Being (more) Human in a Digitized World

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What a piece of work is a (hu)man!
How noble in reason, how infinite in faculty!
In form and moving how express and admirable!
In action how like an angel, in apprehension how like a God!
The beauty of the world. The paragon of animals.
And yet, to me, what is this quintessence of dust (spirit)?
William Shakespeare in Hamlet (2.2.295-302) [words in parentheses added]

As we write this guest editorial for this special issue, the world is confronted with the enormous challenge of combating an unprecedented never-before-in-history crisis of Covid-19, the magnitude of its impact far from known. Yet, optimists as most of us are, we believe the world will tide over it in due course despite the damage that it may cause to the socio-economic aspects of our everyday life. What we do know is that we have retreated more and more into the digitized world. As information systems academics taking bird's eye view, taking a step back to observe the world in its response to the crisis, two aspects seem to be stark in their undisputed role. First, the manner in which the world has drawn upon the "cumulative culture" to meander through potential, albeit temporary solutions, rejecting some, experimenting with some others and readily adopting few others; second, the sudden spike in our already growing dependence on information technology to aid undisturbed continuance, to the extent possible, in our everyday living. Both these, in many ways are related to the theme of the special issue "Being (more) human in a digitized world" – "cumulative culture" being a core distinguishing feature of humanness and the increasing dependence on information technology and its many avatars symbolizing the digitized world.

In the context of an increasingly digitized world, the human species' cumulative cultural evolution embodies the quintessential spirit (Shakespeare's 'dust') of humanness reflected in the accumulated toolkit of practices, socially learned behaviors, sophisticated technologies and complex institutions (Boyd and Richerson 1996; Shipton and Nielsen 2015; Tomasello 1999). The very process of social cognition that required humans to understand each other as "intentional agents like the self" coupled with the process of social-cultural learning (Tomasello 1999) has catalyzed the evolution of a cumulative culture. The social cognition is also reflected in our emotional connect and our creative pursuits. The intensely digital social environments of the day reinforce the cumulative culture through their affordances for cultural learning, social referencing as well as for conformist transmission (Henrich 2015), behaviors that have traditionally been observed in anthropological studies. The innate characteristics of information technology especially in strengthening the two dimensions of human intelligence – working memory and cognitive capabilities, have merely facilitated this reinforcement.

While business benefits from information technology and systems are no longer a matter of dispute in information systems research, ethical and social implications arising from the use of information technology devices, applications and platforms continue to occupy center stage in contemporary debates surrounding technology. Contemporary digital technologies have allowed significant changes to the way social interactions are effected both as individuals in organizational boundaries but also as individuals in larger social contexts. Our use of these digital technologies has enabled a culture whose uniqueness arises from the transformation in how we seek, perceive and consume information itself. This

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technology-enabled social fabric that stems from increasing digitization of things, activities and interactions, while affording opportunities for improved ways of professional and personal lives, also carries along the risks of dehumanizing human-human interactions or unduly humanizing technology-human interactions. Concerns about how living in the digital era, dominated by digital social interactions and influences of technology in our everyday life, results among many others, in invasion of rights to privacy (Kim et al. 2020); building of the surveillance nation (panopticon) (Zuboff 2019); shift of power to the digitally advantaged and the need for IS for the digitally disadvantaged (Pethig and Kroenung 2019); experiencing intrusion into democratic processes of countries (Avgerou et al. 2019) and even wide-spreading proliferation of rumors during extreme events (Oh et al. 2013).

As guest editors of the special issue on "Being (more) human in a digitized world", we invited authors to submit papers on a range of topics including social implications of information systems, digital social in/ex-clusion, social shaping of technology, consumption of the digital, human-computer interaction, designing technology that is more human(e), technology for the non-user - the elderly, the marginalized and the differently abled and so on. Prior to the special issue, two of us had also organized a workshop at Indian Institute of Management (IIM) Calcutta in association with the Management Centre for Human Values at IIM Calcutta and the Association for Information Systems – India Chapter on the same theme and invited some of the workshop participants to submit their work to the special issue.

We received a total of seventeen submissions in response to our special issue call for papers on topics ranging from technology addiction to digital assistants expressing feelings. We were pleasantly surprised to see the many different interpretations of "Being human" in the context of an increasingly digital world ranging from issues surrounding computer-based human likeness to using ICT in social enterprises to supporting the marginalized. The diversity in interpretations, we believe, is a manifestation of the underlying limitless possibilities that information technology offers in supporting human endeavors. The scope, scale and intensity of information technology use is often limited only by the imagination of the user.

The six papers that appear in this special issue illustrate this vast range. We introduce the papers on a thoughtful note. Porra et al. (2020) caution that the excitement of creatively developing technologies which closely mimic human qualities has necessitated asking ourselves fundamental ethical questions regarding automating *humanness* thus far exclusive to human beings. The authors use speech act theory which draws upon speech as expression of psychological states, to emphasize the need for more responsible ways of using programmed digital assistants which express human likeness in their speech. They fear that the excessive use of such human-like assistants may eventually erode and endanger humanness epitomized by the emotions in our speech, our responses to each other, and eventually our collective level humanness. An important implication of their thesis is the need for a conscious and cautious approach to design of digital tools that closely resemble human beings.

A similar word of caution seems to be voiced by Kloker as well when he draws our attention to the range of behavioral disorders that involve excessive and compulsive use of IT, observed by various researchers and analyze the way these disorders seem to develop. This raises an enormous challenge for systems design. To meet this challenge, Kloker presents a theoretical framework of four components for designing non-addictive information systems including situation, access, gratification and expectation management which can then be incorporated into information systems in order to verify and qualify to be non-addictive information systems. However it remains to be seen if the same can well be used to hinder addictive tendencies and thus protect users from IT-triggered disorders.

Contrary to the cautious views in these two papers, the other four papers take a more optimistic, if guarded note. Lee, Lee and Sheehan find that continued use of smart voice assistant speakers (SVAS) favorably impacts harmony in a group of users, arguing that voice elicits social cues, nurturing an illusion of intimacy. They also draw our attention to two other interesting findings from their study of 415 users of SVAS – the openness of such voice assistants, which allow for interactions from a distance unlike other devices, promotes it as a trusted member of the family's connected space and; the predominant role of habituation in mediating the relationship between satisfaction and continued use. Interestingly, Lee et al. also mention that most users of SVAS are consciously aware that they are voluntarily sharing the system with others and thus generating a co-use environment. This characteristic of SVAS along with the rich, interactive affordances in SVAS coupled with the opportunities that it presents to social groups which have traditionally been excluded from being able to use digital technologies such as the illiterate, the elderly or the differently abled are increasingly attractive reasons for further studies on this theme.

Habituation, arising from recurrent use seems to also influence people's engagement with voice user interfaces (VUI) embedded in smart phones which although are similar to SVAS in basic technology characteristics, are more private and are generally not used as co-use technologies. Kendall, Chaudhuri and Bhalla conducted a rich, in-depth qualitative study of a diverse set of urban users in India and find that the use of VUIs in smart phones are shaped by complexities of multilingual practices, culturally embedded notions of education, gender norms, space and privacy. Using Orlikowski's technology-in-practice framework they look at users' everyday practices and examine how VUIs are enacted in these practices such as in users' looking up, learning and leisure activities. Kendall, et al. leave us with some interesting observations on the need for further research on the emergent nature of VUI use amongst urban users in socioeconomic contexts such as India.

While Kendall, et al.'s study looked at how social norms in a context shape material structures of a technology artifact using VUIs, the paper by Pal, Dé and Herath demonstrates the decisive role of cost, operability, "local usefulness", and creative affordances in the use of mobile payment alternatives by urban users in India specifically focusing on a comparison between pre and post-demonetization time period. They present these as a framework of ICT-related factors that promote or hinder sustainable human-centric development. Pal et al. argue that low cost of ICT, ease of installation, ease of operating the ICT, use in local context and the evolution of creative affordances from ICT use [factors that are also discussed by Kloker in this issue], will promote sustainable human-centric development when the ICT empowers individual users and fosters their freedom to make decisions for their development and growth. Would lack of access to digital financial tools further marginalize the digital have-nots?

ICT as a tool to aid the marginalized is a theme that is further explored by Parthiban, Qureshi, Bandyopadhyay, Bhatt and Jaikumar, who emphasize the need to go beyond the perspective of technology appropriation to understand how many supporting social processes may be essential to effectively bridge complementary voids using ICT. The authors introduce complementary institutional voids theorizing that presence of complementary voids such as in the case of different marginalized communities, in some situations (though not always), may yield themselves to ICT solutions that can then be architected to build synergies between the two seemingly unrelated but compatible institutional voids. They highlight this using the case of a digital social entrepreneurship venture which brings together underprivileged children in rural India who have limited access to good quality education and the urban elderly who lack productive ageing opportunities. The initiative simultaneously addresses two complementary institutional voids using ICT to enrich the learning experience for the students while at the same time educating the elderly on the benefits of technology, on-boarding them, enhancing their digital literacy and presenting them opportunities for productive use of their time.

We circle back to our earlier lines of thought on "being more human" and draw the reader's attention to four interconnected dualities that thread through the six papers in this special issue – humanness, local usefulness, digital marginalization and technological dependence. Each of these themes appear to be two-edged swords of the digitized world: while we observe increasing social harmony through the use of SVAS (Lee 2020), we also fear the erosion of emotion by excessive use of human-likeness in digital assistants (Porro et al.); VUIs and mobile payment systems demand local usefulness in order to be better utilized (Kendall et al. 2020; Pal et al. 2020) but at the same time these technologies are often replicated and mimicked across geographies with little or no

contexualization; the non-users of digital mobile payment systems seem to choose inconvenience over fear of financial loss (Pal et al. 2020). Yet all is not doom and gloom; digital social entrepreneurs create ICT platforms to innovatively resolve complementary institutional voids (Parthiban et al. 2020) despite our awareness of the possible addiction that digital tools can impose (Kloker 2020), a cultural ratchet effect seems to operate such that social contagion, norms of conformity and creative affordances (Kendall et al. 2020; Pal et al. 2020) seem to ensure that we continue to be increasingly dependent on information technology as individuals. Although we are not any wiser in resolving these dualities, but the mere fact that we are now able to visualize the dualities themselves, we believe, is one step forward. Never has this tension been more starkly evident than in the days of lockdowns, stay-at-home and isolation brought about by the Covid-19 pandemic. Information technology, warts and all, is keeping us from being socially isolated. We are striving to be human(e) thanks to the digitized world.
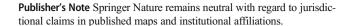
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