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# Digital Inequality in AI Governance: Inclusive Pathways for Aging Populations

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**Abstract:** The rapid expansion of artificial intelligence governance frameworks at the national and international levels has generally lacked any substantive involvement from older people; as they interact with digital technologies, their unique relationship to these systems makes them particularly vulnerable to AI-based policy decisions but also one of the groups least engaged in regulating these systems. Examines digital inequality in terms of its manifestation at the level of AI governance; analyzes the structural barriers faced by older adults in accessing AI-mediated services and participating in related governance activities; proposes an inclusiveness pathway to promote more adequate realisation of governance systems that serve the interests and dignity of ageing individuals. According to Van Dijk's multidimensional model of digital inequality, Gaventa's inclusive governance framework and the literature on seniors' technology adoption, it is argued that realising genuine inclusive AI governance requires intervention at three interrelated levels: physical access; Digital skills and AI literacy; Policy participation. Based on the data of the International Telecommunication Union, policy guidelines such as the European Union's AI Act and the World Health Organization's global strategy for ageing and health are used to provide empirical basis and regulatory references for this research's suggestions.

**Keywords:** Digital inequality; AI governance; aging populations; inclusive governance; digital literacy; algorithmic bias; participatory design.

## 1. Introduction

At present, artificial intelligence has mediated the entry into a broader array of services and chances beneficial to life among older individuals; health triaging and diagnostic aids; determining eligibility for social welfare programmes; conducting financial credit evaluations; curating environments of online information resources that shape their understanding and choices. Governing the structure definition for how such Systems are designed, Constructed, Inspected and discussed is not an issue of pure technical policy but a matter closely relevant to elderly People whose daily life requires more assistance from AI-mediated Services compared with younger Adults. However, the paths for the formation of AI governance frameworks - public consultation primarily consisting of technology industry representatives, legislative deliberation carried out on digital platforms, and expert advisory bodies comprising technicians and lawyers with minimal age demographics - have systematically excluded the voices and interests of older people due to an absence of recognition or remedy.

According to the ITU's data from 2023 regarding global developments in digitalisation, there exists a persistent and even widening gap among different age groups' access to the Internet, possession of devices, as well as their ability to use technology [6]. This lack is neither the normal result of ageing out of digital fluency for younger people to become seniors nor an immediate transition problem but rather long-term structures such as economic inequality, educational background, physical and mental decline in old age caused by policies that prioritize young user groups; If AI governance framework designs fail to consider such structural circumstances, then during development, there is a high likelihood of embedding biases against older individuals within the regulatory system through architectural means that will be challenging to reverse later on.

Therefore, this article believes that in response to digital inequality in AI governance, we need not only strategies for providing equal access but also other multi-faceted aspects such as factors influencing participation of older people in artificial intelligent service-based Governance structure and their role. This paper first examines the theoretical backgrounds to clarify why this condition exists; Then it presents a systematic discussion on different aspects of older people's digital isolation as they occur in AI environments; And lastly, It will build up an inclusive Governance pathway model that can help overcome problems with current artificial intelligence governance approaches by departing from an age-neutral standpoint.

## 2. Theoretical Foundations

The three theoretical frameworks that form the conceptual architecture of the analysis presented here. Firstly, van Dijk has proposed a multi-level model of digital divide in his research on its reproduction mechanism: The first level is motivational access, representing how people are motivated to use digital technologies (e.g., motivation for education); Secondly, there is material access; Thirdly, Skills Access refers to people's capacity or ability to operate effectively and strategically within digital contexts required by society today [1]; Fourthly, Usage Access covers practical utilisation modes driven by prior motivations through adequate resources. This series of models are inherently theoretical because they resist reducing digital exclusion solely to an objective condition, recognising that mere provision of tools such as computers and Internet access does not address people's motives or cognitive structures related to using them; thus, turning into actual involvement. Among older people specifically, the differences in skill and application level brought by Van Dijk's model have become increasingly prominent areas with greater needs for intervention at present.

Gaventa has built an inclusive-governance framework

based on research into participation during development-policy contexts to offer another theoretical basis [2]. Gaventa pointed out that for a group to feel included in government management means having some control over it or power within its governance structure; Hidden power refers to the channels by which agendas are formed and certain voices have been intentionally excluded during formal discussions; Invisible power is the internalised belief and sense of incapacity that led excluded groups to voluntarily cut off their own involvement even without physical obstacles present. Applied to AI governance, this framework points out that it pays more attention than the procedure-based inclusion on whether older people have been formally elected to attend the consultations; On their actual participation status and impact within these contexts. The hidden power dimension is particularly important: The formation of AI governance deliberations has a systematic gap in terms of technical vocabulary, institutional ties and cultural patterns among those who lack technical ability; Even with formal admission systems aimed at ensuring fairness does not exist.

Among the senior technology acceptance literatures analysed in this paper, Renaud and van Biljon's Model of Technology Adoption Among Older Adults offers the third theory-based framework[3]. Renaud and van Billion's model of technological Adoption does not see its driving force only in perceived use or ease-of-use; Rather, an older person s Attitude toward Technology will be affected By Other Factors As follows : Fear of social Harm Caused By Using Technology , Relevance To His Social network And Daily Life , Whether There Is A Reliable intermediary Who Can Help Adopt This technology . These factors will directly affect older people's participation in artificial intelligence-based services; That is, how they perceive technology itself and the social environment around it influences their desire to apply these kinds of technology to daily Life or for other activities out of their houses.

# 3. Dimensions of Digital Exclusion Among Aging Populations

The digital exclusion of older people in AI-governance scenarios corresponds, respectively, to the first through third layers according to van Dijk's theory; collectively they provide a systemic grounding for their lack of participation in both AI-mediated services and related-policy-making arenas.

According to ITU data, Internet non-usage rates are much higher for people aged 65 and over compared to other age groups across different regions of the country at all income levels; In particular, this difference has been growing increasingly in low-middle-income countries where artificial intelligence-based service delivery development speed is highest [6]. The device ownership pattern increases the connectivity gap: older people are more likely to use public or lent devices, which cannot provide continuous and deepened online interaction needed for their involvement in AI-aided services effectively. The longitudinal analysis by Friemel of the factors causing a digital divide among older adults showed that there were material deprivation gaps related to three dimensions: income, education, and location; This phenomenon was distributed more widely among elderly people aged 80 years old or above who had low levels of schooling and weak economic capabilities[7].

In terms of skill levels, what is needed to engage meaningfully with AI systems goes far beyond the basic digital literacy usually covered in many digital inclusion programmes. Welfare or financial assistance that uses artificial intelligence needs users with good navigation abilities for mobile apps and familiarity with AI's recommendation mechanisms: Where does this information come from? , How can I question its accuracy if there are issues? According to Mitzner et al.'s study of older people's attitude towards using new technologies, they found that most older people are willing to use technology when it suits their own interests; however, due to problems such as complex interfaces and obscure concepts caused by routine technology design, many older individuals find this unappealing[9]. Based on the analysis by Knowles and Hanson of older technology non-users, they did not believe that lack is a matter of deficiency but an individual assessment made in response to cost-benefit trade-offs regarding the design flaws of current digital systems rather than older people's insufficiency[8].

At the use-and-participation level, due to the exclusion of older people from AI governance activities, there are both direct obstacles as reported above and hidden or invisible Power issues according to Gaventa's framework. The environment created by digital-based AI governance consultation, comments submitted on the assumption that one has understood technical regulatory language, and advisory systems formed among networks in which older people's participation is at most marginal can be seen as an example of such a situation. According to Ragnedda's view of digital capital, which includes resources, abilities and other forms of social relations that allow people to transform their access to digital information into social status and economic benefits; In order to accumulate more material wealth and skill levels alone does not have an effective path to overcome structural disadvantages faced by older adults in participation in government governance under digital conditions[10].

# 4. Inclusive Pathways in AI Governance

Inclusive Pathways Framework established in this Section address the three dimensions of exclusion by means of intervention at the level of participatory Governance Design, development of AI literacy and human-centred System Design to explore how Inclusive Ai-Governance could appear Practice based on Existing International Policy Instruments.

Participatory governance Design needs to put ageing population into the role of a participant, rather than simply one of consultations when developing or implementing artificial intelligence governance Frameworks. According to Gaventa's framework, it is necessary to intervene simultaneously at the levels of visibility (formalising the obligation of older people to participate as representatives in the establishment of an AI advisory board), concealment (providing resources - such as technical translations, supporting facilities, accessible meeting formats) so that they can engage meaningfully in the process instead of merely symbolically participating, and work against invisibility (challenging assumptions within the ecosystem of AI governance community that older people do not have the ability or motivation to make a contribution through meaningful involvement)[2]. The provisions on fundamental rights impact assessments in the EU's AI act reflect a governance instrument that can be expanded to include systematic evaluations of the ageing population's

consequences; thus, integrating their interests into the process of AI regulation would become an official mechanism[5].

The development of AI literacy in ageing populations should shift away from generic digital literacy models and focus on building specific skills needed for interacting with AI Systems. Among them are: Understanding the way that algorithmic recommendation and decision-making works in theory; Being aware of one's right to be informed about explanations for AI-driven decisions; Having some ability to handle AI-mediatised service interfaces. The WHO's global strategy and action plan for ageing and health provide a policy background within which AI literacy programmes may fit into the system of supporting healthy older adults; they are related to digitalisation as one part of promoting overall good state among people aged over 60 years. Renaud and van Biljon believe that the function of trusted intermediaries in older adults' technology adoption indicates that AI literacy programmes should be presented through existing social support systems, such as community health workers or public libraries; however, they might not be accessible to non-digital natives[3].

The human-centric principle of AI design, such as the universally designed Framework that prioritises Accessibility instead of just being part of regular Design requirements, offer the third way to achieve inclusive ageing in AI Governance. Primary systems oriented towards elderly people and not a central group will be considered based on factors such as obvious interface design, lower cognitive load, stronger ability to handle errors, and multiple modalities of interaction, which is more accessible for the aging population; it can also bring more broad-based social benefits to inclusiveness. Based on Mitzner and colleagues' research in older adults' use of information technologies; Several determinants that affect their preferences are predictability, a simple yet effective way to provide information feedback, and flexibility in complexity[9].

# 5. Discussion

Based on this paper, an inclusive Pathways framework has been developed to address a governance deficit that holds practical value as artificial intelligence (AI) technologies are embedded in multiple aspects of daily life for ageing people. Several tensions and restrictions of this system must be acknowledged explicitly.

Because the main reason is a mismatch between digital disincentives and privacy worries. Intended to promote older people's participation in AI-based service activities inevitably increases the amount of personal data collected by these systems and thus brings privacy hazards. The elderly are more easily deceived by AI-powered fraud and manipulation; therefore, inclusion strategies designed to enhance participation while neglecting education about their own information protection and rights can make them vulnerable to harm beyond expected gains from inclusion. Based on Van Dijk's multi-level Theory, realising the actual inclusion across several layers requires an integrated action involving both accessibility and correct usage skills; Meanwhile, some environment Conditions play crucial roles in shaping people's Understanding of programs yet have been relatively ignored by many educational projects so far[1].

The gap in realisation of AI governance Frameworks versus their actual impact serves as the second problem. The provisions in the EU AI Act regarding the supervision of high-risk AI systems as well as the WHO's ageing and health strategy offer some instruments to address the interests of older people more effectively in artificial intelligence governance; however, translating these framework contents into institutional implementation is subject to factors such as enforcement capability, government momentum, and whether social organisations led by older individuals can participate actively - conditions that differ greatly among countries and regions[4][5]. According to Friemel's long-term observation of the elderly in the field, while some measures have been temporarily effective but are likely to lose their effect when technological conditions change; therefore, there needs to be continuous institutional support and not just short-term policy changes[7].

There is a conflict between the age-specific and general-governance concepts. Frameworks designed for ageing people's special groups can exacerbate the problem of ageing individuals being discriminated against based on age stereotypes; On the other hand, frameworks without explicit provisions targeting older adults may reproduce structural discrimination under an apparently procedural-neutral surface layer. Based on Knowles and Hanson's analysis of non-user wisdom, the views of elderly people who do not want to use digital technologies hold perspectives on system Design and Governance that ageblind Universal Frameworks cannot grasp [8].

# 6. Conclusion

The digital gap in AI governance should not be understood as an issue of technology accessibility; rather, it concerns how much power older individuals have over the technologies around them to exercise their right to participate fully in democratic life and shape society through digital means for themselves. A participatory governance Design, AI literacy Development and human-centred System Design constitute the three mutually dependent paths through which artificial intelligence Governance can transcend age-blind procedural Neutrality and achieve genuine inclusion of older people as right-holding Participants in an AI-managed Society.

Theoretical basis for the examination of digital inequality, inclusive governance, and seniors' attitudes towards technology jointly reveal that single technological or material solutions do not address the problem; Governance Inclusion needs to focus on motivations, society and politics in older people's interactions with AI Systems. Currently, several international policy instruments have been established at the European Union level, in particular: The EU AI Act; The WHO's ageing and health strategies also provide practical references for constructing this system to enhance its operability.

In the future, more systematic comparative empirical Studies can be carried out among different regions within various countries to serve as a basis for setting inclusion intervention targets. Longitudinal assessment of the AI literacy programs for elderly people can provide important references about the effectiveness strategy of keeping participants' interest and stimulating their curiosity of knowing AI among older adult groups.

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