Indigenous worldviews and Digital Humanism: implications for inclusive e-Governance.

Bukelwa Ngoqo [a*], *Eirik* Skjærseth [b], *Anne-Sofie* Engelschiøn [c] and *Samuel* Bosire [d].

[a] Faculty of Engineering, Built Environment and Technology, Nelson Mandela University, Gqeberha, South Africa. bukelwa.ngoqo@gmail.com, ORCID number [0000-0002-5441-5477].

[b] Bolder, Stavanger, Norway, ORCID number [0009-0000-7541-9541].

[c] Faculty of Social Sciences, Universitetet i Stavanger, Stavanger, Norway, ORCID number [0009-0008-3596-0200].

[d] Information and Communication Technology department, Nelson Mandela University, Gqeberha, South Africa, ORCID number [0000-0002-9851-5939].

Abstract. As the world grapples with the challenge of integrating Artificial Intelligence (AI) into existing systems or processes, there is a resultant tension associated with the inherent nuances between determining where the role of the human-stops and that of the machine-begins. As new 4IR driven technologies are integrated into main-stream society, dialogue on the important topics of inclusive e-Governance and Digital Humanism from a global south perspective must be encouraged. This paper acknowledges the limitations of technologies developed from a western viewpoint that prioritises individualism over community which is an inherent trait of the indigenous worldviews. In the universal viewpoint of Digital Humanism, indigenous perspectives must be included. Digital humanism transposes the social concept of humanism into the digital realm. Digital humanism seeks to ensure that human values such as dignity, freedom, ethics, democracy, social justice and self-determination are not overlooked as technological capabilities become more sophisticated. Historically, developing countries have been identified as late adopters of technological advancements. This paper seeks to unpack the concept of Digital Humanism, explore its relevance to e-Governance and investigate its alignment to existing (global south) e-inclusion discourse.

Keywords. Digital Humanism, e-Governance, e-inclusion, inclusive e-Government, Digital democracy.
Workshop, DOI: https://doi.org/10.59490/dgo.2025.1067

1. Introduction

The global discussion around technology development and constraints cannot overlook the persistent threat of digital segregation of the global south. Foley *et al.* (2022) posit that the separation between 'the haves' and 'have nots' has transcended the socio-economic lines and now finds form in the online or digital world. This online isolation of population groups based on their socio-economic standing has potential to distort the potential benefits of using technology for the benefit of society. Kwet (2019) accuses Big Tech corporations of controlling the digital ecosystem by monopolising computer-mediated experiences, giving them direct power over political, economic and cultural domains of life. Kwet considers the United States responsible for reinventing colonialism in the Global South through the domination of digital technology. Bon *et al.* (2022) expresses the concern addressed in this paper of the omission of people from the global south from the debates about the future of the digital society, despite the large impact of digital technology on the lives and future of all people on the planet. With the introduction of digital humanism in the discourse of the future global south digital landscape, creates an opportunity including these 'overlooked' voices from the global south. Evolving from ideologies of authors like McLuhan (1964) who spoke of 'technological humanism', digital humanism is viewed as the cognitive shift of transposing the 'online world' into our perceived reality. According to McLuhan technology as a 'medium' affects

how we perceive and understand the world around us. Lollini (2011) raised concerns about the resultant side effects of an impoverished human culture and experience of the world as the quality of human experiences is neglected in favour of quantitative, neutral, impersonal, and commercial criteria.

2. Indigenous worldviews in the digital landscape

Johnson (2022) suggests that our perception of the world is biased by our experiences. It can therefore be deduced that the personal experiences of the HCI user experience (UX) designer permeate the final product. The premise of the deliberations of this paper are aligned with the proposition made by Gong et al. (2018) claiming that the user's physical, psychological and behavioural and (familiar) experience characteristics have become an integral part of human-computer inter-action design. Increasingly researchers are observing the potentially exclusionary impact of technological advancements. Lazem et al. (2021) partially attribute this to the dominance of Western methods, practices, standards, and classifications in the way new technology-related knowledge is created and globalised. To dilute the discriminatory effect of computerised systems, it is important to acknowledge that as stated by Zabel and Otto (2021) biases in human cognition and language find their way into a system and affect user perception. Further expansion from the individual to the wholistic view of the human experience Pigeon and Riley (2021) introduces the Indigenous Wholistic Framework (see Figure 1) which aims to promote access and inclusivity when conducting indigenous research.

Figure 1: Indigenous Wholistic Framework *(Pigeon and Riley, 2021)*

According to Cull et. al (2018) indigenous worldviews refer to the comprehensive (physical, emotional, spiritual and intellectual) view of an individual that is inter-connected to land and in relationship to others (family, communities, nations). This paper considers the practical implications of adopting the indigenous worldview perspective to the digital humanism context for application to the public sector digital landscape.

3. Inclusive e-governance

While e-Governance refers to the public sector efforts to digitize government services. Digital inclusion (Refat et. al, 2023) on the other hand, refers to use of information and communication technologies (ICTs) to achieve equitable access to government services for all. Neglecting digital inclusion considerations can have dire consequences for e-Governance, Lee and Porumbescu (2019) caution that "while the potential of e-government to improve the responsiveness of public service provision is well established, there is growing evidence that it can also engender new forms of inequality and social exclusion". A deeper level of reflection is required on the adequacy and relevance of constituent elements in e-governance. The South African government in their National e-Strategy Roadmap (2017) acknowledges the role of ICTs as an efficient means to provide information to poor and marginalized communities to improve their quality of life. According to Tejedo-Romero *et al.* (2022, p2), at a local government level "e-government is a fundamental tool for participation and communication, since its functionality and content are responsible for transmitting the essence of the municipality's management to citizens and convincing them to trust in its services". In considering the future of e-government Malodia et al. (2021) describe a multi-dimensional construct with three underlying dimensions, namely empowered citizenship, hyper-integrated network, and evolutionary system architecture. The redress for socio-economic inequalities can be achieved through the establishment of democratic systems of governance.

4. Digital democracy

Digital infrastructures are increasingly mediating the relationship between citizens and public institutions, moving the questions of control, authorship, and legitimacy to the core of democratic inquiry. Digital democracy also known as e-democracy considers the political implications of the use digital systems within the public sector in the

pursuit of and the practice of democracy. According to Akinyetun and Ebonine (2023), Digital democracy refers to initiatives to include digital instruments in the democratic process. In the deliberations on inclusive e-governance and digital democracy there is a need to consider human-centric approaches, taking into account the ethical and socio-political implications of implementing technologies. It originated in a critical and emancipatory tradition that positions human needs, purpose, skill, and creativity as central to the design and governance of technological systems (Cooley, 1989). These principles emphasize the importance of individual agency, participatory structures, and the capacity for people to act on their own terms within social and technical environments. Digital infrastructures intended to support democratic participation must be grounded in the specific social relations, knowledge practices, and lived realities of the communities they serve. This view affirmed as relevant for the African context by Dlamini et al. (2025) who deem the adoption of e-participation in local governance to be an important approach to enhance transparency, accountability, and citizen engagement in decision-making processes.

5. Digital humanism

While scholar opinions diverge on a definition of Digital Humanism, its foundation on the sociological concept 'humanism' cannot be disputed. In concluding a critical analysis of these opinions, Coeckelbergh (2024) notes that digital humanism is "an umbrella term that captures a number of key criticisms of the ways in which digital technologies are already changing our society and culture." Werthner et. al (2023) propose a definition of Digital Humanism as a term associated with the process of describing, analysing, and, predominantly, influencing the complex interplay of technology and humankind for a more humane and fair society, respecting universal human rights and dignities. The current discourse deals with the subject of digital humanism from a philosophical perspective, this paper advocates for a move towards a pragmatic application of its principles. As is often the case with the adoption of new technological ideas or breakthroughs developing countries are at risk for becoming late adopters. The underlying aspirational goals of digital humanism emphasise the importance of creating a more humane and fairer digital world, which respects universal human rights and dignities. In the expanded definition of digital humanism consideration must be given to including global views on 'humanism'. Digital Humanism shifts the discourse beyond the dichotomy of machines mimicking human behaviour and humans leveraging on the computational and processing capabilities of machines, to considering the social, ethical and legislative impact of the adoption of AI.

To structure debates on digital humanism Prem (2024) discussed five principles of digital humanism. These principles start by diagnosing the current situation and gradually progress to making demands on future digital technologies. This paper translates these principles into questions to better align digital humanism thinking to inclusive e-governance:
1. What is the current impact of technology on people and their co-evolution?
2. What is the government mandate for using technology to protect people and environment?
3. Is there political will for using technology to strengthen democracy and society?
4. How can government capitalise on the assertion that technologies are malleable?
5. Does government communication clearly confirm the differences between people and machines?

These principles serve as guidelines for understanding how digital humanism can be incorporated into e-government planning to establish a more e-inclusive society.

6. Conclusion

This paper brings to the fore fundamental viewpoints on the importance of the inclusion of indigenous worldviews not only in the formative stages of digital humanism discourse, but also more broadly in shaping the digital future of societies in the global south. The evolution of how our online realities, will inevitably start to mimic our 'real-world' realities must find the global south prepared to leverage on consciously using technology to benefit communities at local, provincial and national government levels. The public sector in the global south context remains the custodian for helping marginalised communities addresses inequalities. With the advent of AI technologies, the digital transformation goal of the public sector is the creation of an e-inclusive society. Where the values of its citizens relating to online dignity, freedom, ethics, democracy, social justice and self-determination continue to be upheld and protected. These values are not different from those enshrined in the formation of socio-economic and digital democracies. Digital humanism provides a human-centered umbrella for understanding the future implications of technological advancements on society. The five key questions raised, or digital humanism principles introduced in this paper, provide a pragmatic link between theory and the application of digital humanism thinking to the e-governance context.

Contributor Statement

A. devised the project, the main conceptual ideas and proof outline. B., C. and D. worked on the following sections respectively: 2, 4 and 5.

Use of AI

During the preparation of this work, the author(s) used no AI tools / services. The author(s) take(s) full responsibility for the content of the publication.

Conflict Of Interest (COI)

There is no conflict of interest.

References

Akinyetun, T. S., and Ebonine, C. V. (2023). Digital democracy and democratic decline: Unpacking the role of digitalization in undermining democracy in Africa. African Journal of Democracy and Election Research, 3(1), 159.

Bon, A., Dittoh, F., Baart, A., Lô, G., Pini, M., Bwana, R., Kulathuramaiyer, N. and WaiShiang, C. (2022). Decolonizing Technology and Society: A Perspective from the Global South. In: Werthner, H., Prem, E., Lee, E.A., Ghezzi, C. (eds) Perspectives on Digital Humanism. Springer, Cham. https://doi.org/10.1007/978-3-030-86144-5_9

Coeckelbergh, M. (2024). What is digital humanism? A conceptual analysis and an argument for a more critical and political digital (post)humanism. Journal of Responsible Technology, Volume 17,100073, ISSN 2666-6596, https://doi.org/10.1016/j.jrt.2023.100073.

Cooley, M. (1989). Human-centred systems. Designing human-centred technology: a cross-disciplinary project in computer-aided manufacturing, 133-143.

Cull, I., Hancock, R.L.A., McKeown, S., Pidgeon, M. and Vedan, A. (2018). Pulling Together: A Guide for Front-Line Staff, Student Services, and Advisors. Pressbooks. ISBN: 978-1-77420-045-2

Dlamini, S., Plantinga, P., Davids, Y.D., Ayodele, O., Sanchez, D. and Dlamini, N. (2025). Design and implementation strategies for e-participation in South Africa. Policy Brief: February 2025. https://hsrc.ac.za/wp-content/uploads/2025/03/Download-1.pdf Accessed, 21 April 2025.

Foley R.W., Nadjari S., Eshirow J., Adekunle R. and Codjoe. (2022). Towards Digital Segregation? Problematizing the Haves and Have Nots in the Smart City. Frontiers in Sustainable Cities Volume (4), 2022. DOI=10.3389/frsc.2022.706670

Gong, C., Qiu, Y. and Zhao, B. (2018). Establishment of Design Strategies and Design Models of Human Computer Interaction Interface Based on User Experience. In: Marcus, A., Wang, W. (eds) Design, User Experience, and Usability: Theory and Practice. DUXU 2018. Lecture Notes in Computer Science, vol 10918. Springer, Cham. https://doi.org/10.1007/978-3-319-91797-9_5

Johnson, J. (2022). Designing with the Mind in Mind: Simple guide to understanding User Interface Design Guidelines (3rd Edition). Morgan Kaufman Publishers, Cambridge, MA. ISBN: 978-0-12-818202-4.

Kwet, M. (2019). Digital colonialism: US empire and the new imperialism in the Global South. Race & Class, 60(4), 3-26. https://doi.org/10.1177/0306396818823172 (Original work published 2019)

Lazem, S., Giglitto, D., Nkwo, M.S., Mthoko, H., Upani, J. and Peters. A. (2022) Challenges and Paradoxes in Decolonising HCI: A Critical Discussion. Computer Supported Cooperative Work 31, 159–196 (2022). https://0-doi.org.wam.seals.ac.za/10.1007/s10606-021-09398-0

Lee, J.B. and Porumbescu, G.A. (2019). Engendering inclusive e-government use through citizen IT training programs, Government Information Quarterly, Volume 36, Issue 1, 2019, Pages 69-76, ISSN 0740-624X, https://doi.org/10.1016/j.giq.2018.11.007

Lollini, M. (2011). Humanism in the Digital Age. Humanist Studies & the Digital Age, 1(1), 1-7. ISSN: 2158-3846 (online) http://journals.oregondigital.org/hsda/

Malodia, S., Dhir, A., Mishra, M. and Bhatti, Z.A. Future of e-Government: An integrated conceptual framework, Technological Forecasting and Social Change, Volume 173, 2021,121102, ISSN 0040-1625. https://doi.org/10.1016/j.techfore.2021.121102.

McLuhan M. (1964) Understanding Media: The Ex-tensions of Man, Berkeley: Gingko Press.

National e-Strategy Roadmap. Government Gazette, No 41241. 10 November 2017. https://www.gov.za/sites/default/files/gcis_document/201711/41241gen886.pdf. Accessed, 21 April 2025.

Pigeon, M. and Riley, T. (2021). Understanding the Ap-plication and Use of Indigenous Research Methodologies in the Social Sciences Indigenous and Non-Indigenous Scholars. International Journal of Edu-cation, Policy & Leadership (IJEPL), Volume 17(8).

Prem, E. (2024). Principles of digital humanism: A critical post-humanist view. Journal of Responsible Technology, Volume 17, 2024,100075. https://doi.org/10.1016/j.jrt.2024.100075.

Refat, N., Patwary, M. and Rahman, M.A. (2023). Digi-tal Inclusion Towards e-Governance: Challenges and Issues. In: Hayes, S., Jopling, M., Connor, S., John-son, M. (eds) Human Data Interaction, Disadvantage and Skills in the Community. Post digital Science and Education. Springer, Cham. https://doi.org/10.1007/978-3-031-31875-7_8.

Tejedo-Romero, F., Araujo, J., Tejada, A. and Ramírez, Y. (2022). E-government mechanisms to enhance the participation of citizens and society: Exploratory analysis through the dimension of municipalities. Technology in Society. 70. 101978. 10.1016/j.techsoc.2022.101978.

Werthner, H., Stanger, A., Schiaffonati, V., Knees, P., Hardman, L. and Ghezzi, C. (2023). "Digital Humanism: The Time Is Now," in Computer, vol. 56, no. 1, pp. 138-142, Jan. 2023, doi: 10.1109/MC.2022.3219528.

Zabel, S. and Otto, S. (2021). Bias in, Bias Out – the Similarity-Attraction Effect Between Chatbot De-signers and Users. In: Kurosu, M. (eds) Human-Computer Interaction. Design and User Experience Case Studies. HCII 2021. Lecture Notes in Computer Science, vol 12764. Springer, Cham. https://doi.org/10.1007/978-3-030-78468-3_13.