**Exploring Civil Society’s Participation in Artificial Intelligence (AI) Governance in Health: Policy Analysis from Singapore and Indonesia**

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# Introduction

The rapid proliferation of AI in health offers benefits, including accelerated drug development, predictive diagnostics and disease surveillance. However, utilisation of AI also risks bias, unequal access and concerted power.[[1]](#footnote-1) Private corporations, with vast data and advanced technological capabilities, drive AI innovation and highly influence the development of AI.[[2]](#footnote-2) Private corporations often self-govern, introducing ethical principles that may forestall regulation instead of adapting to oversight.[[3]](#footnote-3) With private corporations’ dominance, the risks that AI governance gets captured – that rules are made in line with private corporations’ profit-driven interest rather than in public interest – cannot be overlooked.[[4]](#footnote-4)

To strike a balance between innovation and protecting the public in pursuit of equitable health, a robust and inclusive AI governance regulatory framework involving civil society is thus critical.[[5]](#footnote-5) Civil society,[[6]](#footnote-6) typically free from concerns that are primarily of a commercial nature and operate independently of governments,[[7]](#footnote-7) can represent diverse interests of vulnerable groups and provide independent oversight to AI governance. Without meaningful civil society participation, AI development could exacerbate existing inequalities such as the digital divide, bias and power disparities between AI providers and users.[[8]](#footnote-8) However, civil society’s participation is not without its challenges.

This paper uses Singapore and Indonesia as case studies to explore civil society participation in AI governance within the health context. These two countries are selected given their diverse population, contrasting socio-economic conditions, delicate political environments and differing technological capacities in the region. This paper thus explores (i) civil society’s participation under the regulatory framework, (ii) critical roles of civil society and (iii) challenges hindering meaningful participation of civil society in AI governance in health within Singapore and Indonesia context.

# Civil Society Participation in AI Governance in Health: Singapore and Indonesia Regulatory Framework

Despite guidelines and recommendations from international and regional agencies,[[9]](#footnote-9) Southeast Asian countries, with Singapore as an exception, generally trail in AI health regulation at the national level. According to Government AI Readiness Index 2024,[[10]](#footnote-10) Singapore ranked 2nd while Indonesia placed 38th.[[11]](#footnote-11) Singapore and Indonesia appear to prioritise AI innovation, although both attempt to balance and mitigate harmful risks to the public.[[12]](#footnote-12) While other general regulatory framework to mitigate risks associated with AI are available (e.g. personal data protection and electronic information, systems and transactions), this paper focuses on the specific AI regulatory framework within Singapore and Indonesia.

## Singapore AI regulatory framework

There are no specific laws or regulations in Singapore that directly govern AI. However, the Singapore government adopted its National AI Strategy (NAIS) in 2019, as updated in 2023 – the NAIS 2.0. Singapore also released the 2019 and 2020 Model AI Governance Framework, complemented with the 2024 Model AI Governance Framework for Generative AI, expanding governance from only Traditional AI. Additionally, the Implementation and Self-Assessment Guide for Organisations (ISAGO) along with the Compendium of Use Cases allow organisations to assess the alignment of their AI governance with the Model AI Governance Framework. Singapore also launched AI Verify, an AI governance testing framework and toolkit designed to help organisations validate their AI system performance against AI ethics principles through standardized tests.[[13]](#footnote-13)

Singapore appears to be taking a sectoral approach towards AI governance and the relevant regulatory agencies (i.e. financial services, info-communications and media and health sector) have so far only adopted soft-law approaches, preferring to issue non-binding guidelines and recommendations.[[14]](#footnote-14) Within the health sector, the AI in Healthcare Guidelines was issued in 2021 in addition to the Health Sciences Authority Regulatory Guidelines for Software as Medical Devices.[[15]](#footnote-15)

## Indonesia AI regulatory framework

Indonesia has yet to issue any hard law which specifically governs AI (despite one in the formulation process). Indonesia has adopted its 2020-2045 National Strategy for AI followed by a non-binding Circular Letter of the Ministry of Communication and Informatics No. 9 of 2023 on Ethics of AI as guidance for businesses to develop internal policies and implement programming based on AI business activity. This remains the only guiding principle for the use of AI in Indonesia.

Within the health sector, the Indonesian Ministry of Health (MOH) has issued a regulatory sandbox to facilitate the rapid development of health technology.[[16]](#footnote-16) The MOH determined eight clusters considered as innovations under the regulatory sandbox, with telehealth, pharmaceutical and medical devices services and health online marketplace as priorities – AI is considered as part of the ‘potential’ cluster, but is yet considered as a priority therein.

## Civil society participation under the Singapore and Indonesia AI regulatory framework

Singapore and Indonesia recognize the need for continuous collaboration and open dialogue with diverse stakeholders in their AI governance regulatory framework. The Model AI Governance Framework contains a section on stakeholder interaction and communication to have customer feedback channels. The ISAGO recommends consulting the community or end users at the earliest stages of development to ensure transparency. The Indonesian MOH regulatory sandbox prescribes ‘participatory monitoring’ of the regulatory sandbox implementation, which may involve receiving complaints from the public. However, none of these documents explicitly detail civil society’s role or participation mechanism under the Singapore and Indonesia AI governance regulatory framework.

# Critical Role of Civil Society in AI Governance in Health

With AI governance regulatory framework nascent in Singapore and Indonesia, governments alone cannot ensure the responsible development of AI by private corporations. Greater multi-stakeholder participation with a whole-of-society approach, including civil society, is crucial.[[17]](#footnote-17) Civil society can help ensure inclusivity and equity as well as transparency and accountability.

## Advocates for inclusivity and equity

Bias, lack of inclusivity and information asymmetry are among the harmful risks of AI.[[18]](#footnote-18) Such inequalities are further exacerbated by the digital divide, leaving vulnerable groups to be further marginalized. With vulnerable groups’ lack of ability to participate in developing AI, civil society plays a key role in representing the voices of vulnerable groups with lived experiences.[[19]](#footnote-19) For example, civil societies in Singapore support youth, seniors and people with disabilities on using technologies with specialised software and equipment.[[20]](#footnote-20) Whereas, civil societies in Indonesia promote gender equality through online sexual and reproductive health advocacy and improving women’s digital literacy, especially in rural areas.[[21]](#footnote-21) Civil society’s roles bridge the digital divide for vulnerable groups, enhance the diversity of interests represented and provide societal considerations – critical for inclusivity and equity within AI governance in health.[[22]](#footnote-22)

## Ensuring transparency and accountability

With competing interests in the development of AI, civil society offers independent oversight. Civil society demands transparency and holds governments and corporations accountable for their AI development.[[23]](#footnote-23) In Singapore[[24]](#footnote-24) and Indonesia,[[25]](#footnote-25) civil societies collaborate with governments to ensure that rights-based approaches are considered and monitor the implementation of ethical principles in AI governance. This can also include evaluating the sufficiency of AI information disclosure and how AI affects vulnerable groups – accounting for transparency and accountability within AI governance in health.[[26]](#footnote-26)

# Challenges for Civil Society’s Meaningful Participation within AI Governance in Health

Despite civil society’s critical roles in AI governance in health, civil society faces challenges to meaningfully participate, including but not limited to resource constraints, power imbalance and lack of formal participation mechanism.[[27]](#footnote-27)

## Resource constraints

Civil society often lacks financial and technical resources. On funding, civil societies struggle with a lack of steady financial resources. Numerous Singaporean civil societies are partly funded by the government while also having to raise funds from the public.[[28]](#footnote-28) Whereas, the majority of Indonesian civil societies are dependent on foreign donors, though significantly decreasing over the years.[[29]](#footnote-29) With limited funding, civil society often does not have the budget to attend in-person meetings, where negotiations and relationships with policymakers are typically also developed.[[30]](#footnote-30)

AI technical capabilities and knowledge are unevenly distributed – “AI talent” is expensive, further adding to the challenge and impeding civil society’s contribution in decision-making.[[31]](#footnote-31) While civil society can obtain knowledge from academia or partnership, these are typically ad hoc and may entail dependency.[[32]](#footnote-32) This is evident in Indonesia and Singapore, where civil societies must partner with law practitioners through workshops and consult with AI experts at roundtable discussions to enhance their understanding of the AI governance regulatory framework.[[33]](#footnote-33)

## Power imbalance

The imbalance in governance is deeply rooted in historical power dynamics; civil society holds significantly less power than the government and private corporations.[[34]](#footnote-34) For context, Singapore and Indonesia have civic spaces that are ‘repressed’ and ‘obstructed’, respectively.[[35]](#footnote-35) In Singapore, civil society’s participation remains underdeveloped – civil society is regarded as an actor cooperating with the state rather than a co-decision maker or partner formulating policy.[[36]](#footnote-36) Meanwhile, civil society’s participation in policy processes in Indonesia is increasing whilst remaining tokenistic. Some civil society with foreign donor funding has a more significant role in agenda setting and policy analysis.[[37]](#footnote-37) However, Indonesian civil society’s role is generally restricted to being consulted ad hoc without clarity on how civil society’s inputs are considered and/or incorporated into the decision-making, if at all.[[38]](#footnote-38)

The power imbalance is also apparent when civil society is juxtaposed with private corporations having substantial funding, technical expertise and big data. While civil society offers social expertise, it is often valued less than private corporations’ technical know-how.[[39]](#footnote-39) Unfortunately, when there is a significant power imbalance, those with greater control over access to valued resources (i.e. private corporations) will set the rules of the game.[[40]](#footnote-40) Therefore, the shrinking civic space and civil society’s lack of resources render them traditionally excluded from or considered marginalised stakeholders within the decision-making process.[[41]](#footnote-41)

## Lack of formal participation mechanism

Democratic processes in AI governance, particularly procedural aspects of civil society participation, are often overlooked.[[42]](#footnote-42) Such is evident in the current AI governance regulatory framework in Singapore and Indonesia as elaborated [above](#_Civil_society_participation) – governments focus on appropriate ethical approaches, but the inclusivity of decision-making processes in the AI governance regulatory framework is underdeveloped. The lack of formal participation mechanisms for civil society under the Singapore and Indonesian AI regulatory framework further exacerbates the power imbalance within the decision-making process. Absent clarity on the status, rights and procedures of civil society participation in AI decision-making renders meaningful participation unguaranteed and less accessible to civil society.

# Recommendations

To empower civil society’s meaningful participation in AI governance in health, this paper proposes the following to governments as policymakers in response to the above challenges:

1. Co-production of AI governance policies:Governments shall not make AI policies for the society, but *with* the society. Governments shall ensure that civil society’s participation is continuous throughout the life cycle of AI governance, beyond mere consultation on drafting a text. Developing AI governance policy in a participatory manner takes time, but co-production accelerates implementation and ensures AI governance is representative and appropriate for the local context.[[43]](#footnote-43)
2. Formal participatory mechanism: Governments shall incorporate concrete and formal methods for civil society participation to remove ambiguity and prevent tokenistic engagement within its AI regulatory framework. Governments shall clearly prescribe (i) civil society’s status and roles, (ii) continuous consultation process and procedures and (iii) transparent feedback loop on how civil society’s voices are being duly heard and considered.[[44]](#footnote-44)
3. Enhanced support:Given civil society’s lack of financial and technical resources, governments shall provide additional support to civil society as marginalized stakeholders, including structured funding support and capacity-building activities (e.g. funding civil society-led projects related to AI in health, workshops enhancing digital literacy and understanding on AI regulatory framework).[[45]](#footnote-45)

# Limitations

Literature on civil society’s participation in AI governance for health in Singapore and Indonesia is limited and narrow in scope. Nonetheless, this paper identifies gaps in inclusive AI governance and highlights the need for further research to obtain civil society perspectives. Such research would foster the co-production of evidence-based and context-appropriate policies in Singapore, Indonesia, and the wider Southeast Asia region.

# Conclusion

AI governance in health, highly influenced by private corporations, risks regulatory capture. Governments alone cannot ensure responsible and inclusive AI development. Therefore, a whole-of-society approach, actively involving civil society, is crucial. In Singapore and Indonesia, civil society's participation in AI governance is underdeveloped and remains challenging. Governments must proactively address these barriers by establishing formal mechanisms and providing support within AI governance regulatory framework to empower meaningful civil society participation in pursuit of equitable health.

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