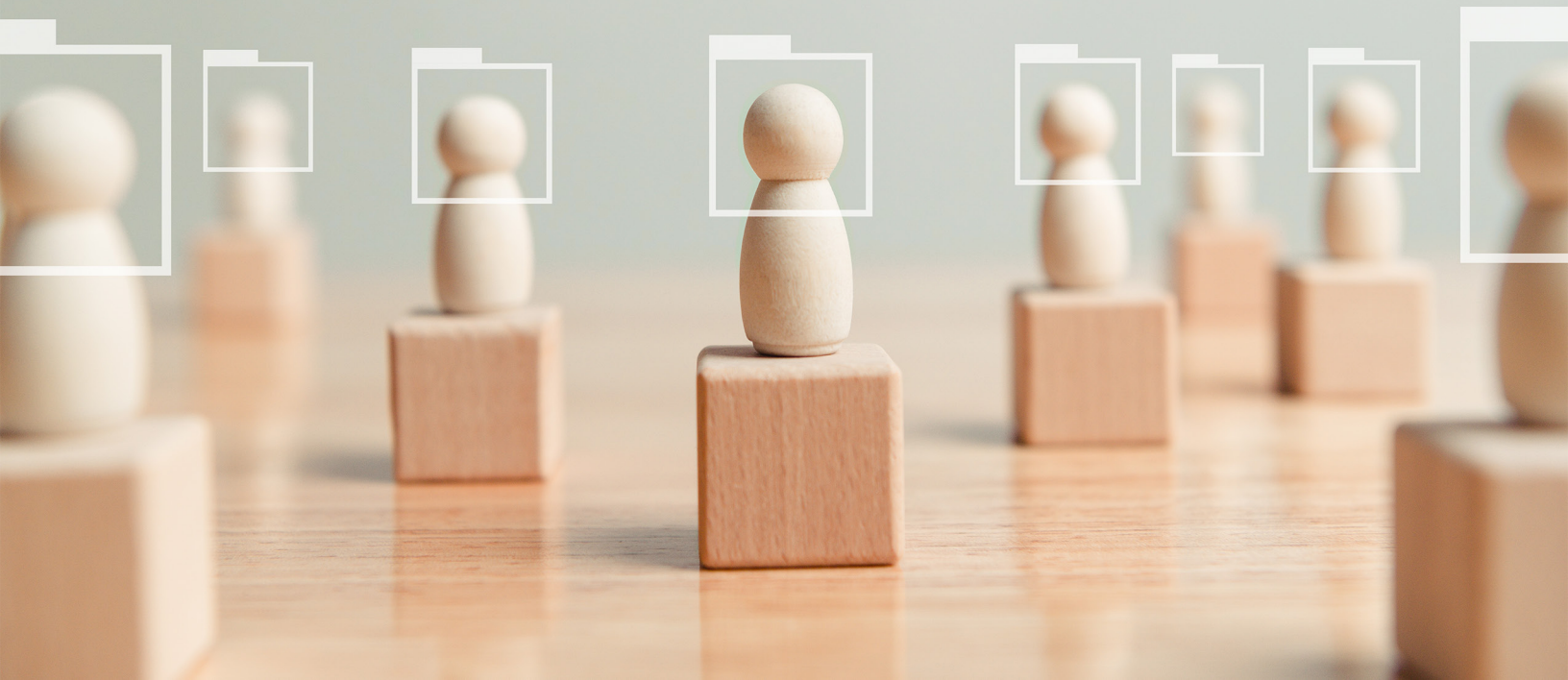
Centre for International
Governance Innovation

CIGI Papers No. 283 — September 2023

Missing Persons
The Case of National AI Strategies

Susan Ariel Aaronson and Adam Zable



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67 Erb Street West
Waterloo, ON, Canada N2L 6C2
www.cigionline.org

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About the Authors

Susan Ariel Aaronson is a CIGI senior fellow, research professor of international affairs at George Washington University (GWU) and co-principal investigator with the NSF-NIST Institute for Trustworthy AI in Law & Society, where she leads research on data and AI governance.

Susan is also director of the Digital Trade and Data Governance Hub at GWU. The Hub was founded in 2019 and educates policy makers, the press and the public about data governance and data-driven change through conferences, webinars, study groups, primers and scholarly papers. It is the only organization in the world that maps the governance of public, proprietary and personal data at the domestic and international levels. The Hub's research has been funded by foundations such as Ford and Minderoo.

Susan directs projects on mapping data governance and writes on AI protectionism, public participation in AI governance, extended reality competitiveness, data as a global public good and international economic developments. She regularly writes op-eds for *Barron's* and has commented on economics for NPR's *Marketplace*, *All Things Considered* and *Morning Edition*, and for NBC, CNN, the BBC and PBS.

Previously, Susan was a guest scholar in economics at the Brookings Institution (1995–1999) and a research fellow at the World Trade Institute (2008–2012). Susan was also the Carvalho Fellow at the Government Accountability Project and held the Minerva Chair at the National War College. She has served on the business and human rights advisory board at Amnesty International and the advisory board of Human Rights under Pressure, a joint German and Israeli initiative on human rights.

In her spare time, Susan enjoys triathlons and ballet.

Adam Zable is a policy researcher focused on the intersection of emerging technologies, data governance and public policy. As the director of emerging technologies at the Digital Trade and Data Governance Hub in Washington, DC, he initiated the Global Data Governance Mapping Project and orchestrated an international conference on technology policy. Adam holds a master of public policy from the Willy Brandt School of Public Policy in Germany, where his thesis was on data sharing and public value.

Executive Summary

Governance requires trust. If policy makers inform, consult and involve citizens in decisions, policy makers are likely to build trust in their efforts. Public participation is particularly important as policy makers seek to govern data-driven technologies such as artificial intelligence (AI). Although many users rely on AI systems, they do not understand how these systems use their data to make predictions and recommendations that can affect their daily lives. Over time, if they see their data being misused, users may learn to distrust both the systems and how policy makers regulate them. Hence, it seems logical that policy makers would make an extra effort to inform and consult their citizens about how to govern AI systems.

This paper examines whether officials informed and consulted their citizens as they developed a key aspect of AI policy — national AI strategies. According to the Organisation for Economic Co-operation and Development (OECD), such strategies articulate how the government sees the role of AI in the country and its contribution to the country's social and economic development. They also set priorities for public investment in AI and delineate research and innovation priorities. Most high-middle-income and high-income nations have drafted such strategies. Building on a data set of 68 countries and the European Union, the authors used qualitative methods to examine whether, how and when governments engaged with their citizens on their AI strategies and whether they were responsive to public comment.

The authors did not find any country that modelled responsive democratic decision making in which policy makers invited public comment, reviewed these comments and made changes in a collaborative manner. As of October 2022, some 43 of the 68 nations and the EU sample had an AI strategy, but only 18 nations attempted to engage their citizens in the strategy's development. Moreover, only 13 of these nations issued an open invitation for public comment and only four of these 13 provided evidence that public inputs helped shape the final text. Few governments made efforts to encourage their citizens to provide such feedback. As a result, in many nations, policy makers received relatively few comments. The individuals who did comment were generally knowledgeable about AI, while the general public barely participated. Policy makers are therefore missing an opportunity to build trust in AI by not using this process to involve a broader cross-section of their constituents.

Introduction

The world's people are at a crossroads in governing AI. AI can be defined as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments.[1] AI systems are often global, and demand for AI products and services is growing among business, government and civil society.[2]

AI systems hold enormous potential to enhance human capacity, increase productivity, catalyze innovation and help mitigate complex problems. However, public concern about AI systems is on the rise.[3] AI systems are often designed and deployed in an opaque manner that many users cannot see. Moreover, individuals may struggle to understand how these systems make decisions and thus, they are unlikely to trust these processes. If policy makers want to encourage continued development and use of these systems, these same officials have a responsibility to inform, consult and involve their citizens about how AI is designed, developed and deployed.

Trust is situational and relational and not easy to define. Scholars agree that trust underpins all human contacts and institutional interactions. Moreover, they note that once trust is lost or eroded, it is not easy to regain (OECD 2022; Kumagai and Iorio 2021). AI deployers and policy makers alike therefore have a stake in ensuring that AI is trustworthy (The Future Society and EYQ 2022).

This paper examines if governments inform and involve their citizens as they develop a key aspect

1 The OECD's definition has been used because it is internationally accepted (OECD 2019).

2 According to Fortune Business Insights (2022), the global AI market size is projected to grow from US$387.45 billion in 2022 to US$1,394.30 billion in 2029.

3 As an example of public concerns, see Rainie et al. (2022); while few experts see ethical AI adoption as a comprehensive solution, see Rainie, Anderson and Vogels (2021).

of AI policy — national AI strategies. Although the OECD tracks such strategies as part of its efforts to encourage trustworthy AI, the OECD does not explicitly define what constitutes an AI strategy. The OECD does, however, delineate the objective of such strategies. On its website, OECD.AI, it notes such strategies articulate a government's vision regarding AI's contribution to the country's social and economic development. These strategies set priorities for public investment and identify what research taxpayers should fund and what regulatory steps policy makers should take.[4]

The OECD notes that governments often involve their stakeholders to obtain input on the design of their national AI policies and strategies. "Public consultations leverage different tools including interviews, surveys, online discussion fora and events such as hearings, workshops, seminars, focus groups and conferences.... Expert consultations usually help define the issues, formulate policy objectives and, in some cases, assess policy effectiveness. In addition to expert consultations, countries such as Canada or Chile engage citizens to ensure that a diverse range of perspectives is considered" (Galindo, Perset and Sheeka 2021, 7). Consequently, government AI strategies are multidimensional and reflect compromise among a wide range of actors inside and outside government (Osborne and Plastrik 1997).

Nations take different approaches to these strategies, as shown by various attempts to map and compare them (Dutton 2018; Struett 2019; Struett 2020; Saran, Natarajan and Srikumar 2018; Tortoise Media n.d.; Fjeld et al. 2020; Stanford 2021, 5). For example, Singapore's AI strategy aims to "identify areas to focus attention and resources on at a national level; set out how the Government, companies and researchers can work together to realize the positive impact from AI, and address areas where attention is needed to manage change and/or manage new forms of risks that emerge when AI becomes more pervasive."[5] In contrast, the United Kingdom's AI strategy aims to: "1. Invest and plan for the long-term needs of the AI ecosystem to continue our leadership as a science and AI superpower; 2. Support the transition to an AI-enabled economy, capturing the benefits of innovation in the UK, and ensuring AI benefits all sectors and regions; and 3. Ensure the UK gets the national and international governance of AI technologies right to encourage innovation, investment, and protect the public and our fundamental values."[6]

In 2021, the authors, as staff at the Digital Trade and Data Governance Hub at George Washington University, developed a metric of data governance around the world. The metric (as of December 2022) covers 68 countries and the European Union, and examines how nations govern three types of data — public, personal and proprietary data.[7] AI strategies are one of the 26 indicators of data governance, and it became the key source of data to begin the present research. In describing this indicator, the Hub noted: "AI strategies outline a national vision for how a nation can build and/or maintain its ability to create and utilize AI for commercial as well as societal use. They often provide guidance to government agencies, discuss investments in AI research and development, and discuss the role of government in developing standards and the rule of law for this emerging technology" (Zable, Struett and Aaronson 2022, 4).

Building on previous efforts to map data, the goal was to understand whether, when and how governments engaged their publics in the development of AI strategies, and then to identify which citizens participated. The authors also examined whether governments developed inclusive processes to seek public comment, and if governments responded to citizen concerns.

As of October 2022, some 43 of the 68-nation and EU sample had an AI strategy, but only 18 attempted to engage their citizens in the strategy's development. Moreover, only 13 of these nations issued an open invitation for public comment. Only four countries — Chile, Germany, the United States and Uruguay — indicated how they changed their strategies in response to public comments. Although some acknowledged the comments they received, most governments did

4 See https://oecd.ai/en/dashboards/policy-instruments/National_strategies_agendas_and_plans.

5 See www.smartnation.gov.sg/initiatives/artificial-intelligence/.

6 See www.gov.uk/government/publications/national-ai-strategy/national-ai-strategy-html-version.

7 The metric includes six attributes of data governance: strategies; laws and regulations; structural changes (has the government created new bodies or tasked individuals/groups to monitor or enforce data governance); human rights and ethical guidelienes; whether they consult their public in at least one area of data governance; and mechanisms for international cooperation.

not make changes in response to the comments that they received. In most nations, moreover, few people commented and those who did were knowledgeable about AI and willing and able to articulate their concerns. Hence, policy makers are missing an opportunity to build trust in AI by not using this process to involve a broader cross-section of their constituents. AI governance may be aimed at the people, but it is not by the people.

AI, Trust and Governance

AI has become a part of daily life for many users. They interact with AI systems as they work, shop, learn and seek companionship. In recent years, AI systems have become so humanlike that, in many instances, users do not know if they are interacting with an AI such as a chatbot (PEGA 2017). Even the people who design AI systems may not understand how that algorithm makes predictions, recommendations or decisions (Rainie et al. 2022; Ammanath n.d; Li et al. 2022), because AI is developed using algorithms that create an opaque decision tree (Rudin and Radin 2019). Not surprisingly, AI may seem untrustworthy to members of the general public.

As with every innovation, AI systems reflect the normative judgments of those who design and develop the systems. Until recently, few developers and designers were trained to create systems that can effectively weigh ethical and moral factors as they make predictions, recommendations or decisions.[8] But AI systems are unable to consider context or nuance, or more broadly to effectively make value-based judgments (Kapoor and Narayanan 2022). Moreover, users and deployers cannot see how designers and developers incorporate normative judgments. Because of this opacity, designers, developers and deployers must develop ways to show the public that their systems are reliable, accountable and trustworthy, and these systems must exhibit and sustain trustworthy behaviour if designers and deployers want end users to accept AI. Thus, growing numbers of people involved in the development of AI now believe that public involvement in the design, deployment and governance of AI is essential, because it can give citizens a voice and a measure of control over AI systems. Without such a feedback loop, society is unlikely to accept AI (Stanton and Jenson 2021; Birhane, Issac et al. 2022).[9]

Meanwhile, citizens expect government officials to design public policies that allow society to reap the benefits of AI while simultaneously protecting users from harm.[10] In recent years, policy makers have created a diverse set of

Box 1: What Is Trustworthy AI?

It was not possible to find a widely accepted definition for "trustworthy AI" because trust is a normative concept. Policies designed to inspire trust in one country may not yield trust in another. The OECD has, however, tried to come up with an internationally accepted definition — it defines trustworthy AI as "AI systems that embody the OECD AI Principles; that is, AI systems that respect human rights and privacy; are fair, transparent, explainable, robust, secure, and safe; and the actors involved in their development and use remain accountable." The Chinese government has put forward a slightly different definition; although it has committed to adhere to the OECD AI Principles, AI trustworthiness "reflects the trustworthiness of AI systems, products, and services in terms of security, reliability, explainability, and accountability. Trustworthy AI implements ethical governance requirements from the perspective of technology and engineering practice to achieve an effective balance between innovative development and risk governance."

Sources: OECD (2021, 6); China Academy of Information and Communications Technology [CAICT] and JD Explore Academy (2021, 4–5).

8 See Stavrakakis et al. (2022); Matteo and Cotton (2022); de Witte (2022).

9 Both the US National Institute of Standards and Technology (NIST) and the National Science Foundation support research in participatory AI. See NIST (n.d.; 2022; 2023); https://beta.nsf.gov/funding/opportunities/nsf-program-fairness-artificial-intelligence; and https://oecd.ai/en/catalogue/tools/participatory-ai-framework.

10 See Tschopp and Quadroni (2022).

national and international initiatives to ensure trustworthy AI, ranging from shared principles to regulations (Turner Lee and Lai 2022; Djeffal 2021).

Policy makers are responding to these concerns about trust and AI for many reasons. First, they understand that AI systems are now essential to national security,[11] a key responsibility for all governments (International Telecommunication Union 2018). Second, they understand how AI could yield prosperity. AI underpins other emergent technologies such as virtual assistants, while firm investments in AI can improve productivity and innovation. Nations need AI capacity to reap the benefits of data analytics and other forms of data-driven change (Yang 2022; Cockburn, Henderson and Stern 2018). Policy makers also recognize that AI also holds great promise to help mitigate wicked problems such as climate change (Aaronson 2020).

But policy makers' actions to promote AI can also undermine AI and trust in government. Government officials that misuse or allow firms to misuse these systems can, with or without intent, undermine human rights, particularly those of marginalized individuals and communities (Heikklä 2022). Researchers have found that these groups often face disproportionate harms and discrimination from AI systems (see, for example, Birhane, Ruane et al. 2022; Borgesius 2018). Public concern about these negative effects is leading to distrust in AI (Bryson 2022). Not surprisingly, influential groups in business, government and civil society are demanding policy makers take steps to build and sustain trust in AI (Porway 2021).[12]

Policy makers can build trust in governance by collaborating with their own constituents on solutions or mitigating strategies to the many problems they confront. But citizen engagement is not easy. In democracies, citizens are simultaneously economic, political and social actors and, as such, tend to use their limited time, energy and voice on a small range of issues they care about (Olson 1971). AI may not be one of those issues, because of its complexity and opaque nature. However, policy makers in democracies need the blessing of these undermotivated citizens to remain legitimate, which can lead to a "catch-22." As the World Bank notes, "Without citizens' trust in government, formal citizen engagement is unlikely. Without citizens' participation, government's performance will be poor, and trust in government will fall" (Kumagai and Iorio 2020, 14).

Finally, there are many additional benefits to public consultation on complicated issues such as AI. First, the broader public often sees issues from a different angle and may provide new insights to policy makers. Moreover, by consulting a broad swath of its citizenry, the nation may increase regulatory literacy, which, in turn, may yield greater compliance with regulations. Lastly, the feedback loop may ensure that as societal needs and the public interest evolvs over time, policy will evolve too (OECD 2011, 9).

Methodology

The authors examined whether, how and when nations informed and consulted with their citizens about their AI strategies prior to their release. The research strategy was built on the data set mentioned earlier, which includes 26 indicators of data governance practices for 68 countries and the European Union (a total of 69). One of these indicators delineates whether a nation has developed and adopted an AI strategy. These 69 data points formed the data set used for this analysis. The 69 governments in the sample represent a mix of incomes and regions based on the World Bank's categorizations.[13] While the Hub's mapping does not cover every country with an AI strategy, this paper covers many of the ones listed at the OECD (62) and a preponderance of those with AI strategies in the world. However, it is acknowledged that it is not a representative sample of the world's countries.

Other scholars have examined the role of the public in developing AI strategies. In 2022, researchers at Derechos Digitales focused on the process in Brazil, Chile, Colombia and Uruguay, and found that

11 It is so important to the members of the North Atlantic Treaty Organization (NATO) that they too created a strategy for AI, which they call autonomous systems. See NATO (2022).

12 See https://data.org/news/charting-the-data-for-good-landscape/#responsible-ai-advocates.

13 Six countries from each region were chosen that also represented a mix of high, low and middle incomes. This data set can be found at https://datagovhub.elliott.gwu.edu/research/. The World Bank's "regional and income characterization" is available at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.

governments tended to rely on online platforms and email to seek out public opinion. They concluded that the consultative processes they reviewed were inadequate because they were not inclusive toward women, historically marginalized or geographically remote communities, citizens with disabilities or those lacking internet access or other resources. Furthermore, the processes were not collaborative, because officials only asked for public input at a late stage of strategy development. Finally, they noted that most of these Latin American countries were unable to promote informed engagement or follow up (Hernández and de Souza 2022, 43). UNICEF has examined whether and why AI strategies ignore the needs of children. UNICEF researchers used a literature review to explain this gap, but they did not examine whether advocates of children or children were consulted (Penagos Kassir and Vosloo, n.d.). Finally, Janis Wong et al. (2022) explored the use of AI by public administration. The authors worry that without participatory governance, AI systems can easily be misused and, consequently, these systems may fail the people they were supposed to serve.

As these works illuminate, officials that attempt to organize public consultations can face obstacles. It is not always easy to motivate people to participate in consultations that may seem far removed from their day-to-day problems. In addition, government officials may lack the will to incorporate the results into workable policies (Culver and Howe 2003).

This research focuses on the process of consultation. The methodology was based on norms and levels of consultation articulated by the International Association for Political Participation (IAP2). The IAP2 asserts that democracies have shared norms (values) and processes for citizen involvement in democratic decision making. It argues that citizens should be involved in the decision-making process and governments should use their comments as they revise official documents. Moreover, it asserts that policy makers should seek out the public to comment and offer more ways for individuals to participate online and/or in person. Participants should have the information they need to participate in a meaningful way. Finally, policy makers should communicate to the participants how their input affected the decision.[14] The IAP2 has also created a model of levels of participation that range from simply informing the public that they have an AI strategy, to consulting the public, to the highest levels of participation where policy makers collaborate with and empower their constituents.

The investigation began by reviewing the literature and delineating the research questions. For each stage of this research, a qualitative approach based primarily on publicly available information found online was utilized.

One goal was to understand if invitations for public comment inspired a wide range of participants, including non-experts, to provide advice on AI strategies. Following the work of Mancur Olson (1982), the authors made a distinction between organized and unorganized publics. Olson notes that most of the time, most citizens do not participate directly in governance because they believe their individual decisions and votes can have little influence, so they "are rationally ignorant" about public affairs.

But Olson also stresses that the same individual who is not generally politically active can become motivated on a specific issue of concern to themselves or their family. If they work at a coffee shop with irregular hours, they might join a union, or if their child has cancer, they may join the local cancer society. These individuals will likely want that union, civil society group or professional association to influence government on a particular issue of great concern to their ethics or economic situation. This individual is now also a member of the organized public — a group that works to provide its members with important information about issues that can enable the group and its members to thrive (ibid., 26). The organized public includes civil society associations such as Human Rights Watch[15] and the Internet Society, professional associations such as the International Association of Electrical and Electronic Engineers[16] or business associations such as the Computer and Communications Industry Association.[17] They are also referred to as "special interest groups."

Special interest groups are not alike — some are grassroots organizations, driven by members and reflective of activist member opinion, while others

14 The IAP2 aims to advance and extend the practice of public participation through professional development, certification, standards of practice, core values, advocacy and key initiatives with strategic partners around the world. See www.iap2.org/page/corevalues.

15 See www.hrw.org/.

16 See www.ieee.org/about/ieee-history.html.

17 See Computer and Communications Industry Association (2022).

are more staff-driven. Yet they play a major role in public policy in democracies (ibid.). First, they often hire lobbyists to ensure their interests are heard. Second, representatives of unions, firms and professional associations are asked to testify or to join advisory bodies. In so doing, they can develop relationships with parliamentary or legislative staff who often move on to lobbying or policy jobs in such organizations (Center for American Progress 2017). But in general, these organizations are listened to and have more opportunities to be heard by policy makers (Anderson 1991). In contrast, the unorganized public speaks to policy makers only when asked.

Hence, the authors examined consultations involving both the organized public and the unorganized public, and not those open solely to experts. It is difficult, however, to distinguish why a person participated and under what identity because individuals are multidimensional. Person A can simultaneously be an expert on AI as well as a citizen who may not care to comment on the governance of AI. In contrast, person B may be a member of Human Rights Watch who is also an expert on big data and who actively comments on AI governance.

Next, the authors delineated AI strategies as a statement of the country's vision for AI in the economy (and often in the polity). The objective was to make the definition as broad as possible to include a wide range of strategies governments created to obtain public comment; therefore, the authors included formal as well as informal government consultations. A formal consultation was defined as one that was officially published or released and included a verifiable process wherein the public was formally invited to provide comments. Next the authors categorized consultations as informal if they lacked an official invitation, such as those releasing a discussion paper without explicit requests or means to provide feedback, or if they sought feedback or provided avenues for contribution only after the official strategy's publication.

The authors considered only those strategies embodied in a single, authoritative document. If a country held a consultation for an element that might serve as part of its overall "strategy" for AI, but not for its national strategy document, it was not counted. For example, Colombia produced multiple documents and initiatives, rather than relying on one unifying document for its national AI strategy. Thus, Colombia was not counted in the analysis (República de Colombia Departamento Nacional de Planeación 2019).

It should be noted that AI strategies are living documents and governments at times update such strategies. Once the authors determined which documents were to be included as AI strategies and which countries had public consultations (Australia, Brazil, Chile, France, Germany, India, Indonesia, Ireland, Italy, Jordan, Malaysia, Norway, Peru, Poland, Türkiye, the United Kingdom and Uruguay), the authors began to focus on defining the research questions (see Box 2).

Box 2: Research Questions

1. How and when did the government engage with its citizens in the creation and adoption of the national AI strategy?
2. What materials did the government provide to prepare/enable the public to give informed advice on the AI strategy?
3. Did the government make efforts to ensure a broad cross-section of people knew about and could comment on the strategy?
4. Who participated in the engagement processes?
5. Did the government provide evidence that it made use of the feedback it received?

Next, data was gathered on these 18 cases of national AI strategies that had a public consultation. With such data, the authors were able to develop 14 indicators to use to characterize answers to the five research questions (see Table 1).

To supplement the data gathering, the authors contacted various agencies and individuals responsible for the strategy's development. However, despite this feedback and reliance on public information, the analysis may include incomplete information.

Finally, the authors condensed the answers to the indicators for each of the 18 countries into answers for each research question. That information was

Table 1: Indicators

Research Questions	Indicators
How and when did the government engage with its citizens in the creation and adoption of the national AI strategy?	Was there a formal government consultation open to the unorganized public?
	Did the government consult a closed group of experts, at least one of whom was a representative of a civil society group?
	Did the government engage the public in settings outside the formal consultation, for example, workshops or round tables?
	Was there public input on the initial stage of the development of the AI strategy?
	Was there public engagement prior to the release of the final/official strategy?
	Were there multiple stages of public engagement, often resulting in the publication of interim or draft documents before the official strategy?
What materials did the government provide to prepare/enable the public to give informed advice on the AI strategy?	Did the government provide any relevant background documents in its formal consultation(s)?
	Did the government provide adequate information to participants of other engagement mechanisms?
Did the government make efforts to ensure a broad cross-section of people knew about and could comment on the strategy?	Were there both online and offline options for participation?
	Were there any efforts to promote the inclusion of communities facing specific difficulties, such as people with disabilities, or to promote the inclusion of historically marginalized groups?
Who participated in the engagement processes?	Was it possible to identify participants by seeing the comments and/or who made them?
	Did the government release a summary or other report detailing the comments that included information about the makeup of the respondents?
Did the government provide evidence it made use of with the feedback it received?	Did the government acknowledge the comments it received, either in the strategy itself or elsewhere?
	Did the government explain how it incorporated comments into the strategy?

Source: Authors.

synthesized into the case studies in an Annex.[18] No assessment was made on whether these countries had an effective consultation. The findings and background data will be available at the Digital Trade and Data Governance Hub research website, under Public Participation in AI Strategies.

Findings

The five research questions enabled an assessment of whether, how, when, who and to what extent nations consulted with their public on their AI strategy (see Box 2). In this section, the authors summarize answers to each research question. For country-specific information, please see the Annex.[19]

1. How and When Did the Government Engage with Its Citizens in the Creation and Adoption of the National AI Strategy?

The authors found significant variation in how and when nations engaged with their citizens on their AI strategies. Twelve nations from the sample of 18 adopted a similar process in developing their AI strategy. They began by convening experts from business, professional associations and government. Six of these nations (Chile, Indonesia, Italy, Peru, the United Kingdom and Uruguay) convened a working group or expert committee while another six (Australia, Brazil, France, Germany, Poland and Türkiye) consulted individual experts. They then expanded the circle of those consulted in the hope of receiving comments from a wide range of citizens (OECD 2022). Following this expert input, Australia, Brazil, Chile, Germany, Italy, Poland, the United Kingdom and Uruguay then produced a draft strategy or a discussion paper focused on what a strategy could include.

Six other nations in the sample took a different approach. Türkiye consulted experts and then released the official strategy; India, Indonesia and Peru released what they called a "draft" strategy that serves as their official strategy. France, Ireland, Malaysia and Norway did not produce a working document, but held public consultations before releasing the official strategy. Jordan announced its official strategy after the analysis was finished.[20]

Some 13 nations (Australia, Brazil, Chile, France, Ireland, Italy, Jordan, Norway, Peru, Poland, the United Kingdom, the United States and Uruguay) held formal public consultations at some point in the process of developing a strategy. Interestingly, these nations differed in how and when they sought public comment. Some governments obtained public input through a survey; others requested comments on the draft strategy or discussion paper produced by the expert group; others asked for comments on broad regulatory issues or, in Norway's case, simply issued an open invitation to submit input on the subject (Norway Ministry of Local Government and Modernisation 2019). Some of the 13 also organized workshops, focus groups and round tables. Seven of these governments claimed they held such additional events (Australia, Chile, Indonesia, Ireland, Malaysia, Türkiye and the United Kingdom), but in three cases (Indonesia, Ireland, Türkiye), no mention of them could be found outside the strategy text. Malaysia held virtual town halls and virtual focus group discussions (Jamil 2021), and Chile, in addition to its release of a tentative index for comment, held numerous regional and self-convened workshops around the country.[21] Some nations also held conferences (Australia, Malaysia, Poland), webinars (Chile, Poland) and other events with partners (United Kingdom), to inform the general public about the AI strategy and its development. Norway followed its open call for comments from the public with a series of in-person meetings between the minister of digitization and various stakeholder groups. Italy held two public consultations on separate draft strategies (Canna 2021). Uruguay asked for public comment on principles to guide the strategy, then on the draft strategy (Hernández and de Souza 2022, 27).

For policy makers in several nations, obtaining public comments was an ongoing process. For example, Malaysia described its AI road map as a "living document" that will be continually updated based on further feedback (Ministry

18 See https://blogs.gwu.edu/datagovhub/files/2023/08/Annex-Public-Participation-in-AI-Strategies.pdf.

19 Ibid.

20 See United Nations Industrial Development Organization (2022).

21 See Ministerio de Ciencia, Tecnología, Conocimiento e Innovación, "Politicas/Politica_Inteligencia_Artificial/Mesas_Regionales/," https://github.com/MinCiencia/Politicas/tree/main/Politica_Inteligencia_Artificial/Mesas_Regionales.

of Science, Technology & Innovation Malaysia 2021), and Peru's strategy calls for updates every two years.[22] Malaysia and Indonesia host their strategies on webpages where individuals can still provide comments (as of January 2023).[23] Germany and the United States have subsequently released updated strategies,[24] and India and the United Kingdom have released implementation or guidance documents.[25] All four nations that published additional documents after the release of the national strategy consulted the public in some form in advance of these updates (although Germany again only consulted organizations).

2. What Materials Did the Government Provide to Prepare/Enable the Public to Give Informed Advice on the AI Strategy?

The governments in the sample provided several different types of documents to assist their constituents in providing comments on the AI strategy. Some countries gave their citizens a draft strategy or a preliminary document prepared by either the expert committee or the relevant government agency. Five nations (Germany, Italy, Poland, the United Kingdom and Uruguay) provided a document delineating recommendations from experts. Chile, Italy, Poland and Uruguay provided respondents with a draft strategy developed for the purpose of the consultation. In contrast, India, Indonesia, Jordan and Peru released the official, final strategy and asked for public comment at that point, without an intervening document or additional information that could help citizens understand the relevant issues. Australia released a discussion paper, which calls for responses to questions rather than any predetermined recommendations (Australian Government, Department of Industry, Science, Energy and Resources 2020). Brazil presented its public with a description of several thematic pillars based on OECD recommendations, around which the strategy would be designed, with discussion questions (Ministério da Ciência, Tecnologia, Inovações e Comunicações 2019). Similarly, France sought comments on briefly described thematic courses of actions, and also explicitly sought proposals for additional courses of action and discussion between commenters.[26] In contrast, although the United States twice updated its AI strategy, it did not provide additional material to its constituents. Individuals could, however, review the 2016 strategy to provide comments on the 2019 revision or the 2019 revision to provide comments on the 2023 update (Office of Science and Technology Policy 2022). Finally, Ireland provided very little information to its public, including only short descriptions of the strategy's objectives (Department of Enterprise, Trade and Employment 2019).

To summarize, the governments that held formal public consultations provided background material on guiding principles, objectives and/or the strategy itself. However, these documents could not enable the broad public to give well-informed comments on AI. Most people need to understand more about AI systems and their risks and benefits to comment effectively on an AI strategy, but few governments made the effort to prepare their citizens to effectively comment.

3. Did the Government Make Efforts to Ensure a Broad Cross-Section of People Knew About and Could Comment on the Strategy?

Government officials relied on government websites or emailed surveys to request public opinion on their AI strategy. To participate, one therefore needed internet access, which is not available or affordable for all people. Some governments took additional steps to broaden the circle of commenters, although in almost all cases these, too, were online-only. As an example, Chile organized regional round tables to get feedback from people throughout the country; these were all online except for the first two, although if it was not for the acute impact of the pandemic forcing the organizers to change their plan, more would have been in person.[27] In Malaysia, the government organized a virtual conference, focus

22 See https://cdn.www.gob.pe/uploads/document/file/1909267/National%20Artificial%20Intelligence%20Strategy%20-%20Peru.pdf.

23 See https://ai-innovation.id/strategi and for Malaysia, see Canna (2021).

24 See www.ki-strategie-deutschland.de/files/downloads/201201_Fortschreibung_KI-Strategie.pdf and www.nitrd.gov/pubs/National-AI-RD-Strategy-2019.pdf.

25 See www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf and www.gov.uk/government/publications/national-ai-strategy-ai-action-plan.

26 See https://purpoz.com/project/mettre-en-place-un-terreau-general-favorable-au-developpement-de-l-ia/consultation/consultation-32/consultations.

27 See www3.bcn.cl/observatorio/asiapacifico/noticias/jose-guridi-borrador-politica-nacional-IA.

group discussions and a virtual town hall to get more people involved in the consultations.

The authors could not ascertain whether the governments were successful at attracting diverse comments from a wide range of their constituents. No information on the numbers from India, Italy, Peru, Poland and Jordan could be found. (Jordan finished its consultation as this paper was being finished.)

Table 2 reveals that few people actually participated in public consultations in most of the sample. It could not be determined whether the low number of participants stemmed from a lack of interest among constituents or whether it stemmed from government unwillingness or failure to extensively market their outreach efforts.

4. Who Participated in the Engagement Processes?

The authors struggled to answer this question because many in the sample did not provide such information or provided only some information about participation. In most instances, the

Table 2: Total Number of Comments and Commenters in Public Consultation

Country	Number of Comments and Commenters
Australia	90 submissions; no information on participants
Brazil	1,000 contributions; no information on the number of participants
Chile	209 (unclear whether comments or commenters)
France	1,639 “attendees”; 2,407 contributions
Germany	88 unique responses (author’s calculation)
India	No information available
Indonesia	57 unique responses (author’s calculation)
Ireland	92 unique survey responses
Italy	No information available
Jordan	No information (yet) available
Malaysia	173 unique survey responses
Norway	51 unique responses (author’s calculation)
Peru	None found for consultation survey
Poland	No information available
Türkiye	206 interviews, 108 workshop participants
United Kingdom	413 unique survey responses
United States	46 unique responses (author’s calculation)
Uruguay	28 comments, but the website was taken down, so a careful review was not possible

Source: Adam Zable analysis.

government provided only a person's name or name and job, thus, it was not possible to categorize the participants as either members of the general (unorganized public) or organized public.

Three countries clearly provided information on the background of individuals who participated in consultations on the AI strategy, and it was possible to ascertain the background of others from websites (Brazil, Chile, France, Germany, Indonesia, Ireland, Malaysia, Norway, Türkiye, the United Kingdom, the United States and Uruguay). Chile[28] and the United Kingdom (Alan Turing Institute 2021) delineated their participants' gender, geographical region and profession or association, so it was easy to ascertain who participated. Malaysia (Ministry of Science, Technology & Innovation 2021) and Türkiye (Digital Transformation Office of the Presidency of the Republic of Türkiye and the Ministry of Industry and Technology 2021) described participants by the category of their professional institution (non-governmental organization [NGO]/government/business/academia). Brazil,[29] Norway[30] and the United States[31] maintain websites where the consultation was hosted and on which one can see both the comments and who commented, in a form that allows for subsequent analysis. Uruguay took its website down during the course of this research, but comments and commenters were previously viewable.

It was difficult to compare information on participants among countries. Moreover, Australia, France, India, Indonesia, Italy, Jordan, Peru and Poland did not provide any information on who participated in their consultations. For example, Australia gave the number of respondents with no further information (Australian Government, Department of Industry, Science, Energy and Resources 2021), while France and Indonesia provided comments and the names of the participant, which made it difficult to assess the background of the participant. Table 3 describes what was found for the 18-country sample.

5. Did the Government Provide Evidence That It Made Use of the Feedback It Received?

Public feedback is an essential element of good governance, and thus many governments seek comments to improve public policy and to be responsive to their citizens (OECD 2011). Hence, it was important to examine if a government indicated whether, and if so how, it made use of the comments given during the course of the consultations. Only four countries provided concrete evidence that they incorporated such comments:

- In Chile, the government said it incorporated learnings from worktables (Ministerio de Ciencia, Tecnología, Conocimiento e Innovación 2020), and a post-consultation results report discussed how the government incorporated suggestions in the strategy (Ministerio de Ciencia, Tecnología, Conocimiento e Innovación 2021). Officials modified and refined the content and wording of objectives, and added entirely new objectives and strategies based on the contributions received, including new strategies to promote the regulation of personal data, launch initiatives in priority areas and foster communities of users of public interest data.
- In the United States, the government explained that based on feedback it received, officials added a new strategy to expand public-private engagement (Select Committee on Artificial Intelligence 2019).
- The German government did not explicitly say how it used comments, but Germany's AI strategy dedicated substantial space to summarizing and explaining the comments, suggesting that the comments impacted the direction of the strategy.
- A Uruguayan official replied to each comment posted on the consultation portal describing how the government would incorporate these comments.
- In France and Malaysia, the strategy text summarized or gave reference to comments the organizers received but did not indicate how it responded to specific comments.

28 See https://minciencia.gob.cl/uploads/filer_public/6c/c1/6cc17cd7-ae58-48f0-ada1-d33a3e6e8958/informe_consulta_publica_ia_1.pdf.

29 See www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ebia-consulta-publica.pdf.

30 See www.regjeringen.no/no/tema/statlig-forvaltning/ikt-politikk/KI-strategi/mottatte-innspill-til-ki-strategien/id2640057/.

31 See www.nitrd.gov/coordination-areas/ai/ai-rfi-responses-2018/.

Table 3: Breakdown of Who Commented on National AI Strategies

Country	Number of Comments and Commenters
Australia	No information available
Brazil	31 commenters: → private sector/professional organization — 45% → NGO/third sector — 19% → government — 3% → academia — 19% → unaffiliated individual — 13%
Chile	Results report breaks 209 participants down by age, country, gender, educational level and geographical location within Chile, although not by professional sector; 86.31% were natural persons and 13.9% legal persons.
France	Consultation summary report breaks down comments as follows: → 1,639 attendees → 2,407 contributions While comments are available for viewing on the online portal, commenters' names were often not given in full, preventing an assessment of the makeup of respondents.
Germany	No members of the unorganized public were involved. Of the organizations, the analysis shows the following, for the 2018 consultation with 88 commenters: → private sector — 52.2% → professional organization — 27.2% → NGO — 11.3% → government — 3.7% → academia — 5.6%
India	No information available
Indonesia	While comments are available for viewing on the online platform, commenters' names were all that was given, preventing an assessment of the makeup of the 57 respondents.
Ireland	The public consultation report breaks down the 85 commenters as follows: → businesses — 16% → government — 5% → research/academia — 46% → representative body — 7% → anonymous — 12% → general public — 14% In addition, seven primarily business groups provided written statements separately.
Italy	No information yet available
Jordan	No information available

Table 3: Breakdown of Who Commented on National AI Strategies (continued)

Country	Number of Comments and Commenters
Malaysia	According to the road map, the government received 173 responses to the survey, which it breaks down as follows: → industry/private/companies — 45% → government — 38% → academia — 14% → other — 3%
Norway	According to the analysis of the 51 comments: → business/business association — 20.7% → government — 20.7% → academia — 15% → professional association — 26.4% → NGO/civil society/charity/third sector — 13.5% → non-affiliated individual — 3.7%
Peru	No information available
Poland	No information available
Türkiye	According to the strategy, 36 interviews were held with government representatives, 38 with the private sector, three with NGOs, 26 with universities and 103 with domain experts in different disciplines. The strategy also says that two workshops were held that were attended by 40 representatives from public institutions, 38 from private sector organizations, 26 from academia and four from NGOs.
United Kingdom	AI ecosystem survey results report breaks down the 413 respondents as follows: industry (44%) and academia (32%), with a large minority from the public sector (15%). Further questions include information about professional background, geographical region of work, position at work, age, gender and ethnic group.
United States	According to the analysis of the 46 respondents: → business/business association — 36.9% → government — 0% → academia — 11% → professional association — 30.1% → NGO/civil society/charity/third sector — 13% → non-affiliated individual — 9%
Uruguay	The webpage that hosted the consultations was taken down during the course of this research, preventing an analysis of the 28 comments.

Source: Adam Zable analysis.

Applying the IAP2 Spectrum of Public Participation

Although it is not part of the indicators, the authors sought to provide a greater understanding of how much effort policy makers made to involve their public. IAP2's Spectrum of Political Participation (Figure 1) is designed to illustrate different modes of participation. Going beyond the five research questions, the authors relied on this metric to characterize whether any nation's engagement strategy for the development of their national AI strategy went beyond consulting the public, to more actively involving the public in the process.

Figure 1: IAP2 Spectrum of Public Participation

IAP2 Spectrum of Public Participation

IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Source: © International Association for Public Participation, https://cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5×11_Print.pdf. Reproduced with permission.

To make this useful for the categorization of public participation, the IAP2 categories were expanded into specific indicators:

- Inform: Did the government provide the public with information to assist them in understanding the issue before the strategy was published?
- Consult: Did the government ask for comment from the organized and unorganized publics?
- Acknowledge: Did the government acknowledge public comment?
- Respond: Did the government provide feedback on how public input influenced the final strategy?
- Involve: Did the government work directly with the public throughout the process?
- Collaborate: Did the government work with the public to develop the initial direction, and provide evidence that it incorporated public concerns into the decisions made?

→ Empower: Did the government place final decision-making authority in the hands of the public?

The findings are provided in Table 4 below.

As the table shows, most of the countries that developed an AI strategy barely involved their citizens. Seven of the 18 nations fall short of achieving even the "Inform" level in engaging their publics, as they either sought public input after finalizing their AI strategies or failed to provide adequate contextual information. In India, Indonesia, Jordan and Peru, the government asked for public comment only after the strategy was fully written and released. Norway provided no information when it asked for public comment, and it was not possible to verify whether information had been provided prior to public engagement in Türkiye and Malaysia.

Next, the researchers examined if nations went beyond informing their citizens to consulting them. Consultations can vary in their degree of openness: they can be accessible to anyone who wants to comment or closed to only certain sectors

Table 4: Adapted IAP2 Spectrum

Country	Inform	Consult	Acknowledge	Respond	Involve	Collaborate	Empower
Australia	✓	✓	✓				
Brazil	✓	✓	✓				
Chile	✓	✓	✓	✓	✓		
France	✓	✓	✓				
Germany	✓		✓	✓			
India		✓					
Indonesia		✓					
Ireland	✓	✓	✓				
Italy	✓	✓					
Jordan		✓					
Malaysia		✓	✓				
Norway		✓	✓				
Peru		✓					
Poland	✓	✓					
Türkiye			✓				
United Kingdom	✓	✓	✓				
United States	✓	✓	✓	✓			
Uruguay	✓	✓	✓	✓			

Source: Author's analysis.

of society (OECD 2011). In the cases of Germany[32] and Türkiye (Digital Transformation Office of the Presidency of the Republic of Türkiye and the Ministry of Industry and Technology 2021), the government directed the consultation mechanisms at the organized public, meaning stakeholder organizations (including civil society organizations). However, they did not provide a means by which the unorganized public could comment.

The researchers then examined whether case study governments acknowledged the comments they received. Six countries did not acknowledge receiving public comments. In some countries, such as India and Peru, the process is ongoing and these governments could acknowledge and incorporate comments received in past consultations in future updates (Roy and Sarkar 2020; Secretariat of Government and Digital Transformation of the Presidency of the Council of Ministers 2021). Jordan, meanwhile, only recently finished its consultation and therefore has not yet had time to process the comments received (Ministry of Digital Economy and Entrepreneurship 2022).

Moreover, only Chile, Germany, the United States and Uruguay indicated how they changed their strategy in response to public comments. France, Ireland, Malaysia, Türkiye and the United Kingdom summarized the comments they received in graphs, statistics or text; included individual comments in the final strategy; and/or provided the comments themselves or the individuals and organizations who commented. However, such summaries and statistics are not evidence that the government was responsive and accountable to these commenters.

Finally, only Chile reached the point of "Involve."[33] Chile's engagement strategy involved multiple stages of progressively widening participation by various publics, starting with a small group of experts, then engaging the wider public through the release of a preliminary index, which was followed by webinars, worktables and a formal public consultation. Moreover, Chilean officials were responsive to public comment throughout the process. Chile also maintains perhaps the best record of these mechanisms, with a GitHub page that collects most of the relevant information, which is still accessible as of August 2023.[34] Taken in sum, while most governments informed and some consulted some of their constituents, the authors concluded that no country "collaborated" with its citizens according to the IAP2 metric.

Conclusions

Most governments want to build trust in AI given the importance of AI to national security and their current and future economic growth. Yet their strategies to encourage AI are unlikely to build and sustain that trust because policy makers have not sought to inform, consult, involve and collaborate with many of the same people who might be affected by the misuse of AI.

The authors examined how and when governments sought public comments on their AI strategies, as well as who participated. The sample included 68 countries and the European Union. Of the 43 with AI strategies, 25 did not consult the public. To put it differently, these 25 nations missed an opportunity to build trust. Only 18 nations in the sample tried to obtain feedback from members of the public. The authors found that in most cases, the public was missing from the discussion.

Many of the cases utilized a similar set of actions to obtain public comment. The process often began when policy makers set up an advisory group or consulted directly with experts from business and academia. These groups have the understanding and experience articulating their concerns and priorities toward AI. Next, the government built on the expert consultation to produce a draft AI strategy or other preliminary document. Often policy makers used that draft strategy to obtain comments. Then the government announced its AI strategy. Most governments, however, did not describe how they incorporated public comments.

Some governments created an ongoing consultative process that was embedded within a more extensive (ongoing) agenda of AI governance. For example, Germany, the United States, India and the United Kingdom have released additional AI strategic governance documents,

32 See www.ki-strategie-deutschland.de/.

33 Ireland and Malaysia stated that they held workshops, round tables and other meetings, but evidence of these outreach efforts could not be found despite attempts to contact the responsible agencies.

34 See https://github.com/MinCiencia/Politicas/tree/main/Politica_Inteligencia_Artificial/Mesas_Regionales.

all of which contained some element of public input, and Peru and Malaysia intend to do the same. However, the process could be delayed or abandoned with a change in government.

Unfortunately, most governments did little to facilitate informed comments by their citizens. They did not explain how AI might affect their constituents in their daily lives or in their many roles as citizens, producers, consumers and advocates. Moreover, they did not explain the benefits and risks of AI to individuals and society as a whole. Certainly democratic governments should do more and encourage their allies to broaden this discussion.

Governments also made little effort to get the word out to their constituents and to motivate them to participate in developing the strategies. In general, they used websites and online platforms to inform their citizens about the consultation. But these policy makers could do more. The OECD noted that when governments seek consultation, they should use a wide range of outreach methods, such as advertising, video primers, partnering with civil society groups or educational institutions. They could also provide economic incentives, as several surveyors or pollsters do (ibid., 29, 31). Policy makers' failure to do so raises the question as to whether they really wanted such comments.

Because they failed to attract significant public input, policy makers generally relied on the recommendations of experts to guide public input. While it was possible to see who commented in 12 nations, very few governments provided detailed breakdowns of the participants. Consequently, it is not possible to say whether the participants were truly representative of the unorganized public or mainly representatives of the organized public. Moreover, the numbers of people commenting were relatively small and may not be representative of the nation as a whole.

Most of the sample did little to involve historically marginalized groups that could be significantly affected by government and private-sector use of AI systems (Hernández and de Souza 2022, 27). Most governments provide information in their national language and not in Indigenous and foreign languages, which could make it harder for some of their citizens (or foreigners) to participate. In their report, Derechos Digitales suggested that policy makers could broaden public participation by translating informational material into local languages and making special efforts to involve communities that lack internet access. In addition, they could, for example, hold "in-person meetings for people with disabilities or geographically distant communities" (ibid., 12).

Some nations, such as Chile, hosted in-person events, but most governments relied solely on online portals or websites. These nations did not provide a means for those without internet access to comment. Moreover, most nations did not offer a long period of time to provide comments — it averaged around a month in the 18-country sample. Although Brazil allowed comments for three months, some countries gave as little as two weeks, which would limit the number of participants.

In conclusion, policy makers are missing an opportunity to build understanding of AI, sustain trust in AI and build a more participatory process for governing AI. Most nations have done little to prepare and involve their citizens for this discussion. At the same time, most people lack the ability, information and resources to participate meaningfully in AI governance. If they want to build greater trust in AI, policy makers should also find ways to incentivize broader participation and to ensure that regulators, legislators and AI deployers truly listen to what their citizens have to say. Without the input of a wide swath of their citizenry, policy makers may struggle to anticipate future problems related to AI and, over time, to sustain trust in AI systems.

Works Cited

Aaronson, Susan Ariel. 2020. "Why we need a 'Wicked Problems Agency.'" The Hill, July 13. https://thehill.com/opinion/technology/506695-why-we-need-a-wicked-problems-agency/.

Alan Turing Institute. 2021. *AI ecosystem survey: Informing the National AI Strategy: Summary report*. www.turing.ac.uk/sites/default/files/2021-09/ai-strategy-survey_results_020921.pdf.

Ammanath, Beena. n.d. "Trustworthy AI." Deloitte. www2.deloitte.com/us/en/pages/deloitte-analytics/solutions/ethics-of-ai-framework.html.

Anderson, Joel. 1991. "'Special Interests' and the Common Good: The Construction of an Opposition." In *A Cultural Lexicon: Words in the Social* (Center for Interdisciplinary Research in the Arts Working Papers Series No. 2), edited by D. Moore, K. Olson and J. Stoeckler, 91–102. Evanston, IL: Center for Interdisciplinary Research in the Arts. www.phil.uu.nl/~joel/research/publications/specialinterests.htm.

Australian Government, Department of Industry, Science, Energy and Resources. 2020. "An AI Action Plan for all Australians: A call for views." Discussion Paper. https://storage.googleapis.com/converlens-au-industry/industry/p/prj1a47e48f09b98efbd2e34/public_assets/AI-Discussion-Paper.pdf.

———. 2021. "Australia's AI Action Plan." https://wp.oecd.ai/app/uploads/2021/12/Australia_AI_Action_Plan_2021.pdf.

Birhane, Abeba, William Isaac, Vinodkumar Prabhakarn, Mark Díaz, Madeleine Clare Elish, Iason Gabriel and Shakir Mohamed. 2022. "Power to the People? Opportunities and Challenges for Participatory AI." *Proceeding of EAAMO*, September. https://arxiv.org/abs/2209.07572.

Birhane, Abeba, Elayne Ruane, Thomas Laurent, Matthew S. Brown, Johnathan Flowers, Anthony Ventresque and Christopher L. Dancy. 2022. "The Forgotten Margins of AI Ethics." In *FAccT '22: Proceedings of the ACM Conference on Fairness, Accountability, and Transparency*, Seoul, Korea, June 21–24. New York, NY: ACM. https://doi.org/10.1145/3531146.3533157.

Borgesius, Frederik Zuiderveen. 2018. "Discrimination, artificial intelligence, and algorithmic decision-making." Council of Europe, Directorate General of Democracy. https://rm.coe.int/discrimination-artificial-intelligence-and-algorithmic-decisionmaking/1680925d73.

Bryson, Joanna J. 2022. "One Day, AI Will Seem as Human as Anyone. What Then?" *Wired*, June 26. www.wired.com/story/lamda-sentience-psychology-ethics-policy/.

CAICT and JD Explore Academy. 2021. "White Paper on Trustworthy Artificial Intelligence." July 9. https://cset.georgetown.edu/wp-content/uploads/t0390_trustworthy_AI_EN.pdf.

Canna, Franco. 2021. "Investimenti nella ricerca, sviluppo delle competenze e focus sulle applicazioni (manifattura in primis): l'Italia vara la sua Strategia sull'Intelligenza Artificiale." www.innovationpost.it/attualita/politica/investimenti-nella-ricerca-sviluppo-delle-competenze-e-focus-sulle-applicazioni-manifattura-in-primis-litalia-vara-la-sua-strategia-sullintelligenza-artificiale/.

Center for American Progress. 2017. "Fighting Special Interest Lobbyist Power Over Public Policy." Fact Sheet. September 27. www.americanprogress.org/article/fighting-special-interest-lobbyist-power-public-policy/.

Cockburn, Iain M., Rebecca Henderson and Scott Stern. 2018. "The Impact of Artificial Intelligence on Innovation: An Exploratory Analysis." NBER Working Paper 24449. March. www.nber.org/papers/w24449.

Computer and Communications Industry Association. 2022. "CCIA Details Digital Trade Barriers in Foreign Markets to USTR." October 28. www.ccianet.org/2022/10/ccia-details-digital-trade-barriers-in-foreign-markets-to-ustr/.

Culver, Keith and Paul Howe. 2003. "Calling All Citizens: The Challenges of Public Consultation." Paper presented at the annual conference of the Canadian Political Science Association, Halifax, Nova Scotia, May 30–June 1. www.cpsa-acsp.ca/paper-2003/howe.pdf.

de Witte, Melissa. 2022. "How a new program at Stanford is embedding ethics into computer science." Stanford Report, June 28. https://news.stanford.edu/report/2022/06/28/new-program-embeds-ethics-computer-science-courses/.

Department of Enterprise, Trade and Employment. 2019. "Public Consultation on the Development of a National Strategy on Artificial Intelligence." October 16. https://enterprise.gov.ie/en/consultations/public-consultation-development-of-a-national-strategy-on-artificial-intelligence.html.

Digital Transformation Office of the Presidency of the Republic of Türkiye and the Ministry of Industry and Technology. 2021. *National Artificial Intelligence Strategy 2021–2025*. August. https://cbddo.gov.tr/SharedFolderServer/Genel/File/TRNationalAIStrategy2021-2025.pdf.

Djeffal, Christian. 2021. "The Regulation of Artificial Intelligence in the EU." Heinrich Böll Stiftung, December 30. https://il.boell.org/en/2021/12/24/regulation-artificial-intelligence-eu.

Dutton, Tim. 2018. "An Overview of National AI Strategies." Medium, June 28. https://medium.com/politics-ai/an-overview-of-national-ai-strategies-2a70ec6edfd.

Fjeld, Jessica, Nele Achten, Hannah Hilligoss, Adam Nagy and Madhulika Srikumar. 2020. "Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-Based Approaches to Principles for AI." The Berkman Klein Center for Internet & Society at Harvard University, January 15. https://cyber.harvard.edu/publication/2020/principled-ai.

Fortune Business Insights. 2022. "AI Market Size to Reach USD 1394.30 Billion by 2029." News release, September 13. www.globenewswire.com/en/news-release/2022/09/13/2514767/0/en/AI-Market-Size-to-Reach-USD-1394-30-Billion-by-2029.html.

Galindo, Laura, Karine Perset and Francesca Sheeka. 2021. "An overview of national AI strategies and policies." OECD Going Digital Toolkit Policy Note, No. 14. https://goingdigital.oecd.org/data/notes/No14_ToolkitNote_AIStrategies.pdf.

Heikklä, Melissa. 2022. "Dutch scandal serves as a warning for Europe over risks of using algorithms." Politico, March 29. www.politico.eu/article/dutch-scandal-serves-as-a-warning-for-europe-over-risks-of-using-algorithms/.

Hernández, Laura, María Paz Canales and Michel de Souza. 2022. "Artificial Intelligence and Participation in Latin America: The National AI Strategies." Derechos Digitales. February. www.derechosdigitales.org/wp-content/uploads/01_EN_Artificial-Intelligence-and-Participation-in-Latam_FINAL-1.pdf.

International Telecommunication Union. 2018. "Assessing the Economic Impact of Artificial Intelligence." Issue paper. September. www.itu.int/pub/S-GEN-ISSUEPAPER-2018-1.

Jamil, Rossilah. 2021. "AHIBS Experts Entrusted for AI Roadmap and Talent Development in Malaysia." UTM News Hub, July 6. https://news.utm.my/2021/07/ahibs-experts-entrusted-for-ai-roadmap-and-talent-development-in-malaysia/.

Kapoor, Sayash and Arvind Narayanan. 2022. "A sneak peek into the book." AI Snake Oil, August 25. https://aisnakeoil.substack.com/p/a-sneak-peak-into-the-book.

Kumagai, Saki and Federica Iorio. 2021. "Building Trust in Government through Citizen Engagement." World Bank Group. https://openknowledge.worldbank.org/bitstream/handle/10986/33346/Building-Trust-in-Government-through-Citizen-Engagement.pdf.

Li, Bo, Peng Qi, Bo Liu, Shuai Di, Jingen Liu, Jiquan Pei, Jinfeng Yi and Bowen Zhou. 2022. "Trustworthy AI: From Principles to Practices." Arxiv, Cornell University. May 26. https://arxiv.org/abs/2110.01167.

Mateo, Bettina and Lauren Cotton. 2002. "The Importance of Ethics in Computer Science." The University of Texas at Austin Computer Science News, February 18. www.cs.utexas.edu/news/2022/importance-ethics-computer-science.

Ministério da Ciência, Tecnologia, Inovações e Comunicações. 2019. "Consulta Pública Estratégia Brasileira de Inteligência Artificial." www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ebia-consulta-publica.pdf.

Ministerio de Ciencia, Tecnología, Conocimiento e Innovació. 2020. "Política Nacional de Inteligencia Artificial." Borrador/Consulta Pública.

———. 2021. "Consulta Pública de Inteligencia Artificial." October. https://minciencia.gob.cl/uploads/filer_public/6c/c1/6cc17cd7-ae58-48f0-ada1-d33a3e6e8958/informe_consulta_publica_ia_1.pdf.

Ministry of Digital Economy and Entrepreneurship. 2022. "The Digital Economy presents the draft Jordanian strategy for artificial intelligence and the implementation plan (2023-2027) for public consultation."

Ministry of Science, Technology & Innovation Malaysia. 2021. "Malaysia National Artificial Intelligence Roadmap 2021–2025 (AI-Rmap)." https://airmap.my/wp-content/uploads/2022/08/AIR-Map-Playbook-final-s.pdf.

NATO. 2022. "Summary of NATO's Autonomy Implementation Plan." October 13. www.nato.int/cps/en/natohq/official_texts_208376.htm.

NIST. 2022. "AI Risk Management Framework: Second Draft." August 18. www.nist.gov/system/files/documents/2022/08/18/AI_RMF_2nd_draft.pdf.

———. 2023. "NIST Partners with NSF on New Institute for Trustworthy AI in Law & Society (TRAILS)." May 4. www.nist.gov/news-events/news/2023/05/nist-partners-nsf-new-institute-trustworthy-ai-law-society-trails.

———. n.d. "Artificial Intelligence: The Vitals." Fact Sheet. www.nist.gov/system/files/documents/2023/03/30/AI%20Fact%20Sheet%200615%20FINAL.pdf.

Norway Ministry of Local Government and Modernisation. 2019. "Ber om innspill til strategi for kunstig intelligens." April 26. www.regjeringen.no/no/dokumentarkiv/regjeringen-solberg/aktuelt-regjeringen-solberg/kmd/pressemeldinger/2019/ber-om-innspill-til-strategi-for-kunstig-intelligens/id2642696/.

OECD. 2011. "Regulatory Consultation in the Palestinian Authority: A Practitioners' Guide for Engaging Stakeholders in Democratic Deliberation." www.oecd.org/mena/governance/50402841.pdf.

———. 2019. "Recommendation of the Council on Artificial Intelligence." OECD/LEGAL/0449. https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

———. 2021. *Tools for Trustworthy AI: A Framework to Compare Implementation Tools for Trustworthy AI Systems.* OECD Digital Economy Papers No. 312. June. www.oecd.org/science/tools-for-trustworthy-ai-008232ec-en.htm

———. 2022. *Building Trust to Reinforce Democracy: Key Findings from the 2021 OECD Survey on Drivers of Trust in Public Institutions.* www.oecd.org/governance/trust-in-government/.

Office of Science and Technology Policy. 2022. "Request for Information to the Update of the National Artificial Intelligence Research and Development Strategic Plan, 87 Fed. Reg. 5876, 2018." February 2. www.federalregister.gov/documents/2022/02/02/2022-02161/request-for-information-to-the-update-of-the-national-artificial-intelligence-research-and.

Olson, Mancur. 1971. *The Logic of Collective Action: Public Goods and the Theory of Groups.* Second Printing with a new Preface and Appendix. Cambridge, MA: Harvard University Press.

Osborne, David and Peter Plastrik. 1997. *Banishing Bureaucracy: The Five Strategies for Reinventing Government.* Reading, MA: Addison-Wesley.

PEGA. 2017. "What Consumers Really Think About AI: A Global Study." www.pega.com/ai-survey.

Penagos, Melanie, Sara Kassir and Steven Vosloo. n.d. "National AI strategies and children: Reviewing the landscape and identifying windows of opportunity." Policy Brief. UNICEF. www.unicef.org/globalinsight/media/1156/file.

Rainie, Lee, Janna Anderson and Emily A. Vogels. 2021. *Experts Doubt Ethical AI Design Will Be Broadly Adopted as the Norm Within the Next Decade.* Pew Research Center, June 16. www.pewresearch.org/internet/2021/06/16/experts-doubt-ethical-ai-design-will-be-broadly-adopted-as-the-norm-within-the-next-decade/.

Rainie, Lee, Cary Funk, Monica Anderson and Alec Tyson. 2022. "How Americans think about artificial intelligence." Pew Research Center, March 17. www.pewresearch.org/internet/2022/03/17/how-americans-think-about-artificial-intelligence/.

República de Colombia Departamento Nacional de Planeación. 2019. "Política National para la Transformación Digital e Inteligencia Artificial." November 8. https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/3975.pdf.

Roy, Anna and Arunima Sarkar. 2020. "Towards Responsible #AIforAll in India." World Economic Forum, August 21. www.weforum.org/agenda/2020/08/towards-responsible-aiforall-in-india-artificial-intelligence-ethics/.

Rudin, Cynthia and Joanna Radin. 2019. "Why Are We Using Black Box Models in AI When We Don't Need To? A Lesson From an Explainable AI Competition." *Harvard Data Science Review* 1 (2). https://doi.org/10.1162/99608f92.5a8a3a3d.

Saran, Samir, Nikhila Natarajan and Madhulika Srikumar. 2018. *In Pursuit of Autonomy: AI and National Strategies.* Observer Research Foundation. November. www.orfonline.org/wp-content/uploads/2018/11/Ai_Book.pdf.

Secretariat of Government and Digital Transformation of the Presidency of the Council of Ministers. 2021. "National Artificial Intelligence Strategy First Draft of Peruvian National AI Strategy." https://cdn.www.gob.pe/uploads/document/file/1909267/National%20Artificial%20Intelligence%20Strategy%20-%20Peru.pdf.

Select Committee on Artificial Intelligence. 2019. "The National Artificial Intelligence Research and Development Strategic Plan: 2019 Update." June. www.nitrd.gov/pubs/National-AI-RD-Strategy-2019.pdf.

Stanford. 2021. "AI Policy and National Strategies." In *Artificial Intelligence Index Report 2021*, chapter 7. https://aiindex.stanford.edu/wp-content/uploads/2021/03/2021-AI-Index-Report-_Chapter-7.pdf.

Stanton, Brian and Theodore Jensen. 2021. *Trust and Artificial Intelligence.* NIST Interagency/Internal Report. Gaithersburg, MD: NIST. December. https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=931087.

Stavrakakis, Ioannis, Damian Gordon, Brendan Tierney, Anna Becevel, Emma Murphy, Gordana Dodig-Crnkovic, Radu Dobrin, Viola Schiaffonati, Cristina Pereira, Svetlana Tikhonenko, J. Paul Gibson, Stephane Maag, Francesco Agresta, Andrea Curley, Michael Collins and Dympna O'Sullivan. 2022. "The teaching of computer ethics on computer science and related degree programmes. a European survey." *International Journal of Ethics Education* 7: 101–29. https://doi.org/10.1007/s40889-021-00135-1.

Struett, Thomas. 2019. "G20 AI Strategies on Data Governance." August 30. https://cpb-us-e1.wpmucdn.com/blogs.gwu.edu/dist/c/3127/files/2019/09/g20-national-ai-strategies-data-governance.pdf.

———. 2020. "G20 AI Strategies Overview." January 13. https://bpb-us-e1.wpmucdn.com/blogs.gwu.edu/dist/c/3127/files/2020/01/g20-national-ai-strategies-overview-jan_13_20.pdf.

The Future Society and EYQ. 2022. "Bridging AI's trust gaps: Aligning policymakers and companies." July 22. https://thefuturesociety.org/2020/07/22/report-launch-bridging-ais-trust-gaps-aligning-policymakers-and-companies/.

Tortoise Media. n.d. "The Global AI Index." www.tortoisemedia.com/intelligence/global-ai/.

Tschopp, Marisa and Prisca Quadroni. 2022. "Trustworthy AI — Can Laws Build Trust in AI?" Women in AI, February 5. www.womeninai.co/post/trustworthy-ai-can-laws-build-trust-in-ai.

Turner Lee, Nicol and Samantha Lai. 2022. "The U.S. can improve its AI governanace strategy by addressing online biases." Brookings, May 17. www.brookings.edu/blog/techtank/2022/05/17/the-u-s-can-improve-its-ai-governance-strategy-by-addressing-online-biases/.

United Nations Industrial Development Organization. 2022. "Jordan presents its AI Strategy and Implementation Roadmap." November 17. www.unido.org/news/jordan-presents-its-ai-strategy-and-implementation-roadmap.

Wong, Janis, Deborah Morgan, Vincent J. Straub, Youmna Hashem and Jonathan Bright. 2022. "Key challenges for the participatory governance of AI in public administration." SocArXiv, November 29. www.turing.ac.uk/sites/default/files/2022-12/key_challenges_for_the_participatory_governance_of_ai_in_public_administration.pdf.

Yang, Chih-Hai. 2022. "How Artificial Intelligence Technology Affects Productivity and Employment: Firm-level Evidence from Taiwan." *Research Policy* 51 (6): 104536. https://doi.org/10.1016/j.respol.2022.104536.

Zable, Adam, Thomas Struett and Susan Ariel Aaronson. 2022. "Global Data Governance Mapping Project Year Two Report Background and Guidelines." July. https://docs.google.com/document/d/1D_vw6FKBJE-1x4K72O8cmY8tOtR05c8BOrPYmg2ObfQ/edit#heading=h.9ls05fhjpktm.

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67 Erb Street West
Waterloo, ON, Canada N2L 6C2
www.cigionline.org

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