paper, Teebken and Hess focus on the digitalization of workplace and its consequence for individuals' privacy, which is becoming an increasingly prevalent issue, especially since the beginning of the COVID-19 pandemic. Via 33 semi-structured interviews and iterative thematic analysis, the authors unearth eight important dimensions of workplace privacy concerns. While six privacy concerns are similar to common individual consumer concerns identified in prior literature, the degree to which employers collect information on employee's productivity and use of private devices for work purposes are the unique to digital workplace environment, which can influence the relationship between employees and organizations. The second paper, "Modeling the C(o)urse of Privacy-critical Location-based Services, AI Exposing Dark Side Archetypes of Location Tracking" by Fabian et al taps on an increasingly important issue of privacy with regard to location-based services (LBS). It uses case study methodology and the paradigm of architectural thinking to investigate the dark side archetypes of LBS and potential privacy violations. Their analysis identified six archetypes including leakage of secret locations, unexpected location-based advertising, or misuse of protective LBS, which could provide important practical implications for regulating these services. The paper by Jiang and Jarvenpaa titled "Review of Research on Privacy Decision Making from a Time Perspective" focuses on the temporal dimension of privacy decisions made by individuals such as how long to make information public on social media. It uses a review of 37 papers to identify three key dimensions, which are related to the duration, timing, and past, present, and future modalities. The paper provides an in-

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depth discussion of how each dimension can provide unique contribution to users' privacy decision making process and outcome. Finally, Masuch and colleagues study ransomware attacks (i.e. when access to system and data is blocked until a ransom payment to the hacker(s) is issued) and users responses through the lens of Extended Parallel Process Model (EPPM). Based on an intervention study using manipulation of the independent variables (threat and efficacy), they found that that higher levels of threat and efficacy is associated with higher intention to behave securely. Nonetheless, high threat and low efficacy increase fear appeals and exhibition of defense avoidance.

Two studies were conducted on technostress topic. In the first paper, "A bibliometric review of technostress: Historical roots, evolution and central publications of a growing research field", Grummeck-Braamt and colleagues provided a holistic overview of technostress concept by looking at its structure and how the concept has evolved throughout the years, for instance in biology, psychology, and quantitative methods. Through an in-depth review of 252 articles, their findings highlighted the popularity of the technostress over the years (e.g. most recently picked in 2015), networked of connected concepts, and key articles of this domain. The article summarizes key areas that require further scrutiny in future research. In another related work, "A Cautionary Tale About How Our Co-Constructed Work Obligations Lead to ICT Related Technostress", Stana and Nicolajsen argued that a sociological aspect of technostress is an important aspect of technostress that, unlike the neurophysiological or psychological aspects, has not previously studied. Accordingly, they investigated co-creation of technostress through the lens of work "obligation". Through an interpretive analysis of qualitative data collected via interviews, they proposed that technostress could be created as a result of individuals' avoidance of work obligations, which also can exacerbate group obligations. Furthermore, increased group obligations and formation of obligation-based habits at work worsen the technostress situation.

The other paper in this minitrack, authored by Ahmed and Vaghefi provides a systematic review of literature on social media addiction, based on papers published from 2008-2019 on this topic. Using the cognitive-behavioral model of pathological use, the authors provide a classification of the network of distal vs. proximal antecedents and consequences of social media addiction. Based on a review of 132 papers, they extend this framework by proposing additional categories to capture personality factors, individual needs and addiction outcomes, which were not included in the original CBM. Finally, the paper by Clemons et

al sheds light on social welfare computing as a discipline that cares for harms by technology and seeks to minimize such harms. The paper provides an overview of the ongoing research efforts to advance theoretical knowledge of social welfare computing. it also provides a detailed review for the problems that big tech companies have made for the society; while some of the problems can be regulated (such as network effects), some cannot be regulated by external regulators (such as externality). In addition, they argue why transparency, changes in consumer behavior, and market forces will not necessarily resolve the situation. The paper concludes by providing a discussion of possible solutions to these ongoing problems.

3. Concluding Thoughts

Despite the significant progress in literature on dark side of IT, this research is still developing. Increasing use of technology, exacerbated by work/study from home programs due to the COVID-19 pandemic, has created increasing challenges and issues for the individuals, families, organizations, and the society, which many were unforeseen in prior research in this domain. Hence, there are opportunities to expand the dark side research by examining how the existing problems and issues with technology use may have interaction effects with each other. For instance, a recent study has showed that technostress may create a condition for developing addictive social media use habits, as a coping strategy to deal with technostress [13]. In the same vein, it is possible that existing problematic behaviors and issues source a range of other dark side behaviors and adverse outcomes. We invite future research to pay attention to such effects, while considering the significant changes made to the nature of work since the beginning of the pandemic.

4. References

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