POLICY REPORT

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Ethical Engagement and Public Support for AI Governance in Singapore

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Executive Summary

This report examines public perceptions of artificial intelligence (AI) in Singapore, analysing how ethical engagement and socio-demographic factors shape attitudes. Based on a survey of 1,014 respondents, it finds that ethically engaged individuals are more familiar with AI, use it more frequently, and express stronger support for its development and governance. It also identifies an AI divide: younger, more educated, and male individuals engage more with AI, while older groups demonstrate lower familiarity but greater support for regulation. Higher-income individuals are also generally more supportive of AI. The findings highlight the need for ethical education, inclusive AI literacy, and context-sensitive public engagement to support more equitable technological futures.

Introduction

Artificial intelligence (AI) is no longer a distant frontier; it has become embedded in everyday life and the infrastructures of governance. From automated systems in finance and healthcare to generative tools in education and communication, AI shapes how people access opportunities, exercise agency, and participate in society. Its growing pervasiveness has heightened concerns about inequality, exclusion, and the alignment of AI systems with human values. While public and policy debates often frame ethics as a constraint on innovation, slowing or limiting technological advancement,[1,2] there is a need to reconsider whether ethical concern might instead enable more meaningful and constructive engagement with AI.

This paper advances the concept of ethical engagement as a key lens for understanding public attitudes toward AI. Rather than debating what constitutes "ethical" AI in normative terms, it adopts an empirical approach, examining how individuals' levels of ethical engagement relate to their views on AI.[3]

Drawing on the Santa Clara Ethics Scale,[4] a validated self-report measure of ethical awareness, moral engagement, and value-oriented decision-making, the scale captures broad ethical orientations and everyday value-based judgments, making it appropriate for a plural and multicultural society like Singapore. In essence, an ethically engaged individual consistently reflects on moral values, considers the impact of their actions on others, and strives to act with integrity, fairness, and social responsibility in everyday decisions and relationships.

In this study, we conceptualise ethical engagement as more than an abstract moral reflection, but instead as an active disposition that shapes how individuals interpret, evaluate, and interact with emerging technologies. Ethical engagement, therefore, is the extent to which individuals are attuned to questions of right and wrong, fairness, and responsibility in their everyday judgments - and by extension, those involving AI. Rather than assuming that ethical awareness leads inherently to scepticism or resistance, as with concerns about data privacy or algorithmic bias, we examine whether it may instead foster informed and constructive support for AI development and governance.

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[1] OECD. *OECD Digital Economy Outlook 2024 (Volume 1): Embracing the Technology Frontier*. Paris: OECD Publishing, 2024. https://doi.org/10.1787/a1689dc5-en

[2] Skrzypczyńska, Anna. "The EU's AI Power Play: Between Deregulation and Innovation." *Carnegie Endowment for International Peace*, May 2025. https://carnegieendowment.org/research/2025/05/the-eus-ai-power-play-between-deregulation-and-innovation

[3] Paula Helm and Selin Gerlek, *Empirical AI Ethics: Reconfiguring Ethics Towards a Situated, Plural, and Transformative Approach*, September 22, 2025, Cornell University arxiv Computer Science, https://arxiv.org/abs/2509.17727

[4] Plante, Thomas G., and Anna McCreadie. "The Santa Clara Ethics Scale." *Pastoral Psychology* 68 (2019): 321-329. https://doi.org/10.1007/s11089-019-00861-w

This study draws on a survey conducted in Singapore, a particularly instructive setting for examining public attitudes toward AI. As a high-capacity, high-adoption society,[5] Singapore demonstrates strong institutional readiness for AI through state-led initiatives, robust digital infrastructure, and widespread integration across sectors such as finance, healthcare, and education. Key frameworks, including the National AI Strategy 2.0[6] and the Smart Nation 2.0 agenda,[7] have accelerated AI development while deepening its reach across public and private spheres.

However, like many advanced economies, Singapore continues to face persistent social inequalities across education, income, age, and gender.[8] This duality[9] makes it a particularly valuable case study for exploring how ethical engagement interacts with social position to shape public perceptions of AI. Its multicultural social fabric further adds complexity as different groups may interpret technological change and its ethical implications in distinct ways.

The coexistence of advanced technological adoption and enduring social differentiation allows for a nuanced analysis of how individuals engage with AI. In a setting where AI is both highly visible and institutionally embedded, variances in social position are likely to influence not only access to AI but also how individuals perceive its risks, benefits, and moral stakes. As such, Singapore provides a rich empirical setting for examining how ethical engagement intersects with structural inequalities to shape public orientations toward AI.

This study is based on a nationally representative online survey administered in May 2024, comprising 1,014 adult residents aged 21 and above, designed to closely mirror Singapore's broader demographic composition.

Ethical Engagement

Our findings reveal a strong positive association between ethical engagement and multiple dimensions of AI orientation (see Figure 1). Individuals with higher levels of ethical engagement report greater familiarity with AI, more frequent use of AI tools, and stronger support for AI research and development, deployment, and regulation.

The strength of these relationships varies across dimensions. Support for AI regulation shows the strongest association with ethical engagement, followed by support for AI research and development, and support for AI use. This pattern suggests

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[5] Statista Research Department. *Artificial Intelligence (AI) in Singapore - Statistics and Facts*. August 6, 2025. https://www.statista.com/topics/11058/artificial-intelligence-ai-in-singapore/

[6] Smart Nation and Digital Government Office. *National AI Strategy 2.0: AI for the Public Good, for Singapore and the World*. Singapore: Government of Singapore, December 4, 2023. https://file.go.gov.sg/nais2023.pdf

[7] Ministry of Digital Development and Information. *Smart Nation 2.0: A Thriving Digital Future for All*. Singapore: Government of Singapore, October 2024. https://file.go.gov.sg/smartnation2-report.pdf

[8] Ministry of Finance (Singapore). *Occasional Paper on Income Growth, Inequality, and Social Mobility Trends in Singapore*. February 9, 2026.

[9] Han Ei Chew et al., "Unified AI Literacy Framework for Singapore," in *IPS Working Papers No. 71*, February 2026, https://lkyspp.nus.edu.sg/docs/default-source/ips/ips-working-papers-no-71.pdf.

that ethically engaged individuals favour both the robust governance and the advancement of AI. In contrast, familiarity with AI and frequency of AI use exhibit comparatively weaker, but still significant, relationships. Taken together, this pattern of associations indicates that ethical engagement is more closely tied to individuals' attitudes toward AI rather than their direct experience or usage of the technology. Overall, ethical considerations appear to play a prominent role in shaping support-oriented attitudes toward AI.

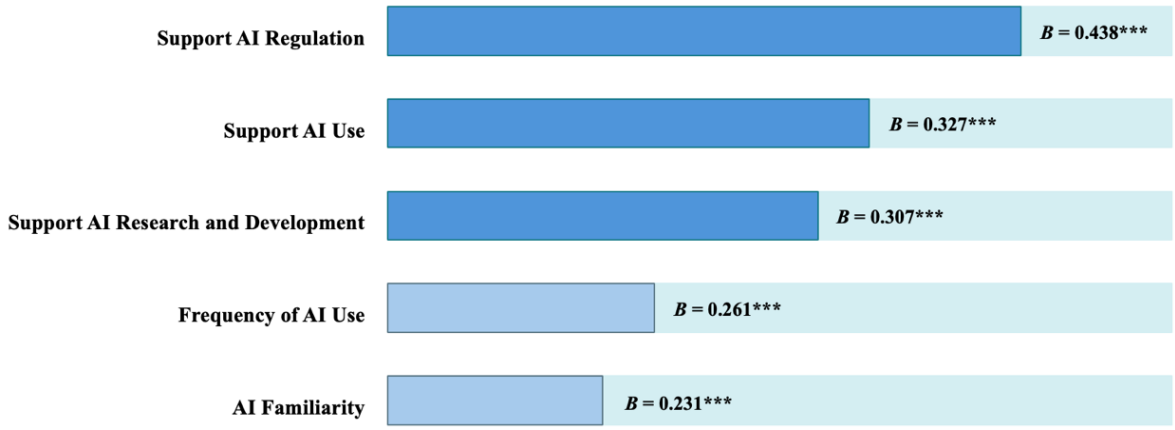

Figure 1: Ethical Engagement's impact on AI orientation

Demographic Gaps

Our findings show that key dimensions of AI orientation are unevenly distributed across different segments of the population (see Figure 2). Education emerges as a strong predictor of AI familiarity, with individuals possessing higher educational attainment reporting greater knowledge of AI concepts and applications. Familiarity is likewise higher among younger, higher-income, and male respondents. A similar pattern appears for AI use, which increases with education and household income, whereas older individuals tend to engage with these technologies less frequently, if at all.

These patterns extend to attitudes toward AI. Individuals with higher education and income demonstrate stronger support for AI research and development and regulation. Support for AI use is also higher among the more educated, with a gender gap reflecting higher usage and support among male respondents. By contrast, support for AI regulation is most strongly associated with age, with older individuals expressing greater support for regulatory oversight.

Together, these trends point to an existing AI divide where socio-demographic factors such as education, income, age, and gender, shape both engagement with and attitudes toward AI.[10] Recognising these disparities can inform policymakers, educators, and industry stakeholders in designing more inclusive outreach and

[10] Karryl Kim Sagun Trajano et al., *Navigating Public Opinion on AI in Singapore* (2025), https://rsis.edu.sg/wp-content/uploads/2025/09/PR_Navigating-Public-Opinion-on-AI-in-Singapore-Awareness-Perceptions-and-Vulnerabilities-.pdf

education efforts. Targeted interventions can help address gaps in access, skills, and awareness, thus improving AI literacy across different groups. Such efforts are crucial not only for broadening participation, but also for ensuring that the benefits of AI are more equitably distributed and that diverse demographic perspectives are represented in its ongoing development, deployment, and governance.

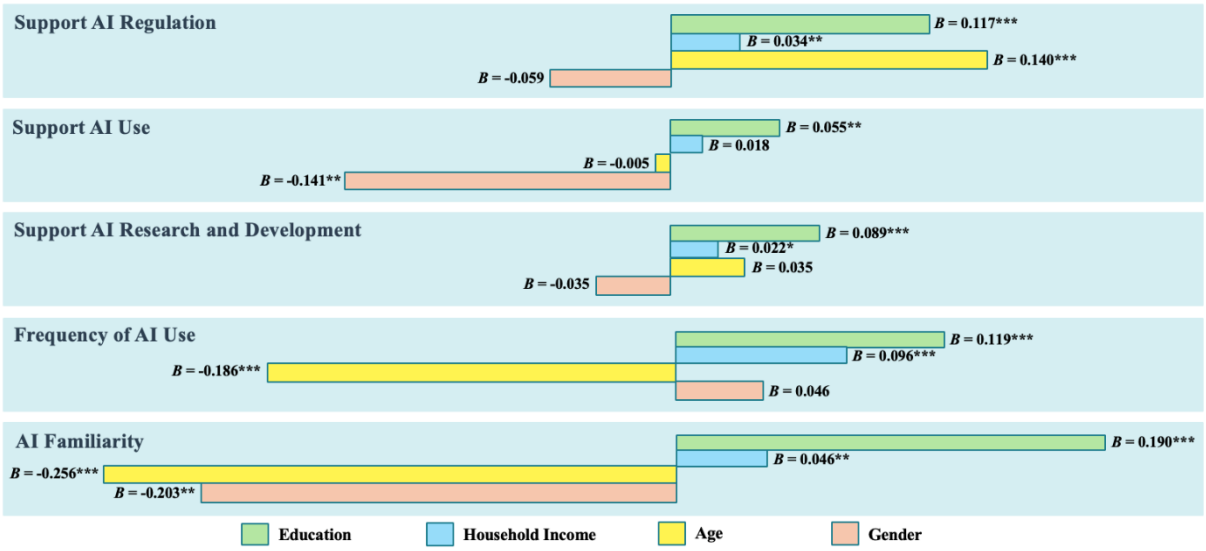

Figure 2: Demographic predictors of AI Orientation

Discussion

Our survey found that higher ethical engagement is associated with greater AI familiarity, more frequent use of AI tools, and stronger support for AI research and development, use, and regulation. These results suggest that ethical awareness fosters an informed and active engagement where individuals are attentive to risks while remaining open to AI's potential benefits. Ethically engaged individuals tend to support AI advancements that emphasise responsibility, accountability, and societal benefit. Ethics, therefore, aligns with responsible and constructive participation in AI ecosystems.

One explanation for this relationship is that ethical engagement cultivates a sense of moral responsibility and agency toward technology. Individuals attuned to ethical considerations may be more likely to seek out information about AI, experiment with its applications, and form considered views on its governance. This aligns with broader theories of civic engagement,[11] which posit that individuals who feel morally invested in an issue are more likely to participate in related practices and debates. In this sense, ethical engagement may serve as a bridge between awareness and action, encouraging not only greater usage of AI but also more critical and constructive forms of involvement.

[11] Goetting, Katharina, and Sophia Becker. "Explaining political participation intention through the lens of the civic voluntarism model and extended theory of planned behavior." Journal of Cleaner Production 519 (2025): 145437.

At the same time, our analysis reveals a stratified landscape of AI engagement, where access to knowledge, usage, and support for AI are unevenly distributed across socioeconomic and demographic lines. Education and income emerge as key enabling factors, indicating that individuals with greater resources are better positioned to understand, adopt, and engage meaningfully with AI technologies. Higher educational attainment enhances technical competence and the ability to interpret, evaluate, and contextualise AI systems, enabling more informed decision-making and use. Likewise, higher income facilitates access to devices, platforms, and learning opportunities that support engagement with AI. These patterns reflect broader dynamics of digital inequality, in which existing social and economic advantages are reproduced in emerging technological contexts, potentially widening gaps in access, influence, and opportunity.

In addition, the inverse relationship between age and several dimensions of AI orientation points to generational divides, leaving older individuals at risk of being excluded from the practical benefits of AI. This gap is not merely a matter of preference, but often reflects structural and cognitive barriers, including lower digital literacy, limited exposure to AI tools, and system designs that tend to favour younger, more digitally fluent users.[12] Such disparities carry important implications for social inclusion, workforce participation, and the equitable distribution of AI's benefits.

Interestingly, while younger individuals are more active users of AI, older individuals demonstrate stronger support for AI regulation. This likely reflects heightened concerns among older cohorts about risks, ethical implications, or societal impacts, pointing to differing priorities across age groups.[13]

Gender differences also suggest persistent disparities in AI engagement, rooted in broader patterns of the underrepresentation of women in STEM education and technology-related careers, which can affect both exposure to and confidence in using AI. Although national initiatives such as SkillsFuture[14] have expanded opportunities for digital upskilling, women's participation may still be constrained by structural and cultural barriers, including workplace inequities and disproportionate caregiving responsibilities.[15]

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[12] Karryl Kim Sagun Trajano et al., *Navigating Public Opinion on AI in Singapore* (2025), https://rsis.edu.sg/wp-content/uploads/2025/09/PR_Navigating-Public-Opinion-on-AI-in-Singapore-Awareness-Perceptions-and-Vulnerabilities-.pdf

[13] Taberez Ahmed Neyazi et al., "Understanding User Interactions and Perceptions of AI Risk in Singapore," *Big Data & Society* 10, no. 2 (2023), Sage Journals, https://doi.org/10.1177/20539517231213823.

[14] SkillsFuture, "SkillsFuture Singapore," SkillsFuture SG, https://www.skillsfuture.gov.sg/.

[15] Milieu, "The Invisible Load: How Caregiving Is Holding Back Women Across Southeast Asia," Milieu, March 2, 2026, https://www.mili.eu/sg/insights/invisible-load-caregiving-women-southeast-asia-2026; NTU, "Study Sheds Light on Challenges Faced by Singapore Women in STEM," Corporate NTU, April 7, 2022, https://www.ntu.edu.sg/news/detail/study-sheds-light-on-challenges-faced-by-singapore-women-in-stem ; Stephanie Yeo, "Women in Stem Industries: Fewer Than 1 in 4 Believe They Have Support to Succeed," *Straits Times*, June 2025, https://www.straitstimes.com/life/women-in-stem-less-than-a-quarter-believe-they-have-the-support-to-succeed-says-survey

Such differences are less about individual preference and more about unequal access to opportunities and resources, carrying critical implications beyond individual engagement. Uneven familiarity and confidence with AI can shape who influences its development, critiques its impacts, and benefits from its applications. This raises concerns about whose voices are represented in AI governance and whose interests are prioritised in its deployment. Without deliberate intervention, AI risks reinforcing existing social hierarchies rather than mitigating them.

These findings underscore the importance of situating AI governance within broader social and ethical contexts. Advancing human-centred AI requires more than technical innovation; it demands sustained investment in ethical education, inclusive AI literacy, and context-sensitive public engagement. AI literacy efforts should go beyond functional skills to include critical and ethical dimensions,[16] equipping individuals to assess the societal implications of AI and meaningfully participate in shaping its trajectories. At the same time, targeted interventions must address structural barriers faced by underrepresented groups[17] to ensure more equitable access to AI knowledge and opportunities.

By conceptualising ethics as a bridge to responsible AI engagement, this study provides empirical insight into how individuals navigate the moral dimensions of AI. It suggests that cultivating ethical engagement can foster not only constructive civic buy-in, but also more thoughtful, inclusive, and accountable forms of technological development. In doing so, it points toward pathways through which AI can support learning, civic participation, and more equitable technological futures.

Policy Recommendations

Singapore's AI governance must continue to evolve to reflect the ethical engagement already demonstrated by its citizens, while actively dismantling structural barriers to meaningful participation. These recommendations position ethical awareness as a critical enabler of trust, legitimacy, and sustained public support for AI.

First, AI ethics education could be systematically embedded across all levels of society. Study findings suggest that ethical engagement is strongly associated with support for AI governance, indicating that fostering ethical reasoning is as important as building technical capability. This calls for the integration of AI ethics and literacy across age groups, underpinned by a standardised national AI ethics competency framework. Such a framework would establish clear benchmarks for ethical reasoning across educational and professional contexts, ensuring consistency and coherence in how AI ethics is taught and assessed nationwide. Existing programmes could be expanded to include ethical reasoning components, while public education efforts,

[16] Siobhán Wittig McPhee and Micheal Jerowsky, "Beyond Technical Skills: A Pedagogical Perspective on Fostering Critical Engagement with Generative AI in University Classrooms," *Frontiers in Education* 10, September 2025, frontiers, https://doi.org/10.3389/feduc.2025.1593278.

[17] Stephanie Yeo, "Women in Stem Industries: Fewer Than 1 in 4 Believe They Have Support to Succeed," *Straits Times*, June 2025, https://www.straitstimes.com/life/women-in-stem-less-than-a-quarter-believe-they-have-the-support-to-succeed-says-survey

including school curricula, could further situate AI ethics within broader concepts of citizenship and social responsibility.

The institutional foundation for this is already taking shape. The Ministry of Education has recently begun incorporating AI literacy into the curriculum more systematically.[18] Similar efforts are being made at university level to reduce the AI access gap and ensure graduates are prepared to use AI responsibly in the workplace.[19] Nanyang Technological University, for example, allows generative AI use in assignments provided students declare it, verify its accuracy, and appropriately cite sources.[20] It also requires first-year students to complete "Science and Technology for Humanity", a course that covers AI literacy and ethical evaluation,[21] and offers programmes such as a Bachelor of Science in AI and Society[22]and a Certificate in AI Ethics and Governance.[23]

The National University of Singapore similarly requires the "IS1108 Digital and AI Ethics" course[24] for computing students and offers a Bachelor of Computing in Business AI Systems with a dedicated AI Governance and Management specialisation.[25] These initiatives enable universities to act as curators of trustworthy knowledge[26] while equipping students with the critical thinking skills needed to navigate an increasingly AI-driven environment.[27]

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[18] The Straits Times, "Forum: Schools introduce AI in approach that is age- and development-appropriate." April 13, 2026. https://www.straitstimes.com/opinion/forum/forum-schools-introduce-ai-in-approach-that-is-age-and-development-appropriate

[19] Phong Ngo, "Asia's Third Best University to Require AI Literacy for All Students," *VnExpress International*, April 12, 2026, https://e.vnexpress.net/news/tech/tech-news/asia-s-third-best-university-to-require-ai-literacy-for-all-students-5061613.html

[20] Nanyang Technological University Singapore, "Comment on the Use of AI in Education," *Corporate NTU*, June 24, 2025, https://www.ntu.edu.sg/news/detail/comment-on-the-use-of-ai-in-education.

[21] Phong Ngo, "Asia's Third Best University to Require AI Literacy for All Students," *VnExpress International*, April 12, 2026, https://e.vnexpress.net/news/tech/tech-news/asia-s-third-best-university-to-require-ai-literacy-for-all-students-5061613.html

[22] EDB Singapore, "NTU Offers New Degree and Scholar Programmes in AI, Plans to Invest $4M to Boost AI Education," EDB Singapore, Straits Times , February 27, 2024, https://www.edb.gov.sg/en/business-insights/insights/ntu-offers-new-degree-and-scholar-programmes-in-ai-plans-to-invest-4m-to-boost-ai-education.html

[23] Nanyang Technological University Singapore, "Certificate in AI Ethics and Governance," Academy for Professional and Continuing Education, https://www.ntu.edu.sg/pace/for-individuals/fleximasters/certificate-in-ai-ethics-and-governance.

[24] National University of Singapore Computing, "Bachelor of Computing in Business Artificial Intelligence Systems," NUS Computing, https://www.comp.nus.edu.sg/programmes/ug/bais/curr/; National University of Singapore, "School of Computing Common Curriculum," NUS Computing, https://www.comp.nus.edu.sg/cug/soc-22-23/#appendix-a-computing-ethics-course

[25] National University of Singapore, "School of Computing Common Curriculum," NUS Computing, https://www.comp.nus.edu.sg/cug/soc-22-23/#appendix-a-computing-ethics-course

[26] Simon Chesterman and Hui Chieh Loy, "Research Integrity and Academic Authority in the Age of Artificial Intelligence: From Discovery to Curation?," arXiv, January 9, 2026, https://arxiv.org/pdf/2601.05574

[27] Ibid.

Second, targeted interventions are necessary to address persistent inequalities in AI access and participation. The observed disparities across education, income, age, and gender reflect embedded demographic patterns rather than isolated anomalies, raising concerns that digital stratification may widen in the AI era. Policy responses could therefore include gender-sensitive AI literacy initiatives, expanded outreach to older Singaporeans through community platforms, and income-sensitive subsidies for devices, connectivity, and training. An AI equity index, supported by regular demographic data collection, could also help monitor gaps and guide the design of more targeted interventions. Public-private-academic partnerships could further strengthen the development and implementation of these efforts.

Third, expanding agency consultations to include civil society, community groups, and vulnerable populations could strengthen the legitimacy and responsiveness of AI governance.[28] Broader engagement helps policymakers better capture lived experiences, especially from groups most affected by digital harms or regulatory change, and surfaces context-specific risks that top-down approaches may miss. Inclusive consultation processes can also build public trust and improve compliance by fostering shared ownership over regulatory outcomes. Complementary measures could include a demographically representative citizens' AI advisory panel and accessible public dashboards explaining AI use in key public services.

Fourth, Singapore could enhance governance standards for high-impact public-sector AI applications. While current frameworks are largely voluntary, sectors such as social services, healthcare, and law enforcement may increasingly require enforceable safeguards. A tiered regulatory approach could set stricter obligations based on system risk, with mandatory requirements for transparency, accountability, and contestability in high-impact use cases. Public agencies could also publish plain-language AI impact statements and undergo regular independent audits aligned with existing national frameworks.

Finally, Singapore can leverage its position as a trusted intermediary to shape regional and global AI governance. Regionally, it could continue to drive ASEAN cooperation on AI governance framework, utilising its domestic models as capacity-building blueprints for neighbouring economies. Internationally, it can champion pragmatic accountability arrangements with multinational firms and contribute Southeast Asian perspectives to global forums. In doing so, domestic legitimacy, anchored in ethical engagement and inclusive governance, will serve as the foundation for credible international leadership.

These recommendations underscore that equity and ethical engagement are central to Singapore's AI future. By investing in education, expanding participation, and strengthening institutional safeguards, Singapore can strengthen domestic trust and position itself as a model for contextually grounded and globally relevant AI governance.

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[28] Kannan Ramesh et al., "Applying Ethical Principles for Artificial Intelligence in Regulatory Reform," in *Singapore Academy of Law, Law Reform Committee*, ed. Simon Constantine (2020), https://sal.org.sg/wp-content/uploads/2025/02/2020-Applying-Ethical-Principles-for-AI-in-Regulatory-Reform_ebook.pdf

Conclusion

This study demonstrates that ethical engagement is a critical driver of informed and sustained public support. In Singapore's context, where institutional capacity and technological adoption are already high, ethically engaged individuals emerge as key enablers of responsible AI development, use, and governance. At the same time, structural inequalities across education, income, age, and gender highlight that access to AI, and the ability to shape its trajectories, remain uneven. Left unaddressed, these socio-demographic disparities risk narrowing civic participation in AI ecosystems and reinforcing existing social divides.

These findings point to a clear policy direction: advancing responsible AI in Singapore requires investment in ethical capability and social inclusion. Strengthening ethical education, closing AI literacy gaps, broadening public participation, and reinforcing governance mechanisms are essential to sustaining trust and legitimacy. Singapore can continue to anchor its AI strategy in trust, pragmatism, and inclusivity, positioning itself not only as a technologically advanced hub, but as a model for responsible and equitable AI governance in an increasingly complex global landscape.

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