

MISQ Research Curation on Societal Implications of ICTs

Research Curation Team:

Satish Krishnan (Indian Institute of Management Kozhikode, India), satishk@iimk.ac.in

Eduardo Henrique Diniz (Fundação Getulio Vargas, Brazil), eduardo.diniz@fgv.br

Antonio Díaz Andrade (University of Agder, Norway), antonio.diaz@uia.no

Sundeep Sahay (University of Oslo, Norway), sundeeps@ifi.uio.no

Release Date: January 2024

Introduction

The ubiquity of information and communication technologies (ICTs) has generated growing enthusiasm for its prospects to contribute to human development. At the same time, this pervasiveness also carries the potential for unfavorable outcomes. Hence, the implications of ICTs on society constitute a complex and multidimensional phenomenon with ambiguous boundaries and often unintended consequences.

In this curated collection on the societal implications of ICTs, we include studies focused on scrutinizing the consequences of digital technology on enabling or constraining different aspects of people's lives, such as access to health and education services, economic opportunities, political participation, civic engagement, gender equality, and environmental sustainability. The scope of these studies goes beyond the analysis of technology adoption, governance, or value in an organizational setting. Instead, they examine the consequences of digital technology on individuals and society in both the Global South and the Global North.

We scanned the titles and abstracts of all articles published in MIS Quarterly since its inception in 1977 to identify those within the overarching theme of societal implications. This screening yielded a pre-selection of 98 articles. Through an iterative process involving the individual reading of those articles and collective discussions among the four authors to assess relevance, we selected 71 articles¹ for this curated collection. These articles are categorized into six thematic groups (Table 1), which we believe can serve as a reference point for scholars working on the societal implications of ICTs. Below, we expand on these themes, organizing the narrative around how research has concentrated on macrostructures, artifacts, and the specific groups affected by ICTs.

Theme 1: Understanding Socio-Economic Inclusion

Early calls to scrutinize ICT-driven societal transformations and their subsequent policy implications (Lucas et al. 2013) have prompted substantial research on understanding the role of digital technology in promoting socio-economic inclusion.

Studies examining the interplay between digital technology and societal macrostructures emphasize the significance of attention to space, temporality, and the broader context in

¹ Some of these articles appeared in the special issues on "Information Systems in Developing Countries" (2007), "Information Systems and Environmental Sustainability" (2013), "ICT and Societal Challenges" (2016) and "Next Generation IS Theories" (2021).

understanding the evolutionary process of ICT for development (ICT4D) initiatives (Njihia & Merali, 2014). In accordance, Faik et al. (2020) focus on theorizing the relationship between IT and societal change by leveraging affordances theory and investigating how technological objects, networks, and platforms engender mechanisms (i.e., sense-giving, translating, and decoupling) that explain societal changes.

Crowdfunding platforms emerge as a prominent digital artifact in discussions, with research in this stream analyzing the factors influencing philanthropic behaviors on these platforms. In this context, Sabzehzar et al. (2023) focus on religion, Burtch et al. (2014) attend to cultural and geographic distance, while Hou et al. (2023) scrutinize, through a neural network model, the emotions, and images that charity platforms evoke.

Women and minority groups, such as refugees and financially excluded individuals, bear the most significant consequences of digital technology. In this context, Oreglia and Srinivasan (2016) examine how women as ICT intermediaries renegotiate their position in gendered power structures in low-income settings, while Bapna and Funk (2021) show an increase in contacts and information women can obtain in a professional setting. Likewise, digital technology may help refugees to function effectively as members of society and regain control over their disrupted lives (Díaz Andrade & Doolin, 2016). Recognizing the imperative to accommodate different user needs and skills in local settings, Leonardi et al. (2016), focusing on financially excluded individuals, propose multiplex appropriation as an effective strategy for deploying digital technology. However, digital technologies may also negatively impact minority groups, as highlighted by Chan et al. (2016), who demonstrate links between broadband access and increased racial hate crimes in areas characterized by high levels of racism.

Theme 2: Promoting Health and Well-Being

ICTs can significantly affect health and well-being, with contexts playing a pivotal role. Studies focusing on the interplay between digital technology and macrostructures underscore the importance of local interventions in health information systems (HIS) (Braa et al., 2004), with sensitivity to local contexts and flexible standards also crucial in building a sustainable health infrastructure (Braa et al., 2007). Among other studies, Bernardi et al. (2019) clarify the links between identity work and ICT affordances of an HIS in Kenya, while Miscione (2007) reveals the intricacies of implementing a telemedicine system in remote areas in Peru through ethnographic research.

Studies have strived to discern how technological artifacts propel ICT initiatives to promote health and well-being. For instance, Srivastava and Shainesh (2015) study the orchestration of service innovation endeavors within the delivery models of two healthcare service providers in rural areas. Extending the focus on innovative practices, Son et al. (2020) develop a data analytics framework for remote monitoring of asthma self-management systems, Singh et al. (2015) analyze telehealth innovation in a rural public health organization, and Venkatesh et al. (2020) examine factors contributing to the success or failure of ICT kiosks in rural settings. Considering the rural-urban divide, online health communities (OHCs) may reduce health disparities between rural and urban areas (Goh et al., 2016) and also present opportunities for emotional support (Huang et al., 2019). Online forums may also help healthcare professionals identify and offer timely assistance to individuals experiencing emotional distress (Chau et al., 2020). Nevertheless, OHCs may result in unintended emotional consequences, as emphasized by Zhou et al. (2023), who

stress the importance of managing OHC interventions on individuals' emotions for patients with depression.

Healthcare technologies impact diverse groups, as demonstrated in studies on the impact of eHealth kiosks in tackling the issue of infant mortality in rural settings (Venkatesh et al., 2016) and mobile health platform adoption contributing to improved behaviors among diabetes patients (Ghose et al., 2022). Recognizing the inequalities in access to healthcare, Tong et al. (2022) analyze the issue of unequal access to healthcare IT solutions between rural and urban areas. On the contrary, Zhu et al. (2021) and Yu et al. (2022) acknowledge the impact of healthcare technologies and construct technological frameworks to recognize senior citizens' daily activities more precisely and detect chronic diseases early.

Theme 3: Caring for the Environment

Discussions on ICTs' environmental impacts gained significant momentum following Melville et al.'s (2010) call for a research agenda on IS for environmental sustainability, and Watson et al.'s (2010) appeal to IS scholars to focus on energy informatics to reduce emissions.

Frameworks to identify ICT affordances for environmental sustainability serve as the central focus in the initial studies that scrutinize digital technology and macrostructures (Seidel et al., 2013). However, the viability of ICT-enabled environmental sustainability is challenged by Marett et al. (2013) who argue that, in some business contexts, it is viable only when connected with economic benefits. Delving into the nuances, Ketter et al. (2016a) discuss the societal implications of design choices to improve ICT-based solutions towards sustainable electricity consumption.

The significance of artifacts in encouraging sustainable energy consumption cannot be underestimated, as illustrated by Malhotra et al.'s (2013) analysis of how wireless metering systems can nudge consumption patterns by shifting demand to times when greener energy is more abundant. Likewise, Ketter et al. (2016b) leverage a gaming platform to discuss how a competitive benchmarking framework could improve operational strategies for sustainable energy consumption.

Studies also underscore the role of households in embracing ICTs in ways that (positively) impact the environment. Focusing on private households, Loock et al. (2013) analyze a web portal designed to motivate customers to reduce their electricity consumption. Likewise, Wunderlich et al. (2019) focus on German households and their adoption of sustainable technologies via smart metering technology, considering how ICTs can influence consumers to save energy and reduce gas emissions.

Theme 4: Networking for Social Impact

The widespread adoption of networked platforms, including social media, has undoubtedly changed how we interact and transact. The use of social media for political action can affect the macrostructures of society, as demonstrated by Wattal et al. (2010), who show how political actors' use of ICT to interact with citizens during election campaigns influence election results. Similarly, Selander and Jarvenpaa (2016) demonstrate how digital actions change social movements' repertoires, producing new forms of interaction, and Miranda et al.

(2016) discuss how social media can afford the emancipation from or hegemony of public discourse.

The scrutiny of specific artifacts reveals the influence of social media. Focusing on micro-blogs, Oh et al. (2013) examine their significance in organizing people during crises, Vaast et al. (2017) demonstrate how social media affords new ways of collective engagement, and Venkatesan et al. (2021) illustrate the influence of individual micro-blog users on societal actions during the 2011 Egyptian Revolution. As social media takes precedence in information consumption, scholars study information dissemination on these platforms. Kitchens et al. (2020) analyze the influence of platform algorithms and individual usage patterns on information consumption. Exploring the consumption patterns further, Kim and Dennis (2019) explore how knowledge about the author affects believability. Focusing on fake news, Moravec et al. (2019) investigate the detection of fake news by social media users and its effects on their cognition and judgment. Similarly, Wang et al. (2022) examine how the existence of video influences reporting of fake news, and Wei et al. (2022) compare differences in crowd human intelligence and machine intelligence for detecting fake news. Social media's influence on the sharing economy has also garnered attention from researchers. For instance, Greenwood and Wattal (2017) investigate the effect of ride-sharing services on alcohol-related vehicle fatalities, and Lee et al. (2022) examine the impact of such services on drivers' choices, public transportation users, and non-motorized transport users.

Other studies on networked platforms focus on particular user groups, presenting implications for both design and ethical use. While Deng et al. (2016) discover how workers participating in crowdsourcing systems share a set of values, Rhue and Clark (2022) explore links between racial cues and crowdfunding success. Focusing on social engagement, Jung et al. (2019) highlight behavioral changes in mobile dating app users, while Kane et al. (2021), to protect social media users, propose design principles that counterbalance the ubiquitous monitoring and behavior control produced by machine learning systems embedded in most social media environments.

Theme 5: Developing Underserved Communities

ICT possesses immense potential to foster progress in societal segments that – for political, historical, geographical, or cultural reasons – have been traditionally left behind.

The shaping of macrostructures is significant in driving ICT initiatives in rural contexts. Collaborative endeavors, as highlighted by Jha et al. (2016), are crucial in driving economically sustainable and scalable transformational change, ultimately addressing poverty among smallholder farmers. Likewise, citizen collaboration and local governments, including local information and knowledge resources within citizen advice networks, bear immense significance in ICT4D initiatives (Venkatesh et al., 2019).

Technological artifacts also assume importance in collaborative efforts. For instance, implementing geographical IS in rural regions requires establishing alliances, as highlighted by Puri (2007), who recognizes local individuals' knowledge about their inhabited areas as crucial. Likewise, broadband adoption, as per Dobson et al. (2013), requires understanding rural populations' attitudes and preconceived notions towards technology.

Specific groups, such as indigenous populations, also garner attention in the studies. Lin et al. (2015), for example, focus on disadvantaged aboriginal children and attribute the challenges

of an ICT4D initiative aimed at assisting them to the broader socio-political environment characterized by the marginalization of indigenous people.

Theme 6: Enhancing Public Management

ICTs are significant in e-government services, citizen participation, transparency guarantees, and disaster management. Governments and public sectors form the principal overarching macrostructures that steer ICT deployments. While middle-level managers garner attention for their role in technology developments within the public sector (Caudle et al., 1991), innovation champions coupled with adequate training on ICT implementation for developers and users are also deemed crucial in e-government initiatives (Nidumolu & Goodman, 1996). Although such e-government initiatives are recognized for their role in combating corruption (Srivastava et al., 2016), some, such as Addo and Avgerou (2021), assert that the broader government administrative system and the vested motives of government officials, politicians, and businesses restrict the expected ICT outcomes in addressing petty forms of corruption.

The success of e-government initiatives relies on the artifacts that propel these endeavors. For instance, Walsham and Sahay (1999), based on their investigation of the development and use of geographical IS, highlight the need for higher-level interventions in instructional procedures and administrative frameworks, while Tan et al. (2013) emphasize the importance of service content and delivery in achieving service quality on e-government websites. Disaster Management Systems (DMS) have also received considerable attention in the literature, with Guo et al. (2021) examining the crucial role of interoperability in facilitating collaborative decision-making processes and optimizing efficiencies in DMS, and Chou et al. (2014) validating an ontology that would allow experts and potential users to rate the utility of disaster management platforms. Delving deeper into disaster management, Han et al. (2015) investigate the antecedents motivating immediate responses from emergency notification systems, while Tremblay et al. (2023) examine how the development of dynamic capacities through data resources and digital resilience helps effectively rebound from the challenges posed by disasters.

Nevertheless, the impact of ICTs can vary among distinct user groups. For instance, while government-led ICT-enabled identity verification initiatives ideally designed to facilitate access to services could have uneven consequences on developmental outcomes (McGrath, 2016), research suggests that users could be more tolerant of substantial variations in service quality on e-government portals than on organizational websites (Nishant et al., 2019).

Conclusion and Reflections

Overall, research in *MIS Quarterly* has addressed various societal implications, ranging from health and well-being to public management. Diverse theoretical and methodological approaches have been applied at different levels of analysis in contexts within both developed (e.g., Marett et al., 2013; Wattal et al., 2010) and developing countries (e.g., Venkatesh et al., 2016; 2019). While early studies predominantly focused on societal concerns such as public health (e.g., Braa et al., 2007), public administration (e.g., Caudle et al., 1991; Walsham & Sahay, 1999), politics (Wattal et al., 2010), and sustainable practices towards protecting the environment (Melville, 2010; Watson et al., 2010), contemporary studies tend to show increased emphasis on individual-level concerns, arguably driven by the growing prevalence of social media usage (Kim & Dennis, 2019; Moravec et al., 2019).

A variety of theoretical approaches including the actor-network (Braa et al., 2004), new institutional (Miscione, 2007), rumor (Oh et al., 2013), postcolonial (Lin et al., 2015), compliance (Han et al., 2015), rational choice (Nishant et al., 2019), affordances (Faik et al., 2020), social networks and social contagion (Venkatesh et al., 2020), social movement (Venkatesan et al., 2021), and social transformation and affordance actualization theories (Tong et al., 2022) have been leveraged in the studies.

Methodologically, there are more quantitative studies in total (e.g., Burtch et al., 2014; Nishant et al., 2019), but there is still a significant plurality of approaches and respect for qualitative research (e.g., Miscione, 2007). This can be attributed to the nature of the phenomena being studied – the societal implications of ICTs – which demand the development of more situated context-based insights, such as gendered power relations (Oreglia & Srinivasan, 2016).

In summary, research on the societal implications of ICTs published in *MIS Quarterly* investigates rich and diverse forms of social phenomena with a healthy diversity of theoretical and methodological approaches.

Please cite this curation as follows: Krishnan, S., Diniz, E.H., Díaz Andrade, A. & Sahay, S., “Societal Implications of ICTs,” in *MIS Quarterly Research Curations*, Andrew Burton-Jones and Priya Seetharaman, Eds., <https://www.misqresearchcurations.org/blog/2024/1/14/societal-implications-of-icts>, January 2024.

References

- Addo, A., & Avgerou, C. 2021. [Information technology and government corruption in developing countries: Evidence from Ghana customs](#), *MIS Quarterly*, 45(4), 1833–1862. Also available at <https://aisel.aisnet.org/misq/vol45/iss4/11/>.
- Bapna, S., & Funk, R. 2021. [Interventions for improving professional networking for women: Experimental evidence from the IT sector](#), *MIS Quarterly*, 45(2), 593–636. Also available at <https://aisel.aisnet.org/misq/vol45/iss2/6>.
- Bernardi, R., Sarker, S., & Sahay, S. 2019. [The Role of affordances in the deinstitutionalization of a dysfunctional health management information system in Kenya: An identity work perspective](#), *MIS Quarterly*, 43(4), 1177–1200. Also available at <https://aisel.aisnet.org/misq/vol43/iss4/10/>.
- Braa, J., Hanseth, O., Heywood, A., Mohammed, W., & Shaw, V. 2007. [Developing health information systems in developing countries: The flexible standards strategy](#), *MIS Quarterly*, 31(2), 381–402. Also available at <https://aisel.aisnet.org/misq/vol31/iss2/9/>.
- Braa, J., Monteiro, E., & Sahay, S. 2004. [Networks of Action: Sustainable health information systems across developing countries](#), *MIS Quarterly*, 28(3), 337–362. Also available at <https://aisel.aisnet.org/misq/vol28/iss3/3/>.
- Burtch, G., Ghose, A., & Wattal, S. 2014. [Cultural differences and geography as determinants of online pro-social lending](#), *MIS Quarterly*, 38(3), 773–794. Also available at <https://aisel.aisnet.org/misq/vol38/iss3/9/>.

- Caudle, S., Gorr, W., & Newcomer, K. 1991. [Key information systems issues for the public sector](https://aisel.aisnet.org/misq/vol15/iss2/2/), *MIS Quarterly*, 15(2), 171–188. Also available at <https://aisel.aisnet.org/misq/vol15/iss2/2/>.
- Chan, J., Ghose, A., & Seamans, R. 2016. [The internet and racial hate crimes: Offline spillovers from online access](https://aisel.aisnet.org/misq/vol40/iss2/8/), *MIS Quarterly*, 40(2), 381–403. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/8/>.
- Chau, M., Li, T. M. H., Wong, P. W. C., Xu, J. J., Yip, P. S. F., & Chen, H. 2020. [Finding people with emotional distress in online social media: A design combining machine learning and rule-based classification](https://aisel.aisnet.org/misq/vol44/iss2/16/), *MIS Quarterly*, 44(2), 933–956. Also available at <https://aisel.aisnet.org/misq/vol44/iss2/16/>.
- Chou, C.-H., Zahedi, F. M., & Zhao, H. 2014. [Ontology-based evaluation of natural disaster management websites: A multistakeholder perspective](https://aisel.aisnet.org/misq/vol38/iss4/5/), *MIS Quarterly*, 38(4), 997–1016. Also available at <https://aisel.aisnet.org/misq/vol38/iss4/5/>.
- Deng, X., Joshi, K. D., & Galliers, R. D. 2016. [The duality of empowerment and marginalization in microtask crowdsourcing: Giving voice to the less powerful through value sensitive design](https://aisel.aisnet.org/misq/vol40/iss2/4/), *MIS Quarterly*, 40(2), 279–302. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/4/>.
- Diaz Andrade, A., & Doolin, B. 2016. [Information and communication technology and the social inclusion of refugees](https://aisel.aisnet.org/misq/vol40/iss2/9/), *MIS Quarterly*, 40(2), 405–416. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/9/>.
- Dobson, P., Jackson, P., & Gengatharen, D. 2013. [Explaining broadband adoption in rural Australia: modes of reflexivity and the morphogenetic approach](https://aisel.aisnet.org/misq/vol37/iss3/16/), *MIS Quarterly*, 37(3), 965–991. Also available at <https://aisel.aisnet.org/misq/vol37/iss3/16/>.
- Faik, I., Barrett, M., & Oborn, E. 2020. [How information technology matters in societal change: An affordance-based institutional perspective](https://aisel.aisnet.org/misq/vol44/iss3/13/), *MIS Quarterly*, 44(3), 1359–1390. Also available at <https://aisel.aisnet.org/misq/vol44/iss3/13/>.
- Ghose, A., Guo, X., Li, B., & Dang, Y. 2022. [Empowering patients using smart mobile health platforms: Evidence of a randomized field experiment](https://aisel.aisnet.org/misq/vol46/iss1/9/), *MIS Quarterly*, 46(1), 151–192. Also available at <https://aisel.aisnet.org/misq/vol46/iss1/9/>.
- Goh, J. M., Gao, G., & Agarwal, R. 2016. [The Creation of social value: Can an online health community reduce rural-urban health disparities?](https://aisel.aisnet.org/misq/vol40/iss1/13/), *MIS Quarterly*, 40(1), 247–263. Also available at <https://aisel.aisnet.org/misq/vol40/iss1/13/>.
- Greenwood, B. N., & Wattal, S. 2017. [Show me the way to go home: An empirical investigation of ride-sharing and alcohol related motor vehicle fatalities](https://aisel.aisnet.org/misq/vol41/iss1/10/), *MIS Quarterly*, 41(1), 163–188. Also available at <https://aisel.aisnet.org/misq/vol41/iss1/10/>.
- Guo, H., Liu, Y., & Nault, B. 2021. [Provisioning interoperable disaster management systems: integrated, unified, and federated approaches](https://aisel.aisnet.org/misq/vol45/iss1/4/), *MIS Quarterly*, 45(1), 45. Also available at <https://aisel.aisnet.org/misq/vol45/iss1/4/>.

- Han, W., Ada, S., Sharman, R., & Rao, H. 2015. [Campus emergency notification systems: An examination of factors affecting compliance with alerts](#), *MIS Quarterly*, 39(4), 909–929. Also available at <https://aisel.aisnet.org/misq/vol39/iss4/9/>.
- Hou, J.-R., Zhang, J., & Zhang, K. 2023. [Pictures that are worth a thousand donations: How emotions in project images drive the success of online charity fundraising campaigns? An image design perspective](#), *MIS Quarterly*, 47(2), 535–584. Also available at <https://aisel.aisnet.org/misq/vol47/iss2/5>.
- Huang, K.-Y., Chengalur-Smith, I., & Pinsonneault, A. 2019. [Sharing is caring: Social support provision and companionship activities in healthcare virtual support communities](#), *MIS Quarterly*, 43(2), 395–424. Also available at <https://aisel.aisnet.org/misq/vol43/iss2/5/>.
- Jha, S. K., Pinsonneault, A., & Dubé, L. 2016. [The evolution of an ICT platform-enabled ecosystem for poverty alleviation: The case of eKutir](#), *MIS Quarterly*, 40(2), 431–446. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/11/>.
- Jung, J., Bapna, R., Ramaprasad, J., & Umyarov, A. 2019. [Love unshackled: identifying the effect of mobile app adoption in online dating](#), *MIS Quarterly*, 43, 47–72. Also available at <https://aisel.aisnet.org/misq/vol43/iss1/5/>.
- Kane, G. C., Young, A. G., Majchrzak, A., & Ransbotham, S. 2021. [Avoiding an oppressive future of machine learning: A design theory for emancipatory assistants](#), *MIS Quarterly*, 45(1), 371–396. Also available at <https://aisel.aisnet.org/misq/vol45/iss1/14/>.
- Ketter, W., Peters, M., Collins, J., & Gupta, A. 2016. [A multiagent competitive gaming platform to address societal challenges](#), *MIS Quarterly*, 40(2), 447–460. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/12/>.
- Ketter, W., Peters, M., Collins, J., & Gupta, A. 2016. [Competitive benchmarking: An IS research approach to address wicked problems with big data and analytics](#), *MIS Quarterly*, 40(4), 1057–1080. Also available at <https://aisel.aisnet.org/misq/vol40/iss4/14/>.
- Kim, A., & Dennis, A. 2019. [Says who? The effects of presentation format and source rating on fake news in social media](#), *MIS Quarterly*, 43(3), 1025–1039. Also available at <https://aisel.aisnet.org/misq/vol43/iss3/17/>.
- Kitchens, B., Johnson, S. L., & Gray, P. 2020. [Understanding echo chambers and filter bubbles: The impact of social media on diversification and partisan shifts in news consumption](#), *MIS Quarterly*, 44(4), 1619–1649. Also available at <https://aisel.aisnet.org/misq/vol44/iss4/7/>.
- Lee, K., Jin, Q. (Jenny), Animesh, A., & Ramaprasad, J. 2022. [Impact of ride-hailing services on transportation mode choices: evidence from traffic and transit ridership](#), *MIS Quarterly*, 46(4), 1875–1900. Also available at <https://aisel.aisnet.org/misq/vol46/iss4/8>.
- Leonardi, P. M., Bailey, D. E., Diniz, E. H., Sholler, D., & Nardi, B. 2016. [Multiplex appropriation in complex systems implementation: The case of Brazil's correspondent](#)

- [banking system](#), *MIS Quarterly*, 40(2), 461–473. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/13/>
- Lin, C. I. C., & Myers, M. D. 2015. [Extending ICT4D studies: The value of critical research](#), *MIS Quarterly*, 39(3), 697–712. Also available at <https://aisel.aisnet.org/misq/vol39/iss3/11/>.
- Loock, C.-M., Staake, T., & Thiesse, F. 2013. [Motivating energy-efficient behavior with green IS: An investigation of goal setting and the role of defaults](#), *MIS Quarterly*, 37(4), 1313–1332. Also available at <https://aisel.aisnet.org/misq/vol37/iss4/18/>.
- Lucas, H., Agarwal, R., Sawy, O. El, & Weber, B. 2013. [Impactful research on transformational information technology: An opportunity to inform new audiences](#), *MIS Quarterly*, 37(2), 371–382. Also available at <https://aisel.aisnet.org/misq/vol37/iss2/5/>.
- Malhotra, A., Melville, N., & Watson, R. T. 2013. [Spurring impactful research on information systems for environmental sustainability](#), *MIS Quarterly*, 37(4), 1265–1274. Also available at <https://aisel.aisnet.org/misq/vol37/iss4/15/>.
- Marett, K., Otondo, R., & Taylor, G. 2013. [Assessing the effects of benefits and institutional influences on the continued use of environmentally munificent bypass systems in long-haul trucking](#), *MIS Quarterly*, 37(4), 1301–1312. Also available at <https://aisel.aisnet.org/misq/vol37/iss4/17/>.
- McGrath, K. 2016. [Identity verification and societal challenges: explaining the gap between service provision and development outcomes](#), *MIS Quarterly*, 40(2), 485–500. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/15/>.
- Melville, N. P. 2010. [Information systems innovation for environmental sustainability](#), *MIS Quarterly*, 34(1), 1–21. Also available at <https://aisel.aisnet.org/misq/vol34/iss1/3/>.
- Miranda, S. M., Young, A., & Yetgin, E. 2016. [Are social media emancipatory or hegemonic? Societal effects of mass media digitization in the case of the SOPA discourse](#), *MIS Quarterly*, 40(2), 303–A32. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/5/>.
- Miscione, G. 2007. [Telemedicine in the upper Amazon: interplay with local health care practices](#), *MIS Quarterly*, 31(2), 403–425. Also available at <https://aisel.aisnet.org/misq/vol31/iss2/10/>.
- Moravec, P. L., Minas, R. K., & Dennis, A. R. 2019. [Fake news on social media: People believe what they want to believe when it makes no sense at all](#), *MIS Quarterly*, 43(4), 1343–1360. Also available at <https://aisel.aisnet.org/misq/vol43/iss4/17/>.
- Nidumolu, S., & Goodman, S. 1996. [Information technology for local administration support: The governorates project in Egypt](#), *MIS Quarterly*, 20(2), 197–224. Also available at <https://aisel.aisnet.org/misq/vol20/iss2/4/>.

- Nishant, R., Srivastava, S. C., & Teo, T. S. H. 2019. [Using polynomial modeling to understand service quality in e-government websites](#), *MIS Quarterly*, 43(3), 807–826. Also available at <https://aisel.aisnet.org/misq/vol43/iss3/8/>.
- Njihia, J., & Merali, Y. 2014. [The broader context for ICT4D projects: A morphogenetic analysis](#), *MIS Quarterly*, 37(3), 881–905. Also available at <https://aisel.aisnet.org/misq/vol37/iss3/13/>.
- Oh, O., Agrawal, M., & Rao, H. R. 2013. [Community intelligence and social media services: A rumor theoretic analysis of tweets during social crises](#), *MIS Quarterly*, 37(2), 407–426. Also available at <https://aisel.aisnet.org/misq/vol37/iss2/7/>.
- Oreglia, E., & Srinivasan, J. 2016. [ICT, intermediaries, and the transformation of gendered power structures](#), *MIS Quarterly*, 40(2), 501–510. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/16/>.
- Puri, S. 2007. [Integrating scientific with indigenous knowledge: Constructing knowledge alliances for land management in India](#), *MIS Quarterly*, 31(2), 355–380. Also available at <https://aisel.aisnet.org/misq/vol31/iss2/8/>.
- Rhue, L., & Clark, J. 2022. [Who are you and what are you selling? Creator-based and product-based racial cues in crowdfunding](#), *MIS Quarterly*, 46(4), 2229–2260. Also available at <https://aisel.aisnet.org/misq/vol46/iss4/18/>.
- Sabzehzar, A., Burtch, G., Hong, Y., & Raghu, T. S. 2023. [Putting religious bias in context: How offline and online context shape religious bias in online pro-social lending](#), *MIS Quarterly*, 47(1), 33–62. Also available at <https://aisel.aisnet.org/misq/vol47/iss1/4/>.
- Seidel, S., Recker, J., & vom Brocke, J. 2013. [Sensemaking and sustainable practicing: Functional affordances of information systems in green transformations](#), *MIS Quarterly*, 37(4), 1275–1299. Also available at <https://aisel.aisnet.org/misq/vol37/iss4/16/>.
- Selander, L., & Jarvenpaa, S. 2016. [Digital action repertoires and transforming a social movement organization](#), *MIS Quarterly*, 40(2), 331–352. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/6/>.
- Singh, R., Mathiassen, L., & Mishra, A. 2015. [Organizational path constitution in technological innovation: Evidence from rural telehealth](#), *MIS Quarterly*, 39(3), 643–666. Also available at <https://aisel.aisnet.org/misq/vol39/iss3/8/>.
- Son, J., Flatley Brennan, P., & Zhou, S. 2020. [A data analytics framework for smart asthma management based on remote health information systems with bluetooth-enabled personal inhalers](#), *MIS Quarterly*, 44(1), 285–303. Also available at <https://aisel.aisnet.org/misq/vol44/iss1/13/>.
- Srivastava, S. C., & Shainesh, G. 2015. [Bridging the service divide through digitally enabled service innovations: Evidence from Indian healthcare service providers](#), *MIS Quarterly*, 39(1), 245–A19. Also available at <https://aisel.aisnet.org/misq/vol39/iss1/14/>.

- Srivastava, S., Teo, T., & Devaraj, S. 2016. [You can't bribe a computer: Dealing with the societal challenge of corruption through ICT](#), *MIS Quarterly*, 40(2), 511–526. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/17>.
- Tan, C.-W., Benbasat, I., & Cenfetelli, R. T. 2013. [IT-mediated customer service content and delivery in electronic governments: An empirical investigation of the antecedents of service quality](#), *MIS Quarterly*, 37(1), 77–109. Also available at <https://aisel.aisnet.org/misq/vol37/iss1/5>.
- Tong, Y., Tan, C.-H., Sia, C., Shi, Y., & Teo, H.-H. 2022. [Rural-urban healthcare access inequality challenge: Transformative roles of information technology](#), *MIS Quarterly*, 46(4), 1937–1982. Also available at <https://aisel.aisnet.org/misq/vol46/iss4/10>.
- Tremblay, M. C., Kohli, R., & Rivero, C. 2023. [Data is the new protein: How the commonwealth of Virginia built digital resilience muscle and rebounded from opioid and COVID shocks](#), *MIS Quarterly*, 47(1), 423-450. Also available at <https://aisel.aisnet.org/misq/vol47/iss1/17/>.
- Vaast, E., Safadi, H., Lapointe, L., & Negoita, B. 2017. [Social media affordances for connective action: An examination of microblogging use during the gulf of Mexico oil spill](#), *MIS Quarterly*, 41(4), 1179–1205. Also available at <https://aisel.aisnet.org/misq/vol41/iss4/10/>.
- Venkatesan, S., Valecha, R., Yaraghi, N., Oh, O.-O., & Rao, H. R. 2021. [Influence in social media: An investigation of tweets spanning the 2011 Egyptian social movement](#), *MIS Quarterly*, 45(4), 1679–1714. Also available at <https://aisel.aisnet.org/misq/vol45/iss4/6>.
- Venkatesh, V., Rai, A., Sykes, T. A., & Aljafari, R. 2016. [Combating infant mortality in rural India: Evidence from a field study of e-health kiosk implementations](#), *MIS Quarterly*, 40(2), 353–380. Also available at <https://aisel.aisnet.org/misq/vol40/iss2/7/>.
- Venkatesh, V., Sykes, T. A., Rai, A., & Setia, P. 2019. [Governance and ICT4D initiative success: A longitudinal field study of ten villages in rural India](#), *MIS Quarterly*, 43(4), 1081–1104. Also available at <https://aisel.aisnet.org/misq/vol43/iss4/5/>.
- Venkatesh, V., Sykes, T. A., & Zhang, X. 2020. [ICT for development in rural India: A longitudinal study of women's health outcomes](#), *MIS Quarterly*, 44(2), 605–629. Also available at <https://aisel.aisnet.org/misq/vol44/iss2/6/>.
- Walsham, G., & Sahay, S. 1999. [GIS for district-level administration in India: problems and opportunities](#), *MIS Quarterly*, 23(1), 39–65. Also available at <https://aisel.aisnet.org/misq/vol23/iss1/2/>.
- Wang, S. (Ada), Pang, M.-S., & Pavlou, P. 2022. [Seeing is believing? How including a video in fake news influences users' reporting of the fake news to social media platforms](#), *MIS Quarterly*, 46(3), 1323–1354. Also available at <https://aisel.aisnet.org/misq/vol46/iss3/6>.
- Watson, R., Boudreau, M.-C., & Chen, A. 2010. [Information systems and environmentally sustainable development: Energy informatics and new directions for the IS community](#), *MIS Quarterly*, 34(1), 23–38. Also available at <https://aisel.aisnet.org/misq/vol34/iss1/4>.

- Wattal, S., Schuff, D., Mandviwalla, M., & Williams, C. B. 2010. [Web 2.0 and politics: The 2008 US presidential election and an e-politics research agenda](#), *MIS Quarterly*, 34(4), 669–688. Also available at <https://aisel.aisnet.org/misq/vol34/iss4/5/>.
- Wei, X., Zhang, Z., Zhang, M., Chen, W., & Zeng, D. 2022. [Combining crowd and machine intelligence to detect false news on social media](#), *MIS Quarterly*, 46(2), 977–1008. Also available at <https://aisel.aisnet.org/misq/vol46/iss2/13>.
- Wunderlich, P., Veit, D. J., & Sarker, S. 2019. [Adoption of sustainable technologies: A mixed-methods study of German households](#), *MIS Quarterly*, 43(2), 673–691. Also available at <https://aisel.aisnet.org/misq/vol43/iss2/16/>.
- Yu, S., Chai, Y., Chen, H., Sherman, S., & Brown, R. 2022. [Wearable sensor-based chronic condition severity assessment: An adversarial attention-based deep multisource multitask learning approach](#), *MIS Quarterly*, 46(3), 1355–1394. Also available at <https://aisel.aisnet.org/misq/vol46/iss3/7>.
- Zhou, J., Zhang, Q., Zhou, S., Li, X., & Zhang, X. (Michael). 2023. [Unintended emotional effects of online health communities: A text mining-supported empirical study](#), *MIS Quarterly*, 47(1), 195–226. Also available at <https://aisel.aisnet.org/misq/vol47/iss1/9/>.
- Zhu, H., Samtani, S., Brown, R., & Chen, H. 2021. [A deep learning approach for recognizing Activity of Daily Living \(ADL\) for senior care: Exploiting interaction dependency and temporal patterns](#), *MIS Quarterly*, 45(2), 859–896. Also available at <https://aisel.aisnet.org/misq/vol45/iss2/13>.

Table 1: Thematic distribution of articles across the years: Domains of emphasis with citations*

Segments	Understanding socio-economic inclusion	Promoting health and well-being	Caring for the environment	Networking for social impact	Developing underserved communities	Enhancing public management	Total
Pre-2005		<ul style="list-style-type: none"> Braa et al. (2004) 				<ul style="list-style-type: none"> Caudle et al. (1991) Nidumolu and Goodman (1996) Walsham and Sahay (1999) 	4
2006-2010		<ul style="list-style-type: none"> Braa et al. (2007) Miscione (2007) 	<ul style="list-style-type: none"> Melville (2010) Watson et al. (2010) 		<ul style="list-style-type: none"> Puri (2007) 	<ul style="list-style-type: none"> Wattal et al. (2010) 	6
2011-2015	<ul style="list-style-type: none"> Lucas et al. (2013) Burtch et al. (2014) Njihia and Merali (2014) 	<ul style="list-style-type: none"> Singh et al. (2015) Srivastava and Shainesh (2015) 	<ul style="list-style-type: none"> Loock et al. (2013) Malhotra et al. (2013) Marett et al. (2013) Seidel et al. (2013) 	<ul style="list-style-type: none"> Oh et al. (2013) 	<ul style="list-style-type: none"> Dobson et al. (2013) Lin et al. (2015) 	<ul style="list-style-type: none"> Tan et al. (2013) Chou et al. (2014) Han et al. (2015) 	15
2016-2020	<ul style="list-style-type: none"> Chan et al. (2016) Diaz Andrade and Doolin (2016) Leonardi et al. (2016) Oreglia and Srinivasan (2016) Faik et al. (2020) 	<ul style="list-style-type: none"> Goh et al. (2016) Venkatesh et al. (2016) Bernardi et al. (2019) Huang et al. (2019) Chau et al. (2020) Son et al. (2020) Venkatesh et al. (2020) 	<ul style="list-style-type: none"> Ketter et al. (2016a) Ketter et al. (2016b) Wunderlich et al. (2019) 	<ul style="list-style-type: none"> Deng et al. (2016) Miranda et al. (2016) Selander and Jarvenpaa (2016) Greenwood and Wattal (2017) Vaast et al. (2017) Jung et al. (2019) Kim and Dennis (2019) Moravec et al. (2019) Kitchens et al. (2020) 	<ul style="list-style-type: none"> Jha et al. (2016) Venkatesh et al. (2019) 	<ul style="list-style-type: none"> McGrath (2016) Srivastava et al. (2016) Nishant et al. (2019) 	29
2021 onwards	<ul style="list-style-type: none"> Bapna and Funk (2021) Hou et al. (2023) Sabzehzar et al. (2023) 	<ul style="list-style-type: none"> Zhu et al. (2021) Ghose et al. (2022) Tong et al. (2022) Yu et al. (2022) Zhou et al. (2023) 		<ul style="list-style-type: none"> Kane et al. (2021) Venkatesan et al. (2021) Lee et al. (2022) Rhue and Clark (2022) Wang et al. (2022) Wei et al. (2022) 		<ul style="list-style-type: none"> Addo and Avgerou (2021) Guo et al. (2021) Tremblay et al. (2023) 	17
Total	11	17	9	16	5	13	71

* Note: A dominant theme in a segment denotes the theme(s) with highest number of articles. Two such themes are highlighted in each segment. In case of a tie, both themes are highlighted.