



Social Welfare Computing and the management and regulation of new online business models

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Published online: 25 March 2022
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The invited discussion papers in this special issue address the emerging discipline of *Social Welfare Computing*. Invited authors were the most senior presenters at the 2021 Symposium on Computing and Social Welfare, part of the 2021 Hawaii International Conference on System Sciences. The intent of all authors in this special issue is to generate greater interest in the societal issues associated with massive online platforms, and to highlight the current and future unintended consequences and sources of harm that these platforms can create if not properly designed, deployed, and regulated. The issue of regulation is quite complex, because it is essential that regulations balance the obvious benefits produced by the platforms and the dangers of stifling innovation through poorly designed regulatory regimes. There is the additional geopolitical concern of inappropriate regulatory frameworks in the West creating an environment more favorable to platforms in China or Russia. This could result in dominant platforms that would be largely outside Western influence, which would be more harmful to social welfare than the problems our home-grown platforms have created today.

Technologies that are important enough to generate profound societal change also produce enormous benefits. This is self-evident, since it is these benefits that drive widespread adoption, and without widespread adoption the technology

would not become revolutionary. Consider, for example, the mechanization of production machinery in the eighteenth century, the widespread adoption of automobiles in the beginning of the twentieth century, the IT revolution that started in the 1970's, and most recently, Digital Transformation and the adoption of new business models based on online platforms. Revolutionary change always produces winners and losers, and always produces unanticipated consequences; society is still grappling with the unanticipated consequences of the Industrial Revolutions, principal among them being pollution and global climate change. The intent of the Symposium and of this special issue is to focus attention on the potential harm generated by our ongoing *Digital Transformation*. We need to deal with potential problems from Digital Transformation sooner than we addressed pollution and global climate change, rather than allowing harm to become progressively more pervasive and more difficult to remedy over time.

The term *Social Welfare Computing* is often misunderstood, even by academic reviewers and referees. It is not surprising that it is also often misunderstood by readers. *Social Welfare Computing* is *not* a matter of using computing to achieve desirable outcomes, although this too will improve technology's total contribution to society. It does not refer to beneficial uses of computing, like remote learning, analyzing massive data sets to detect emerging health problems, or responsive and responsible e-government. It does not refer to uses of computing to solve societal problems, like the use of telemedicine to address problems in inadequate health care available to remote rural communities or the use of telework to reduce commuting and the environmental degradation it creates. *Social Welfare Computing* attempts to limit the harm caused by computing itself. Social media sites, especially Facebook, have been used to recruit for extremist jihadist groups (Ibrahim et al., 2017), coordinate violent action in Myanmar (Stevenson, 2018), and even to exacerbate the pandemic by spreading fake news and dangerous misinformation (Bond, 2021; Wilson & Wiysonge, 2020).

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Indeed, online “misinformation” has become so pervasive that it is now used to describe what was previously called “lying”. Amazon makes it possible for urban populations to shop for everything they need during a pandemic, but it also harms small local retailers (Khan, 2016), and consequently reduces the local tax base, limiting funding for local services. Social Welfare Computing seeks to design policies, laws, and regulatory regimes to maximize innovation, and thus maximize technology’s contribution to societies and to citizens’ quality of life, while minimizing the associated harm caused directly by the innovative technology itself.

The refereeing process at *Electronic Markets* is different for invited discussion papers. There were the usual double-blind reviews for each of the papers, and the authors were required to revise their papers based on these reviews and on comments from the special issue editors. However, the final decisions to accept or reject each paper were made by special issue editors and the Co-Editors of *Electronic Markets*, and this final stage was not double-blind.

The papers in the special issue show the range of questions that can be investigated and the range of methodologies that can be used in the study of *Social Welfare Computing*. The first paper, “Computing and Social Welfare” starts by introducing the subject of *Social Welfare Computing*. Clemons and his co-authors Waran, Hermes, Schrieck, and Krcmar seek to place the problems associated with *Digital Transformation* in the context of previous technological revolutions (Clemons et al., 2022b). They show that many of the sources of harm from *Digital Transformation* have historical analogs, and they show where previous forms of regulatory intervention can possibly solve current problems. They also show where market forces will not solve current problems and will not limit future harm. Likewise, they explore areas where prior regulatory interventions will be unsuccessful if directly applied to *Digital Transformation* and where alternative novel forms of regulation are going to be required.

In “Taking the measure of digital giants: Amazon and the Social Welfare Computing research agenda”, (Rowe & Markus, 2022) explore the contradictions in information systems research on giant technology companies, focusing on the example of Amazon.com, Inc. (AMZN). In Amazon’s early days, when the company morphed from a startup online bookseller into an e-commerce superstar, IS researchers praised the company for its innovation and competitive success. Today, Amazon.com, Inc. is an “American tech multinational whose business interests include e-commerce, cloud computing, digital streaming, and artificial intelligence” (according to Fortune.com). International regulatory authorities and many IS scholars have come to view the company with alarm, citing myriad harmful effects and proposing various remedies. Looking at this gap in our collective perceptions of Amazon, Rowe and Markus question

whether IS scholars could have foreseen the current state of affairs and how IS scholars should think about digital innovators going forward in light of the Social Welfare Computing agenda. They concede that IS scholars have indeed done much insightful research on the downsides of several important aspects of Amazon’s combined business models (e.g., manipulative recommender systems, fake online reviews, exploitative crowdsourcing, and supply chain externalities), but they also note that we as a profession have not yet integrated these analyses into a coherent assessment of Amazon’s massive power. This includes understanding the exercise of that power in ways that are harmful to various stakeholders, including consumers, suppliers, and nation states. In their paper, Rowe and Markus perform a “socio-technical structural analysis” of Amazon as a multi-business, multinational entity. They observe that Amazon appears to abuse its extraordinary market power by systematically engaging in unfair business practices. Without advocating specific solutions, they mention some of the solutions currently under discussion. Their main contribution is to call for more IS research that attempts to analyze the tech giants as sociotechnical wholes, *in addition to* IS research that focuses on individual aspects of a tech giant’s business model and of its strategy. Rowe and Markus argue that IS scholars need to reinvigorate our sociotechnical roots as we research digital transformation and thus contribute to the agenda of Social Welfare Computing.

Trzaskowski uses traditional legal analysis to explore the need for increased consumer protection in an environment where most of consumers’ interactions are through a small number of massive platforms, which can and do record and analyze the full context of every purchase, including what was considered, when it was considered, what was purchased, and the role of price and price changes on their behavior. Consumers do not appear overly concerned about platforms’ violations of their privacy, even when these violations are explicitly prohibited by privacy regulations. Many consumers believe that these violations are victimless crimes; others express concern, but their actions indicate little or no effort spent on trying to protect themselves online. In “Data-Driven Value Extraction and Human Well-Being under EU Law,” Trzaskowski explores the harm consumers face, in the context of traditional marketing and consumer protection law. Consumer protection law is not designed to prevent consumers from making bad decisions, but rather to give consumers a fair chance at making fully informed decisions (Trzaskowski, 2022). As production of food and drugs became industrialized, consumers lost contact with manufacturers and had little opportunity to judge the quality and wholesomeness of their purchases; increases in information asymmetry began to favor sellers. As marketing and advertising became more sophisticated, false and unfair advertising and marketing practices flooded consumers with

disinformation, once again further increasing the dangers consumers faced from information asymmetry. Early consumer protection laws and regulations, like the creation of the Food and Drug Administration in the US and the creation of the Federal Trade Commission, were designed to address this information asymmetry. As large platforms integrate massive amounts of information and manipulate consumers in ways that were previously impossible, the harm consumers face from information asymmetry increases, and consumer protection needs to be strengthened in response. This paper argues that consumer protection law is the most promising route forward for improving privacy protections.

In “The Cooperation Paradox” Clemons and his co-authors Schrieck, Hermes, Rowe, and Krcmar provide a modest solution to a complex problem (Clemons et al., 2022a). Surveys indicate that EU executives are increasingly intimidated (Hermes et al., 2020) by the power of life control interfaces (LCIs), smart assistants like Alexa and Google that can and do direct consumer purchases to a set of cooperating sellers (Schrieck et al., 2019). These LCIs operate outside the scope of European norms of behavior, and often operate outside the scope of European regulation. These represent an existential threat to EU retailers, and yet even the largest, like Carrefour or Lidl, cannot create an alternative with sufficient scope and sufficient functionality to be interesting to consumers. This paper demonstrates how a pan-industry international coalition could succeed in creating a viable alternative to the dominant American platforms, even though such cooperation initially appears anticompetitive and hence appears to violate EU monopoly law. While this cooperation would indeed limit the number of attempted EU-based LCIs, reducing it to one, it would increase the number of successful EU-based life control interfaces, increasing it from zero. Their analysis is based on traditional theory from information-based strategy and information economics.

Our final paper, “An Asian Perspective on the Governance of Cyber Civilization,” addresses a completely different question. Kokuryo asks “What if the Western business model, centered on competition among firms and maximizing both shareholder value and customer satisfaction, is no longer appropriate for the governance of firms and industries in a networked world?” (Kokuryo, 2022). Without a doubt, data is more valuable if it is used to benefit society rather than to provide competitive advantage to a single firm. And without a doubt, data is more valuable if it is used to benefit society rather than to monitor, manipulate, and maximize the profits earned from each individual consumer. But is this kind of communal world view compatible with the investments driven by the desire for profits, which has long dominated Western capitalism? Kokuryo uses the unique experience and history of Japan, which consciously embraced many aspects of Western-style capitalism and many aspects of Western-style governance, in order to master industrial

technology and to rapidly take its place among dominant industrialized nations. He now uses differences in Western and Asian philosophies, including differences in their view of the social contract, to ask if this is the best philosophical approach to governance of firms in a networked world. He creates a sort of *Gedankenexperiment* to assess whether Western individualism and Western capitalism create the best theories of governance of today’s online business models, or whether some form of hybrid approach would be better, taking elements from both Western and Eastern theories of societies and social welfare. Kokuryo suggests that blending Eastern and Western social and economic philosophies might produce greater economic gain while also producing societies that are more just and fair.

We hope that this study and this special issue will create greater interest in the multidisciplinary study of *Social Welfare Computing* and its associated reference disciplines, much as the landmark paper of Bakos and Treacy (1986) inspired interest in the multidisciplinary study of information economics and information-based strategy.

Interested readers can review our prior studies. We have published extensive summaries of our ongoing research program and its results; we reference these studies here to demonstrate where it has been possible to conduct and publish refereed studies in this field. In this paper we avoid describing specific research results except where necessary to support the position we are advocating, a call to focus on the under-served and under-studied issues associated with *Social Welfare Computing* (Clemons & Wilson, 2018; Clemons et al., 2017, 2021). Supporting studies, part of an ongoing multiyear research study, can be found in Clemons et al. (2020); Clemons et al. (2017); Clemons et al. (2019); Clemons and Wilson (2015a, 2018, 2015b); Clemons et al. (2014); Schrieck et al. (2019).

Funding Open Access funding enabled and organized by Projekt DEAL.

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