AI Policies for Business
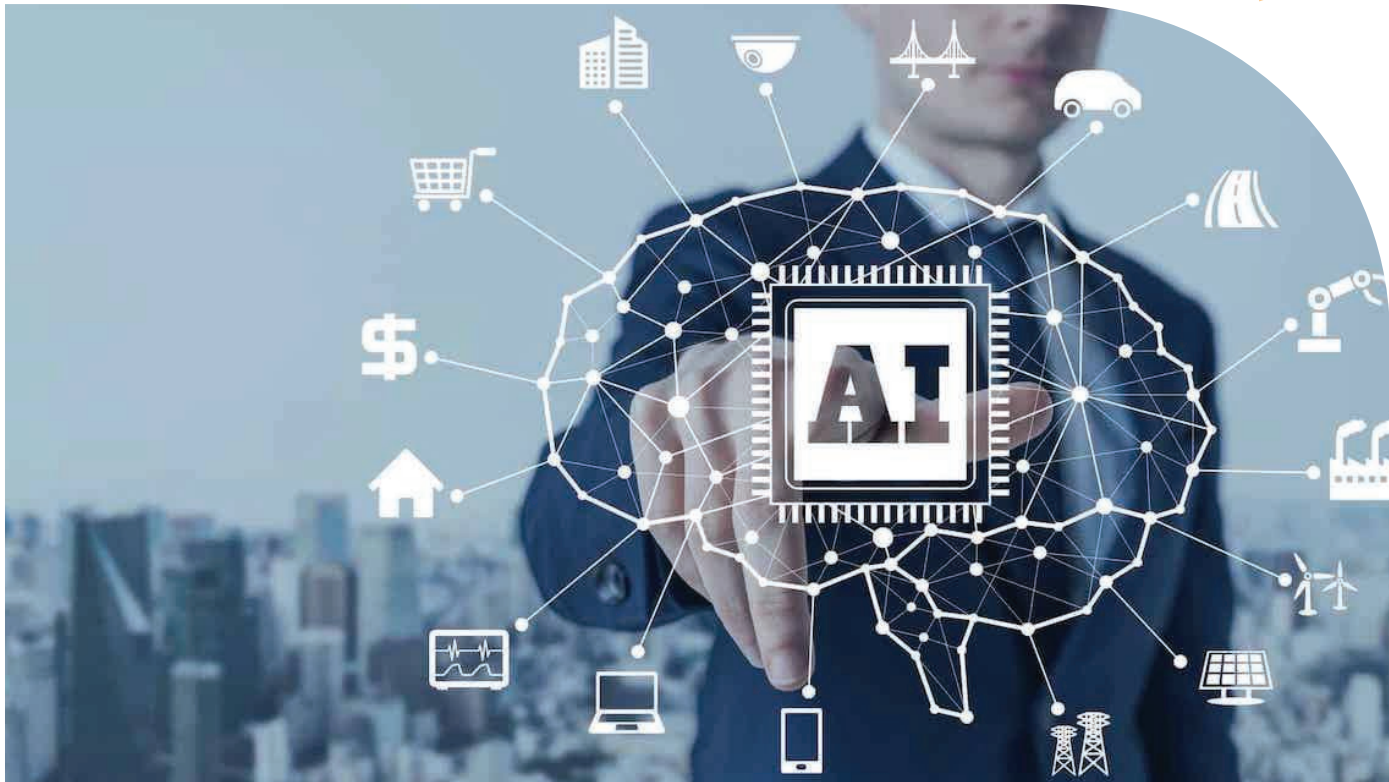
A B20 Report by Confederation of Indian Industry (CII)

Contents

Executive Summary

The recent rapid advances in artificial intelligence (AI) have led countries around the world to establish AI policies to address the ethical, legal, and social implications of the technology while at the same time promote a sustainable AI-driven growth. From principles and overarching national AI policies to specific regulations, governments are interested in identifying, designing, and deploying the most appropriate policy instruments to succeed in the AI era.

From the business perspective, AI policies can significantly support and improve AI diffusion and adoption, but also, impose several constraints for AI growth and advance. As a result, the main policy challenge of the AI era is to minimize the risks and social implications of the technology, whilst supporting its development and use. In that context, the Business 20 (B20) group, a platform bringing together business leaders from the G20 countries to advocate for business-related issues, present this paper to set out the urgency for action in the international AI policy scenario and to highlight the leading role the B20 group, and particularly India, should take in shaping the global AI policy agenda.

This paper presents a comprehensive analysis of both international and national efforts in the AI policy landscape and examines how they impact

businesses in five main areas (innovation, productivity, and competitiveness; data governance and privacy; workforce dynamics and skills development; social good, regulatory compliance, and accountability; and sustainability, environment, and climate change). It provides recommendations in each of these areas and addresses why global co-operation on AI is necessary.

It concludes that although national AI strategies and policies are necessary, purely national approaches can be limited as AI's effects and externalities transcend national boundaries. Further, most of the current efforts on formulating AI policies have not been done from the perspective of businesses, even though the private sector is a key stakeholder in the sustainable deployment of AI technologies. Consequently, it proposes that AI policy efforts are rethought from the perspective of businesses and be coordinated to avoid risks from fragmented national and international regulatory approaches. With that in mind, the B20 calls for India to coordinate the establishment of global standards and a regulatory framework in AI that help the private sector develop and deploy AI technologies to both increase their competitiveness and also build a sustainable and inclusive future for all.

1 Introduction

Artificial intelligence (AI) has rapidly advanced in recent years – mostly driven by the improvement in machine learning techniques and the increase in computational power, transforming industries and society and prompting policymakers to establish AI policies. These policies aim to address the ethical, legal, and social implications of the technology while at the same time promote sustainable AI-driven growth.

Governments are interested in identifying, designing, and deploying different policy instruments and recommendations that can equip their citizens and businesses with the necessary tools to succeed in the AI era, while minimizing their associated risks. These policies and recommendations came in a variety of forms, from overarching goals in national AI policies and specific legislation related to AI, to guidelines on particular issues and programs and tools aiming to improve specific areas of the technology.

Recent calls from technology leaders and independent experts for pausing big AI experiments and systems arguing they represent "profound risks to society and humanity" are just a sign of the urgent need to address the "AI regulation crisis". At the business level, AI policies can establish clear guidelines and frameworks for AI development and use, significantly supporting and improving AI diffusion and adoption, but also, they can impose several constraints, barriers, and obstacles for the growth and advance of AI. As a result, the main policy challenge of the AI era is to minimize the risks and social implications of the technology, whilst supporting AI research and development (R&D) and innovation.

This year, India is hosting the prestigious G20 summit, and within it, the Business 20 (B20) will also take place. The B20 is a platform that brings together business leaders from the G20 countries to develop policy recommendations and advocate for business-related issues. It focuses on a range of topics that are critical to businesses, including trade, investment, employment, infrastructure, digitalization, and sustainability. Through its task forces and working groups, the B20 develops policy recommendations to be presented to G20 leaders at the annual summit in India. In that sense,

this paper aims to set out the urgency for action in the AI policy scenario, and highlights the leading role the B20 group, and particularly India, should take in shaping the global AI policy agenda to help the private sector develop and deploy AI technologies to both increase their competitiveness and also build a sustainable and inclusive future for all.

Towards this goal, this paper presents a comprehensive analysis of the global AI policy landscape and provides relevant recommendations in each of the different categories for which AI is relevant. It is organized as follows. First, an overview of the AI policy landscape is presented, exposing the main international and national efforts in the field. Later, it analyzes five areas in which these AI policies impact businesses (innovation, productivity, and competitiveness; data governance and privacy; workforce dynamics and skills development; social good, regulatory compliance, and accountability; and sustainability, environment, and climate change) and provides recommendations in each of these areas. Finally, the paper addresses why global co-operation on AI is necessary, and concludes with a call for India to coordinate efforts in establishing global standards in AI to help the private sector develop and deploy AI technologies to both increase their competitiveness and also build a sustainable and inclusive future for all.

2 AI Policy Landscape

Due to the recent rapid advance of AI, and the multi-faceted impact this technology has on society and economy, AI policy has emerged as a relatively new field aimed at guiding the development, diffusion, and adoption of the technology, and channeling its social impacts. From 2018, the US has announced several policies that signal a "hands-on" approach to AI, while China and France have made AI a national priority. Other governments around the world have dedicated substantial resources to investing in the technology and preparing for its impact. Additionally, multilateral, and supranational institutions like the Organization for Economic Cooperation and Development (OECD), the European Union (EU) and UNESCO have issued binding and non-binding documents, including principles and ethical guidelines for the development and use of AI.

Although there is not a unique single definition, AI policy can be described as the set of guidelines, regulations, principles, and public policies formulated by governments, organizations, and institutions to govern the development, deployment, use, and potential risks of AI technologies. These policies come from a variety of institutions (governments, research institutes, multilateral organizations, private companies), and are developed at different levels (principles statements, guidelines, regulatory instruments). Additionally, their policy design may differ from national strategies set up by national governments, to public consultations and other participatory mechanisms that involve civil society and stakeholders to provide input to the design of the policies.

The variety of forms and levels that AI policy is taking worldwide makes the navigation of this new policy field a complex and intricate task. To better illustrate the complexity of this field, we present an examination of the main AI policies adopted at the international level and in major countries and regions and compare the different policy approaches these governments are currently implementing to govern the development and use of AI.

It is important to note that we analyze both policies, regulations, and principles present at the international and national levels, as well as overarching digital or industrial national policies that include AI as a topic of discussion. Additionally, the list of policies presented is far from exhaustive since at each level (international and national) new policies and recommendations are constantly being proposed and issued.

2.1. International Efforts

At the international level, AI ethics and social impacts have drawn serious attention from different spheres of society. Consequently, several policy frameworks addressing these issues have been brought up by various organizations. **AI Ethics Principles** constitutes one of the main frameworks used to address the ethics and societal impacts of AI internationally. Typically, these are documented in an item-by-item style and are aimed at expressing the proposers' values and attitudes towards the development, utilization, and governance of AI.

This approach tries to condense complex ethical considerations or requirements into formats accessible to a significant portion of society, including developers, users, and regulators, and general civil society. For that aim, they must achieve a succinct condensation of broad and deep ethical concerns into an accessible number of principles, while striking a balance between developing an ideal hypothetical outcome and a workable pragmatic framework (Stix, 2021). Many of these frameworks have been produced by expert committees on AI created by national and international organizations, which often are commissioned with the drafting of policy documents and recommendations in this regard. These include, for example, the European Commission's High-Level Expert Group on AI[1] and the OECD's Council on AI at the international level, and the Advisory Council on the Ethical Use of AI and Data in Singapore, and the United Kingdom's (UK) AI Council[2] at the national level.

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[1] https://digital-strategy.ec.europa.eu/en/policies/expert-group-ai
[2] https://www.gov.uk/government/groups/ai-council#:~:text=The%20AI%20Council%2C%20an%20independent,Artificial%20Intelligence%20(AI)%20ecosystem.

We differentiate *Principles from Policies* as the former normally do not include technical standards, applicable laws, or explicit policy instruments, but rather represent guidelines and overall objectives. Nonetheless, Principles could shape policy by influencing decisions, taxation, education measures or social security programs (Stix, 2021). For instance, the European Commission's Ethics Guidelines for Trustworthy AI[3] have had a significant policy impact within the EU. They have influenced the political agenda of the commission and informed the initial legislative framework proposal for AI.

2.1.1. OECD AI Principles

Internationally, the OECD AI Principles[4] have been positioned as the first international government-endorsed AI policy framework and represent the beginning of other national laws and agreements for the regulation of AI. They were issued as part of the Recommendation on Artificial Intelligence of the OECD Council on 2019 and they were endorsed by 42 governments and by the G20 meeting on the same year.

The main aim of these principles is fostering innovation and trust in AI by both promoting the responsible stewardship of trustworthy AI while ensuring respect for human rights and democratic values. They focus on AI-specific issues and set a standard that is implementable and flexible to be updated in the rapidly evolving field of AI. The five principles are: (1) inclusive growth, sustainable development, and well-being; (2) human-centered values and fairness; (3) transparency and explainability; (4) robustness, security, and safety; and (5) accountability.

In addition, the principles present five recommendations to policymakers concerning national and international cooperation for AI: (1) investing in AI; (2) fostering a digital ecosystem for AI; (3) shaping an enabling policy environment for AI; (4) building human capacity and preparing for labor market transformation; and (5) international cooperation for trustworthy AI.
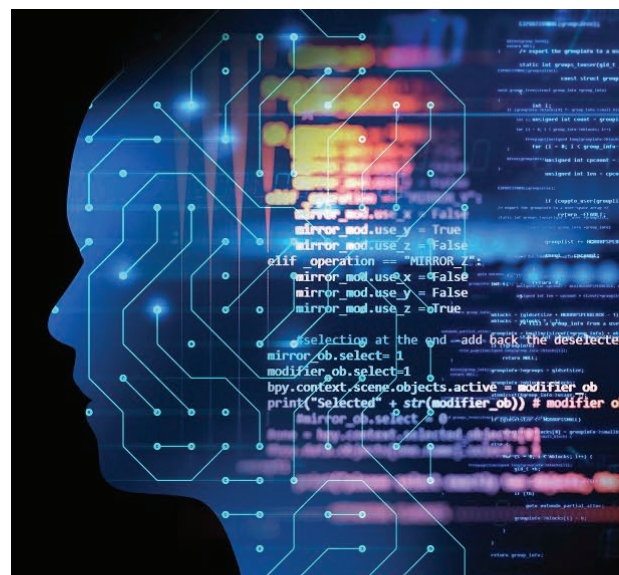
2.1.2. UNESCO Recommendation on the Ethics of Artificial Intelligence

This recommendation[5] was issued by UNESCO in 2021 and was adopted by all 193 member states of the institution. It focuses on the protection of human rights and dignity, and on the advance of the principles of transparency and fairness in AI systems. A distinguishing factor of this framework are its "policy action areas" that aim to allow policymakers to translate the core values and principles into action in areas such as data governance, environment, gender, education, research, and health and social wellbeing.

Based on four core values (human rights and human dignity, living in peaceful, ensuring diversity and inclusiveness, and environment and ecosystem flourishing), the Recommendation proposes ten principles to lay out a human rights-centered approach to AI systems: (1) proportionality and do not harm; (2) safety and security; (3) right to privacy and data protection; (4) multi-stakeholder and adaptative governance and collaboration; (5) responsibility and accountability; (6) transparency and explainability; (7) human oversight and determination; (8) sustainability; (9) awareness and literacy; and (10) fairness and non-discrimination.

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[3] https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai
[4] https://oecd.ai/en/ai-principles
[5] https://unesdoc.unesco.org/ark:/48223/pf0000381137

2.1.3. Universal Guidelines for AI (UGAI)

The Universal Guidelines for AI (UGAI)[6] is a policy framework developed by policy experts under the auspices of The Public Voice. The Public Voice is a coalition established in 1996 with the objective of promoting public participation in decisions concerning the future of Internet. It does so by bringing together civil society leaders and government officials for a constructive engagement about current policy issues.

The UGAI were announced in 2018 at the International Data Protection and Privacy Commissioners Conference with the objective of calling attention to the growing challenges of AI systems and proposing concrete recommendations that can improve and inform their design. Their main purpose is to promote transparency and accountability for these systems and to ensure that people retain control over them. They are intended to maximize the benefits of AI, to minimize its risk, and to ensure the protection of human rights, and aim to be incorporated into national and international law and agreements and built into the design of AI systems.

The framework builds on prior work by scientific societies, think tanks, NGOs, and international organizations, and incorporates elements of the human rights theory, data protection law, and ethical guidelines. It incorporates some well-established AI governance principles as well as novel ideas not previously seen in similar policy frameworks. Specifically the proposed principles are: (1) right to transparency; (2) right to human determination; (3) identification obligation; (4) fairness obligation; (5) assessment and accountability obligation; (6) accuracy, reliability, and validity obligations; (7) data quality obligation; (8) public safety obligation; (9) cybersecurity obligation; (10) prohibition on secret profiling; (11) prohibition on unitary scoring; and (12) termination obligation.

The UGAI aims to be timely, addressing the impact on the public of policy proposals developed by both public and private institutions around the world, and reflecting the public perspective on the research and development of AI. More than 250 experts and 60 organizations in 40 countries have endorsed the UGAI.

2.1.4. Other international efforts

A number of other international cooperation efforts for the development and adoption of AI can also be found in the AI policy field. Some countries turn to some of the previous efforts mentioned for global AI norm formulation, while others engage in partnerships or bilateral agreements with counterparts. These multilateral initiatives reflect the variety of approaches that countries are taking to tackle the practical applications of AI and scale solutions. The Global Partnership on AI (GPAI)[7], the OECD Network of Experts on AI[8], and the UNESCO Ad Hoc Expert Group for the Recommendation on the Ethics of AI, as well as the bilateral agreements of U.S. and the UK[9], France and Germany[10], and India and UAE[11] are some examples of these intergovernmental initiatives.

Similar efforts have also been taking place in the private sector, especially among multinational corporations (MNCs) that have AI at the core of their business. Companies such as Google[12] and SAP[13] have publicly released AI guidelines and principles, as well as professional associations and non-profit organizations such as the Association of Computing Machinery (ACM), Access Now, and Amnesty International.

To conclude, although each framework has their own perspective, interests, and coverage of the current and future state of AI, there are common issues that can be found across them, such as fairness, transparency, privacy, security, safety, and accountability (Zeng et al., 2018). This reflects the need and interest from different stakeholders to guide the development of AI and shape the ethics of the technology.

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[6] https://thepublicvoice.org/ai-universal-guidelines/
[7] https://gpai.ai/
[8] https://oecd.ai/en/network-of-experts
[9] https://www.gov.uk/government/publications/declaration-of-the-united-states-of-america-and-the-united-kingdom-of-great-britain-and-northern-ireland-on-cooperation-in-ai-research-and-development/declaration-of-the-united-states-of-america-and-the-united-kingdom-of-great-britain-and-northern-ireland-on-cooperation-in-artificial-intelligence-re
[10] https://www.diplomatie.gouv.fr/en/country-files/germany/events/article/french-german-declaration-of-toulouse-16-oct-19
[11] https://pib.gov.in/newsite/PrintRelease.aspx?relid=181145
[12] https://ai.google/responsibility/principles/
[13] https://www.sap.com/documents/2018/09/940c6047-1c7d-0010-87a3-c30de2ffd8ff.html

2.2. National Efforts

At the national level, an increasing number of countries have been developing National AI Strategies; plans that encapsulate the government's vision about the contribution of AI to the nation's social and economic development. They include policy tools that set the priorities for public investment and provide a framework for coordinating policy action about AI within the territory. They often initiate with a call to action in the form of a report, roadmap or white paper that frames the high-level goals for a strategy.

Although there are different policy focuses and marked differences in the legal systems, economic and digital capabilities, and cultures, there are cross-country commonalities in the areas of intervention and goals of these strategies. Namely, strengthening national AI research capacity, developing AI skills, supporting AI adoption in firms, fostering national competitiveness in AI, and aiming to be a global leader in AI development (Galindo et al., 2021). To illustrate some of these efforts, we present the cases of the U.S., EU, and China.

2.2.1. United States

The U.S. is committed to making AI safe through regulating its development and use. One of the main policy instruments deployed is the **AI Bill of Rights**[14], a blueprint to guide the design, deployment, and development of AI systems. It is a nonbinding instrument aiming to protect citizens from the potential harms of AI and relies on designers, developers, and deployers of AI to voluntarily apply the framework. It adopts five principles to address these concerns: safe and effective systems, algorithmic discrimination protection, data privacy, notice and explanation, and human alternatives, consideration, and fallback. It is accompanied by a technical handbook to support the implementation of the principles based on insights from researchers, technologists, advocates, and policymakers.

Additionally, first introduced in 2019, and relaunched in 2022, the **Algorithmic Accountability Act**[15], is a binding instrument that, if passed in the Congress, would require companies to assess the impact of the automated systems they use and sell in terms of bias and effectiveness. It applies to any person, partnership, or corporation that uses an automated system to make critical decisions. The Federal Trade Commission would be in charge of enforcing this legislation by developing assessments, reporting guidelines, and providing annual aggregated reports.

Aside from these regulatory instruments, the U.S. has also put in place certain plans and initiatives aimed at promoting and accelerating the development and adoption of AI technologies. Particularly, the **National AI R&D Strategic Plan**[16], updated in 2019, outlines the government's approach to advance AI R&D focusing on AI research investment, workforce development, privacy, and security. Simultaneously, several partnerships between the government and the industry and academia have been developed aiming to foster collaboration, innovation, and AI adoption in various sectors (e.g., National AI Research Institutes, AI for Earth program).

In reflection, AI policies in the U.S. involve a combination of executive actions, legislative proposals, agency guidelines, and partnership initiatives, focusing on promoting innovation, ensuring transparency and accountability, addressing the ethical considerations, and supporting the responsible development and deployment of AI technologies.

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[14] US AI Bill of Rights: https://www.whitehouse.gov/ostp/ai-bill-of-rights/

[15] https://www.congress.gov/bill/117th-congress/house-bill/6580/text

[16] US National AI R&D Strategic Plan 2023: https://www.whitehouse.gov/wp-content/uploads/2023/05/National-Artificial-Intelligence-Research-and-Development-Strategic-Plan-2023-Update.pdf
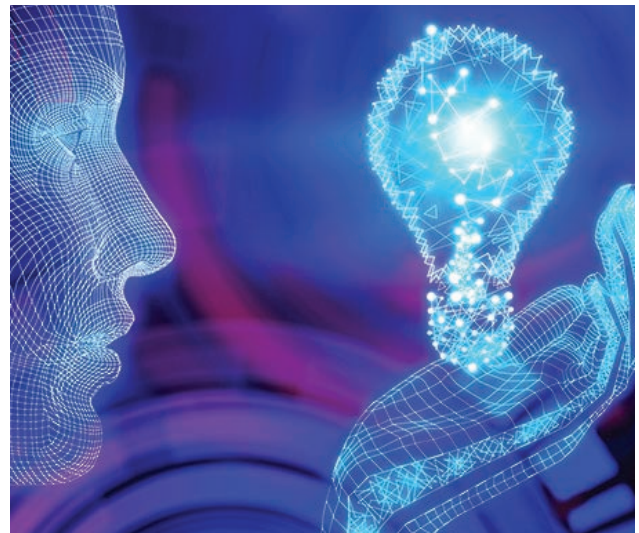
2.2.2. European Union

Across the world, the EU has been leading regulatory activities in the AI space, with a specific focus on risk management. The **EU AI Act[17],** initiated in 2021 by the European Commission, constitutes the world's first comprehensive law on AI and the major AI policy instrument in the region. The general objective is to guarantee that AI systems used in the AI are safe, transparent, traceable, non-discriminatory, and environmentally friendly. Specifically, it states that AI systems used in different applications should be analyzed and classified according to the risk they pose to users.

The different levels of risk established imply more or less regulation. The Act differentiates between unacceptable risk; which include cognitive behavioral manipulation of people or vulnerable groups, social scoring (i.e., classifying people based on behavior, socioeconomic status, or personal characteristics), and real-time and remote biometric identification systems; and high risk; systems that affect safety or fundamental rights used in products under the EU's product safety legislation, or used in specific high-risk areas (critical infrastructure, education, employment, public services, law enforcement and migration). Limited risk refers to those systems that allow users to make informed decisions (i.e., the user can decide whether they want to use the application or not). Finally, minimal risk refereeing to all other AI systems that can be developed and used without additional legal obligations. The Act is now in process in the European Parliament and is expected to come into force by the end of 2023. From the business perspective, any enterprise operating in or selling into Europe should be aware of the wide-ranging implications of the Act and take steps to ensure readiness with its provisions.

In addition to this regulation, AI technologies within the EU are also implicated in the **Digital Markets Act[18]** and in the **Digital Services Act[19].** The former strives to reduce the bottlenecks that large firms can create by monopolizing the digital economy (online intermediation services, online search engines, social networking services, etc.), while the latter is a cross-sector legislation with rules and legal obligations for technology companies (host services, marketplaces, and online platforms). Together, these three regulation instruments work in tandem to ensure firms are not misusing AI or leveraging technology to promote harm. Each instrument mandates that companies meet specific criteria, assessments, and audits.

Complementary to these regulations, there are other policy instruments that aim to accelerate the development and adoption of AI in the EU. Particularly, the **European Data Strategy[20],** the **EU Coordinated Plan on AI[21],** and the **EU Ethics Guidelines for Trustworthy AI[22]** complement the EU's policy mix to promote AI innovation whilst regulating the potential risks.

2.2.3. China

China has also made its mark on the global AI field by developing several regulatory and policy measures from the national, regional, and local levels. At the national level, the *"A Next Generation AI Development Plan",* launched in 2017, is a comprehensive national AI strategy including initiatives and goals for R&D, industrialization, talent development, education and skills acquisition, standard setting and regulations, ethical norms, and security. It states three main objectives: make China's AI industry in-line with competitors, reach world-leading in some AI fields, and become the primary center for AI innovation. The plan also lays out the government's intention to recruit the world's best AI talent, strengthen the training of local AI workforce, and lead the world in AI laws, regulation, and ethical norms; reflecting China's intent to actively participate in and lead the global governance of AI (Dutton, 2018).

At the regional level, an example is the **Shanghai Regulations** on promoting the development of the AI industry. Passed in 2022, this regulation introduces a graded management system of AI applications and creates sandboxes for companies to test and explore AI technologies. It provides a certain degree of flexibility for companies, looking to encourage the development of AI without burdening firms or developers with stringent regulation and instead shows a deeper commitment to fostering innovation. Another example is the **Regulations on Promoting AI Industry in Shenzhen[23],** which aims to increase financial support for AI adoption and development and adopt a risk-management approach which allows low-risk Shenzhen-based AI services and products to be tested. Despite being a regional-level regulation, this is a far-reaching instrument as Shenzhen is home to several AI and technology-related businesses.

In summary, China has been involved in some of the earliest efforts in AI regulation and policy in the world, focusing particularly on the implications of digital services, attempting to delve into the complexity and explainability of AI systems.

2.2.4. United Kingdom

The UK government has demonstrated its support for the regulation and promotion of AI systems through a series of policy papers, frameworks, and strategies. In 2018, the Department for Business, Energy & Industrial Strategy (BEIS), together with the Office for Artificial Intelligence, released a policy paper titled **"Establishing a pro-innovation approach to regulation AI"[24],** which stated that AI regulation in the UK will be context-specific and based on the use and impact of the technology. This entails that the government broadly defines AI and provide regulators with responsibility for developing appropriate enforcement strategies according to the relevant domains or sectors.

The title of this policy paper set the UK's approach towards AI. By focusing on high-risk concerns over hypothetical or low risks, the country aims to encourage AI innovation and limit barriers to its development, diffusion, and adoption. Additionally, it established a set of cross-sectoral principles (transparency, fairness, safety, security and privacy, accountability, and contestability), but allows interpretation, prioritization, and implementation according to the sectors and domains in which AI is being used, promoting a dynamic approach to AI regulation.

[23] Regulations for the promotion of AI in Shenzhen: https://cset.georgetown.edu/publication/regulations-for-the-promotion-of-the-artificial-intelligence-industry-in-shenzhen-special-economic-zone/#:~:text=The%20regulations%20aim%20to%20promote,or%20infringing%20on%20individuals'%20privacy.
[24] UK´s establishing a pro-innovation approach: https://www.gov.uk/government/publications/establishing-a-pro-innovation-approach-to-regulating-ai/establishing-a-pro-innovation-approach-to-regulating-ai-policy-statement

The government has made its ambitions clear, to "cement the UK's role as an AI superpower". For that aim, cooperation between government departments is allowing the UK to move the regulatory agenda forward, as well as consultation with technical experts, investment in infrastructure and education, and a dynamic and adaptable approach. Its sectoral approach has been credited as a successful approach due to the reliance on industry experts to regulate rather than a central regulator, and thus is expected to continue.

In addition to the government approach, the UK's AI ecosystem agreed a near £1 billion **AI Sector Deal**[25] to boost the country's global position as a leader in developing AI technologies. This led to the establishment of the **AI Council**[26], and industry-led board to advise on the implementation of this agreement and drive the growth of AI in the UK. In 2021, the UK's **National AI Strategy**[27] was issued, setting up a 10-year plan for AI based on three pillars: (1) "investing in the long term need of the AI ecosystem", (2) "ensuring AI benefits all sectors and regions", and (3) "governing AI effectively". This strategy purposely supports and amplifies other government-related efforts including The Growth Plan[28], the Innovation Strategy[29], the National Data Strategy[30], and the Plan for Digital Regulation[31]. Overall, UK's advance in AI policy and regulation is marked by a balance between the promotion of AI innovation and push for transparency and consumer protection.

2.2.5. India

India´s legacy as a pioneer in information and communication technology (ICT) services, accompanied by its rapid urbanization, low trade barriers, and elimination of import duties on technology products, have positioned this country in a unique place for foreign direct investment and other forms of collaboration on AI.

Considering the needs of its citizens, India is focused on extracting social value from AI, with its vision of #AIforAll embodied in its National Strategy for AI released in 2018. This strategy recognizes agriculture, healthcare, smart cities and infrastructure, education, and smart mobility as priority sectors for India´s AI thrust[32]. In addition, the country is launching its National Program on AI, aiming to lay a strong foundation for a sustainable ecosystem for AI. Moreover, in 2021 India released its own Responsible AI Principles together with an operationalization mechanism[33].

In terms of research and development, the country has launched more than 10 centers of excellence to support efforts on AI R&D in collaboration with industry and academic institutions. Furthermore, the government has encouraged public-private partnerships to create an ecosystem conducive to AI innovation and entrepreneurship.

[25] UK's AI Sector Deal: https://www.gov.uk/government/publications/artificial-intelligence-sector-deal/ai-sector-deal
[26] UK AI Council: https://www.gov.uk/government/groups/ai-council
[27] UK National AI Strategy: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1020402/National_AI_Strategy_-_PDF_version.pdf
[28] UK Growth Plan 2022: https://www.gov.uk/government/publications/the-growth-plan-2022-documents/the-growth-plan-2022-html
[29] UK Innovation Strategy: https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it
[30] https://www.gov.uk/guidance/national-data-strategy
[31] https://www.gov.uk/government/publications/digital-regulation-driving-growth-and-unlocking-innovation
[32] India's National AI Strategy #AIforAll: https://indiaai.gov.in/documents/pdf/NationalStrategy-for-AI-Discussion-Paper.pdf
[33] India's Responsible AI #AIfor All Approach Document Part 1 – Principles for Responsible AI: https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf

These efforts reflect India's commitment to positioning itself as a global AI leader while ensuring that the benefits of AI are accessible to all segments of its diverse population.

At the regional level, states have developed initiatives and policies to foster AI innovation while addressing its risks (e.g., Telangana AI Mission[34], Karnataka Digital Economy Mission[35], UP Start-up Policy 2020[36]). The state of Telangana, for example, has adopted an approach to facilitate the growth of emerging technologies by building a conducive environment and facilitating government adoption.

To address ethical and regulatory considerations, India is also working on formulating AI ethics and governance frameworks. These frameworks aim to ensure that AI technologies are developed and deployed responsibly, with respect for privacy, data protection, and social impact. The Personal Data Protection Bill, for example, aims to safeguard individual privacy, and is poised to play a pivotal role in shaping the country's data governance framework and its alignment with AI initiatives.

To conclude, while India's AI policies focus on growth and innovation, they also underscore the need for responsible and ethical AI practices, highlighting the government's proactive approach to addressing the multifaceted challenges posed by AI technology.

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[34] Telangana AI Mission: https://ai.telangana.gov.in
[35] Karnataka Digital Economy Mission: https://karnatakadigital.in
[36] Start In UP - Government of Uttar Pradesh, Uttar Pradesh Startup Policy 2020: https://www.bimtech.ac.in/Uploads/image/1701imguf_STATESTARTUPPOLICY-2020.pdf

3 Impact Areas and Recommendations

Despite having some commonalities, AI policies and strategies vary substantially across countries. This reflects the wide range of approaches that governments around the globe have taken to promote the use and development of AI.

To make sense of this rapidly changing field and navigate it, this paper categorizes AI policies according to 4 areas (Figure 1).
The next subsections explain each of these categories and provide recommendations in each one. These recommendations are framed from the perspective of the private sector as one of the key stakeholders in helping promote the development and deployment of AI for building a sustainable and inclusive future.

3.1. Innovation, Productivity and Competitiveness

AI brings significant benefits at the industrial level in terms of innovation, productivity, and competitiveness; from increased cost efficiency and productivity gains to improved prediction and greater innovation opportunities (Cockburn et al., 2018). Despite these great economic promises, several studies have highlighted how the rates of AI adoption are still limited in several advanced economies and have demonstrated that AI adoption is currently concentrated in large firms and in the ICT sector (Calvino & Fontanelli, 2023). This may be due to certain scale advantages of larger firms related to costs of adoption, larger amounts of data to leverage AI solutions, lower financing constraints, more capabilities to use the technology, and other complementary assets that allow them to better appropriate the potential of AI.

Complementary assets refer to those key technologies and infrastructure necessary for developing and using AI. These include high-speed broadband network and services, computing capacity, and data storage, as well as data-generating technologies such as Internet of Things (IoT) and edge computing. Many countries are setting up high-quality connectivity and have, or plan to, deploy nationwide 5G technology and networks, while others are allocating high-performance and cloud computing resources and setting up national high-performance computing infrastructure. Undoubtedly, effective AI policies need to understand and consider these key components.

Figure 1. Impact areas

Innovation, productivity and competitiveness

Data governance and privacy

Workforce dynamics and skills development

Social good, regulatory compliance and accountability

Sustainability, environment and climate change
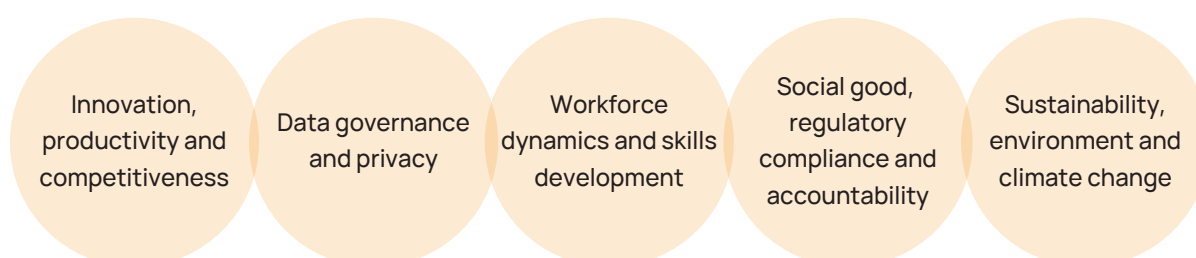
France's *AI Booster* program (2022)
An initiative from the French government aiming to help SMEs to accelerate the digitalization of their activities by adopting solutions, whether by providing direct audits, advice, and training or by financing the recourse to private experts.

Korea's *Plans for* Regional Diffusion of AI (2021)
A policy initiative to diffuse AI across all regions and all industries. The plans aim to link and combine different regions' individual AI policies and New Deal projects underway to maximize results, while advancing existing policies to address the AI gap between capital areas and non-capital regions.

U.S. *National AI R&D Strategic Plan*[37] (2019)
A plan addressing the R&D priorities associated with advancing AI technologies to ensure that federal R&D investments remain at the forefront of science and technology and focused on public-private partnerships to generate technological breakthroughs in AI and to rapidly transition those breakthroughs into capabilities.

U.S. *Chips for America Act*[38] (2022)
A bill that establishes investments and incentives to support U.S. semiconductor manufacturing, R&D, and supply chain security. It aims to ensure consistency in policies related to microelectronics, transparency in the supply chains, and alignment in policies towards non-market economies.

France's *Cloud Strategy "Infrastructures for the Data and AI Economy"*[39] (2021)
A national strategy supported by the EU for leveling the playing field of French cloud providers in the search of a European sovereign cloud.

This suggests that, if not addressed, this AI polarized adoption can generate significant gaps and disparities across the economy, with relevant implications for social outcomes. Policymakers, particularly those from the areas of innovation and industrial policy, should therefore play a key role in this context. Nowadays, AI diffusion and adoption is present across most of the national AI policies. They include initiatives such as investment and financing opportunities for firms, SMEs-targeted programs, human capital and skills, managerial capabilities, and digital infrastructure.

Nonetheless, a more proactive approach is needed in the policy scenario to guarantee that firms, despite their size and/or sector, fully appropriate the economic benefits of AI. This is especially relevant in emerging economies, as they may experience lower AI adoption due to the aforementioned barriers and obstacles. This approach may include fostering a supportive ecosystem for businesses, investing in AI infrastructure and R&D, and supporting AI adoption in SMEs.

[37] https://www.nitrd.gov/pubs/National-AI-RD-Strategy-2019.pdf
[38] https://www.congress.gov/bill/116th-congress/senate-bill/3933
[39] https://www.entreprises.gouv.fr/fr/numerique/strategie-d-acceleration-cloud

Recommendations

- To truly appropriate the productivity gains generated by AI across the economy, a policy mix that boosts technology diffusion across firms is necessary. This should include both demand-side measures that encourage AI adoption in firms, and supply-side measures that foster competition, provide investment, improve knowledge production and sharing, and strengthen AI infrastructure and skills. Such policies may allow AI to be more widespread, not only across firms – fostering technology diffusion and its returns, but also across sectors – strengthening the diffusion of AI applications beyond the ICT sector.

- Introduce incentives such as grants, tax credits, and funding programs to encourage businesses to invest in AI research, development, and implementation. These incentives can help offset the costs associated with AI adoption and stimulate innovation.

- Facilitate collaboration between businesses, research institutions, and government agencies. Establish public-private partnerships, innovation clusters, and collaborative platforms to foster knowledge exchange, resource sharing, and joint AI projects.

- Support startups and small businesses in the AI sector through funding, mentoring programs, and access to AI infrastructure. Foster an environment that encourages entrepreneurial ventures and attracts AI talent.

- Ensure a robust and reliable digital infrastructure, including high-speed internet connectivity, to support AI adoption and data-intensive applications. Promote the deployment of 5G networks and other emerging technologies that facilitate AI development and deployment.

- Allocate funding for AI research centers, laboratories, and collaborative projects. Support academic institutions and research organizations engaged in cutting-edge AI research to drive technological advancements and innovation.

- Offer targeted resources, guidelines, and training programs to help SMEs understand and adopt AI technologies. Support initiatives that assist SMEs in overcoming barriers to AI adoption, such as lack of expertise, funding, or infrastructure.

- Facilitate knowledge sharing platforms, networks, and mentorship programs that connect SMEs with AI experts, researchers, and successful AI adopters. Encourage larger businesses to collaborate with SMEs and share their AI experiences.

3.2. Data Governance and Privacy

AI systems use data to make predictions about certain variables. This creates privacy concerns as personal data may persist longer than the person who generated it intended, it may be repurposed for different uses than originally planned, and it may contain information about others. The collection and usage of data by AI systems has, therefore, the potential to infringe on individuals' privacy rights. This has turned the attention of policymakers to regulate the collection, storage, and usage of this data.

The use of personal data by AI systems can lead inadvertently to unintended consequences. For example, personal information shared to AI systems can generate insights people do not know

that are of sensitive nature, blurring the boundaries between public and private information. Or personal data shared for one purpose can be used for other objectives without adequate approval. The challenge in this regard lies in the fact that the acceleration of AI is closely tied to the availability of data. Therefore, AI policies should look for an adequate balance between enabling data access for AI development and protecting individuals' privacy rights.

EU General Data Protection Regulation (GDPR)
The GDPR is a comprehensive data protection regulation that applies to all EU member states. It sets out guidelines for the collection, storage, and processing of personal data, including provisions related to AI and automated decision-making.

India's National Strategy for AI
India's national AI strategy includes a focus on data privacy and protection. It highlights the need for robust data protection laws, consent-based data sharing, and building trust in AI systems through transparency and accountability measures.

Colombia's *Guidelines for the Implementation of Data Trust and Data Models*
In 2021, the Colombian government launched an initiative exploring new models of data governance, the creation of public policies that generate an environment of trust in cyber users, and the development of AI through the use of data.

South Korea's Personal Information Protection Act (PIPA)
South Korea has enacted the PIPA, which regulates the collection, storage, and use of personal information, including in the context of AI. It establishes requirements for obtaining consent, implementing security measures, and ensuring individuals' rights over their data.

California Consumer Privacy Act[40] (CCPA)
This is a comprehensive law that went into effect in 2022 in California, U.S., imposing substantial privacy obligations on companies worldwide (not only in California) and provide individuals with enhance privacy rights.

At the firm level, data governance and privacy policies can present challenges and significant effects for businesses. First, complying with these policies may be time-consuming and resource-intensive for business, especially smaller firms with limited resources. Additionally, the costs associated with implementing necessary safeguards, conducting audits, and ensuring ongoing compliance can strain budgets and divert attention from core business activities.

Second, policies may impose restrictions on the collection, storage, and use of data, and businesses may face limitations in utilizing customer data for analytics, research, and AI development. This can hinder the development of innovation AI models and insights, limiting the potential for improved products and services.

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[40] https://www.californiaconsumerprivacy.com/

Third, they can create disparities in compliance readiness among businesses, as larger organizations may have an advantage in meeting the requirements, while smaller businesses may struggle to keep up. This can lead to an uneven playing field, potentially disadvantageous to smaller or emerging businesses and hindering their ability to compete effectively.

Fourth, restrictions on certain types of data (e.g., sensitive, or personal data) can pose challenges for AI researchers and developers who rely on diverse datasets to train and refine AI models. This can impede the progress of AI R&D, potentially slowing down innovation in the field. Additional security measures to data (e.g., encryption, secure storage, access controls) can also incur significant costs, adding to administrative burdens and overhead costs.

Finally, cross-border data transfers regulations, such as the EU's General Data Protection Regulation (GDPR) can complicate international business operations, add administrative complexities, and increase costs associated with cross-border data flows. Moreover, lengthy consent processes, opt-in/opt-out requirements, and data access requests can create friction and inconvenience for customers, resulting in reduced customer engagement.

Firms must navigate these challenges by implementing robust data governance frameworks, investing in compliance measures, and adopting privacy-conscious practices. Governments, on the other hand, must strike a balance between privacy protection and facilitating responsible data usage is essential to mitigate the negative impact of data governance and privacy policies on businesses.

Recommendations

- Consider the size, resources, and nature of businesses when designing privacy and data governance policies. Policymakers should strive for clear and harmonized standards. Inconsistencies and conflicting regulations can create compliance challenges for businesses operating globally.

- Target support and resources to SMEs to navigate the complexities of privacy and data governance requirements (simplified guidelines, assistance with compliance procedures, support networks or advisory services to help SMEs).

- Create public-private dialogues to formulate and revise privacy policies, and regular consultations and feedback mechanisms to contribute to the development of more balanced and effective policies.

- Provide resources, guidelines, and training programs to help businesses build internal capacity and foster a culture of responsible data handling.

- Offer tax incentives, grants, or funding programs that promote the use of privacy data techniques, secure data storage solutions, etc.

- Establish regulatory sandboxes or pilot programs to allow business to experiment with AI solutions while ensuring compliance with privacy and data policies.

- Support international policymaking cooperation and knowledge sharing to address AI and data governance.

- Require effective safety breaks for AI systems that control critical infrastructure.

- Define the class of high-risk AI systems being deployed.

3.3. Workforce Dynamics and Skills Development

A common concern in public discourse is that AI will displace a large number of human workers from their jobs over the coming decades, leading to mass unemployment and significant societal consequences. AI has the potential to replace humans in tasks that they previously performed and create a powerful displacement effect that can reduce the demand for human labor, wages, and employment (Acemoglu & Restrepo, 2018a). The OECD has argued, for example, that the adoption of AI may increase labor market disparities between workers who have the skills to use AI effectively and those who do not (OECD, 2021). This implies relevant considerations for businesses as they might need to face and take charge of job displacement and redesign, skills development and upgrading, and workforce planning and support.

From a different point of view, AI is also creating new jobs through the boost it gives to productivity and economic growth. Some of these extra jobs will be in areas linked directly to AI and related technologies (e.g., data scientists, robotic engineers or people involved in the design and manufacture of sensors for driverless vehicles and drones), while others are likely to be mostly in providing relatively hard-to-automate services (e.g. health and personal care) that are in greater demand due to the additional real incomes and spending arising from higher productivity generated by AI (PwC, 2021).

From the policy point of view, this scenario suggests the need for a policy agenda aimed at maximizing the economic and social benefits of AI, while helping people to adjust the new workforce dynamics imposed by the technology. This includes ensuring that labor markets are capable of adapting to changes induced by technology, developing adequate social protection mechanisms, creating strategies to boost employability, promotion of upskilling, new forms of education, training programs, and facilitating investment in regions and cities that could otherwise see potential negative employment effects from AI. Most countries are currently addressing this challenge through specific chapters on their national AI strategies about jobs, skills, and education, while others have specific policies addressing this issue.

France's *AI Education & Training Development Plan*[41] (2022)
A funded national training plan aiming at the massification of AI in the national higher education ecosystem (short and long studies, AI specialists, introductory modules, etc.).

U.S. American Workforce Policy Advisory Board[42] (2019)
Part of an initiative to bridge the skills gap in the economy due to the rise of AI and automation and the increasing need for high-tech skills.

Canada's Pan-Canadian AI Strategy[43] (2017)
Canada's AI strategy includes a focus on workforce development. It includes initiatives such as the AI Talent and Skills Initiative, which aims to train and attract AI talent, and the AI4ALL program, which promotes diversity and inclusion in AI education and research.

[41] https://anr.fr/fr/detail/call/competences-et-metiers-davenir-cma-appel-a-manifestation-dinteret-2021-2025/
[42] https://www.commerce.gov/americanworker/american-workforce-policy-advisory-board
[43] https://ised-isde.canada.ca/site/ai-strategy/en

Recommendations

1. **Foster skills development and lifelong learning**
   - Encourage the integration of AI education into formal education systems at all levels. Support the development of AI-focused curricula, training programs, and certification courses to equip individuals with AI-related skills.
   - Provide funding and incentives for businesses to offer training programs that enhance employees' AI literacy and technical competencies.
   - Incentivize businesses to invest on staff upskilling by implementing AI systems that automate repetitive tasks and training staff to perform more strategic tasks.
   - Foster collaboration between policymakers, businesses, and educational institutions to bridge the gap between academic programs and industry needs. Establish partnerships that promote work-integrated learning, internships, and apprenticeships to develop practical AI skills.

2. **Support the transitioning of workers**
   - Implement social safety nets, such as unemployment benefits and income support, to provide a buffer for workers during transitional periods. Explore initiatives like universal basic income to address the potential disruption caused by AI automation.

3. **Anticipate future skills demands**
   - Establish mechanisms to monitor and analyze the changing skills requirements and job trends driven by AI. Utilize labor market intelligence to inform policy decisions and identify emerging skill gaps.

4. **Promote inclusivity in access to AI resources**
   - Facilitate investment in sectors and regions that are more prone to see potential negative employment effects from AI.

3.4. Social Good, Regulatory Compliance and Accountability

AI policies have a key role in ensuring fairness, transparency, and accountability in AI systems. These have been common objectives across global and national AI policies and principles and reflect the need for channeling AI towards social good. Specifically, policy and regulatory bodies need to address three sides of this issue. First, the potential biases of AI-enabled features or products. Second, the use of AI in making material decisions regarding financial, health, and other human-values outcomes (Calo, 2017). And third, the potential inequality generated by AI.

Firstly, potential biases in AI features or products involve problems related to the design and deployment of AI (e.g., image recognition, gender- and race-based biases, price discriminatory algorithms, etc.). These types of problems result in AI systems not working well for certain populations. This might be due to AI models trained on data where a particular demographic is underrepresented or to systems that selectively address marginalized populations. Here, the policy question is two-folded; minimizing discriminatory biases while ensuring the risks and benefits of AI are evenly distributed across society.

Secondly, in the case where AI makes material decisions about people, there is a widespread consensus across policies about the need for AI systems to be fair, accountable, and transparent. European countries, for example, emphasize the need of "ethics by design" in the development and deployment of AI. Others recognize the importance of citizens' rights to be protected during the development and use of AI. However, while many countries acknowledge equality and inclusion as key concepts in AI research and design, few policy instruments contain concrete actions to address these issues (Kung, 2020).

Thirdly, from the economic point of view, AI may increase inequality for two main reasons. On the one hand, AI might be skilled biased (Agrawal et al., 2019). It can disproportionately increase the wages of highly educated people and decrease the wages of the less educated. This relates mainly to education policy and includes the policies discussed in Section 3.3. Workforce Dynamics and Skills Development. On the other hand, as AI is a new, more efficient form of capital, the economy could experience an increased capital shared at the expense of labor (Acemoglu & Restrepo, 2018b).

Policies dealing with this issue include taxation policy and initiatives such as the universal basic income. The policy approaches addressing these issues may have significant impacts on businesses. First, regulatory compliance can help businesses mitigate legal risks and avoid potential penalties or legal actions. Non-compliance can result in financial liabilities, reputational damage, and loss of consumer trust. Second, it requires businesses to assess the impact of their AI systems on ethical considerations and take appropriate measures to address potential issues. Third, demonstrating accountability in AI can help to build trust with stakeholders (customers, employees, investors, regulatory bodies), foster long-term business relationships, attract investment, and maintain a positive reputation. Fourth, compliance with AI regulations can be a differentiation factor in the market, contribute to a positive brand image, and enhance customers' trust. Finally, it may allow businesses to access global markets where regulation requires adherence to specific AI standards, facilitating international expansion, partnerships, innovation, knowledge sharing, and support.

Canada's Directive on Automated Decision-Making[44] (2019)
In addition to addressing privacy concerns, Canada emphasizes the need for accountability and transparency in AI systems. It highlights the importance of avoiding biases and discrimination and ensuring that AI is used to promote equality and inclusivity.

France's AI for Humanity Strategy[45] (2018)
France's AI policy is centered on the ethical and human-centric use of AI. The plan emphasizes the importance of accountability, transparency, and social inclusion in AI development and deployment, with a special focus on the public sector and services.

South Korea's AI for Everyone Policy[46] (2019)
South Korea has implemented an AI for Everyone policy to build a society in which AI advancements benefit everyone. The policy aims to ensure social inclusion, address ethical challenges, and enhance transparency and accountability in AI development and deployment.

[44] https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32592
[45] https://ai-watch.ec.europa.eu/countries/france/france-ai-strategy-report_en#:~:text=The%20AI%20for%20Humanity%20strategy,the%20environment%2C%20defence%20and%20security.
[46] https://www.msit.go.kr/eng/bbs/view.do?sCode=eng&mId=10&mPid=9&pageIndex=&bbsSeqNo=46&nttSeqNo=9&searchOpt=ALL&searchTxt=

Recommendations

- Establish channels for ongoing collaboration and dialogue between business leaders and policymakers that allow the exchange of knowledge, experiences, and insights to inform AI policies effectively.

- Provide clarity on compliance requirements while allowing businesses flexibility to accommodate technological advancements and innovation.

- Develop inclusive policy development processes that involve diverse stakeholders (businesses, academia, civil society, experts, and minority and disadvantaged groups) to ensure that AI policies consider a wide range of perspectives and impacts.

- Develop industry standards and certification programs that help businesses demonstrate compliance with AI regulations.

- Establish clear guidelines on the use of appropriate datasets since biased data can lead to extensive biases within AI systems.

- Introduce incentives or benefits for businesses that demonstrate compliance with AI regulations and adhere to responsible AI practices.

- Create mechanisms to collect feedback, assess effectiveness, and make necessary adjustments to keep pace with evolving AI technologies and societal needs.

- Promote transparency and ensure academic and non-profit access to AI.

- Pursue new public-private partnerships to use AI as an effective tool to address the social challenges that come with new technology.

3.5. Sustainability, Environment and Climate Change

The interlinkages between AI and sustainability entails both opportunities and risks. While AI is rapidly emerging as one of the most invaluable tools to mitigate climate change, it is also raising concerns regarding its environmental impacts derived from the use of energy, water, and other natural resources in the training and deployment of AI systems, and the related carbon emissions. Consequently, policy plays a key role in steering AI towards mitigating climate change and establishing effective guardrails that ensure that AI deployment is responsible and sustainable.

Governments are starting to weigh in and are increasingly aware of the issues related to AI and its intersection with climate change. For example, the most updated draft of the EU AI Act requires any high-risk AI system to assess and report on "the reasonably foreseeable adverse impact of the use of the system on the environment." It also calls for the creation of Key Performance Indicators to track the energy consumption of AI systems and promote using more efficient AI technologies, as well as measure their impact on the Sustainable Development Goals (SDGs).

Policy is undoubtedly needed for regulating the impact of AI on the environment. Policy makers need to establish measurement standards, expand data collection, identify AI-specific impacts, and improve transparency and equity. Additionally, it should look beyond operational energy use and emissions, and funnel AI R&D towards areas related to climate change.

This can be done, for example, by facilitating access to advanced computational tools, government datasets, targeted financing, and other resources. However, the use of AI for climate action should not simply be a research initiative. There must be a commitment from all sectors of society that include both domestic and international efforts.

The U.S. Institute for Research on Trustworthy AI in the Weather, Climate, and Coastal Oceanography
The U.S. National Science Foundation has established the Institute for Research on Trustworthy AI in the Weather, Climate, and Coastal Oceanography[47] to advance AI R&D in this area.

UK dedicated AI research resources
The UK government has invested £900 million to develop a dedicated AI Research Resource[48] which will be used to better understand climate change, among other objectives.

U.S. and EU collaboration on AI for major global challenges
The U.S. and EU announced a collaboration[49] for using AI to address major five major global challenges: extreme weather and climate forecasting, emergency response management, health and medicine improvements, electric grid optimization, and agriculture optimization.

Internationally, countries should unite to create indicators specific to AI computing, or "compute", share best practices, and support new and innovative AI applications to fight climate change. In doing so, countries can ensure that AI is trained and deployed in the most sustainable way possible while minimizing negative environmental impacts. Currently, this is a challenge since there is a lack of consensus on benchmarks and a shortage of data in this area, meaning that there is little information available for evidence-based decisions.

Civil society organizations can greatly contribute to this task too. For example, can inform businesses of opportunities to apply AI to climate change, connect businesses and researchers, and promote intersectoral dialogues about the topic. For instance, The Responsible AI Institute[50], a global independent non-profit organization, develops certification programs and assessments for AI implementation integrating climate and environmental analyses into its programs.

[47] https://www.ai2es.org/
[48] https://hai.stanford.edu/news/conservative-british-government-seizing-day-ai-while-us-dawdles?utm_source=Stanford+HAI&utm_campaign=fed781b8c4-Mailchimp_HAI_Newsletter_April+2023_3_General&utm_medium=email&utm_term=0_aaf04f4a4b-fed781b8c4-214045094
[49] https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/27/statement-by-national-security-advisor-jake-sullivan-on-the-new-u-s-eu-artificial-intelligence-collaboration/
[50] https://www.responsible.ai/

Additionally, technology businesses that provide large AI systems and the related computing resources are critical to balance the impact of AI on the environment. Firstly, by adopting the environmental standards and requirements set by governments and regulators. And secondly, by assuming a proactive approach towards carbon neutrality and net zero in their AI operations. Since some industries are more carbon-intensive than others, both of these approaches should require using an industry-specific lens to what kinds of policies and commitments are appropriate.

Summing up, while AI development and deployment entails certain environmental impacts due to the extensive use of energy and water resources and the associated carbon emissions, it is also a tool to advance the efforts in fighting climate change. Addressing this two-folded challenge demands global coordination across geographical, political, social, and economic spheres. Consequently, governments, industry, civil society, and international organizations all have crucial roles in this urgent matter.

Recommendations

- Include climate considerations in regulatory instruments (e.g., certification programs, standards, etc.).

- Governments should unite to create indicators specific to AI computing environmental impacts, share best practices, and support new and innovative AI applications to fight climate change.

- Allocate funding and resources towards AI R&D focused on sustainability and climate change.

- Incentivize the adoption of AI technologies that optimize energy distribution, reduce energy waste, and enable efficient grid management.

- Invest in the development and deployment of AI systems for climate monitoring, extreme weather events, environmental risks, and natural resources management.

4 Global Co-Operation on AI

As elaborated in the preceding sections, AI is a deeply collaborative, scale-intensive, and strategic domain that entails both opportunities and risks for industry, economy, and society. The role of business is essential in ensuring that progress of AI happens in a manner that balances the interests of all stakeholders. This leads to several reasons to sustain and further enhance international cooperation in this regard.

First, AI R&D is a complex and resource-intensive endeavor in which scale is a crucial advantage. Cooperation among governments and businesses across national boundaries can maximize the advantage of scale and exploit comparative advantages for mutual benefit. Divergent regulatory approaches can create barriers to AI innovation and diffusion due to potential negative spillovers such as restrictions on access to data, data localization, discriminatory investment, and other requirements.

Second, while there have been significant efforts in aligning responsible and ethical AI principles across industry, governments and international organizations, differences still remain. This can be disruptive for businesses who have to operate seamlessly across national boundaries. Therefore, the next step in AI governance involves translating AI principles into business-friendly policy, regulatory frameworks, and standards.

Third, enhanced global co-operation is essential to avoid unjustified restrictions regarding flows of data that can affect global value chains and, in turn, reduce the market size and incentives for businesses to invest in AI solutions. This is key to guarantee an effective promotion of AI innovation, adoption, and diffusion by businesses.

A final reason, and perhaps the most relevant, is that a truly global co-operation on AI is needed to leverage the potential of AI solutions to address global challenges like climate change, cybersecurity, terrorism, and pandemic preparedness. Several efforts have been made in this regard. The EU aims to use AI to support its Green Deal approach, and the G-7 has advocated for its use to achieve the UN SDGs. Nevertheless, more collaborative efforts can pool resources, investment, expertise, talent, and national capabilities to address these global issues.

4.1. Critical Stakeholders

As part of these recommendations, in both the national and international level, there are three key stakeholders that play a role in shaping the AI policy agenda. For each one of those, we present the following recommendations:

- **Regulators and legislators:** independent regulators and legislators across sectors must work in harmony to ensure that AI principles, policies, and programs are well understood. Confusing or contradictory rules may undermine the creation of a seamless AI-enabled business ecosystem. For example, the insurance and markets regulators must look at the impact of AI in finance in totality.

- **Industry actors:** various industry bodies and sectoral representatives should form a common ground. If the industry doesn't agree on principles that promote the creation of a sustainable and inclusive future for all, then other stakeholders including civil society will impose rules that may not suit innovation.

- **Technology creators:** entrepreneurs, start-ups, and tech giants must have an internal mechanism to follow basic norms while developing AI based solutions. Focus on social impact, small businesses and ethics should be the underpinning characteristics.

5 Conclusion

As advances continue and grow exponentially in AI research and deployment in a variety of sectors, businesses around the world are increasingly recognizing the importance of comprehensive, coordinated national and international strategies in order to remain competitive. These strategies seek to not only advance business adoption and use of AI, but also seek to prepare broader society for the economic, social, ethical and policy implications of AI technologies.

Over the last years, several countries have issued their national AI strategies, and multilateral and supranational organizations such as UNESCO, OECD, and the European Commission have continued to track, analyze, and propose global guidelines, principles, and frameworks. Despite this advance in AI regulation and policy, there are still several questions where international conversations and coordinated efforts on making these efforts business-friendly may be needed. For example, what are the legal and accountability mechanisms to track the implementation and evaluation of AI strategies and policies? What impact does the adoption of such strategies and policies have on innovation, productivity, competitiveness, workforce dynamics and skills development – aspects all critical for business competitiveness?

Finally, although national AI strategies and policies are necessary and indeed effective to drive an ethical advance of the technology, purely national approaches can be limited as AI's effects and externalities transcend national boundaries. Consequently, national efforts to develop AI policies should be coordinated and supported by international frameworks to avoid business risks stemming from the imperfect interaction of fragmented national regulatory approaches (Erdélyi & Goldsmith, 2018). This report presented and analyzed the main areas in which AI policy has an impact on businesses, highlighted the main reasons why global co-operation in this regard Is necessary, and how it can help to address the major global challenges of our era. With this aim, the B20 calls for India to coordinate the establishment of business-friendly standards and a regulatory framework for AI, and proactively sharing it with all countries for their reference and consensus.

Taking the recommendations and questions presented here and other similar considerations will be important for shaping the future AI policy scenario and for bringing businesses along as effective partners in using AI to build a sustainable and inclusive future for all.

India to coordinate business-effective global standards in AI

India's capacity to employ technology to address large and complex societal issues has garnered global attention. Several studies confirm that India outperforms similar geographies in terms of innovation relative to its level of development. The Global Innovation Index (published by WIPO – Dutta et. Al. 2022), for example, classifies India as one of innovation leaders in the world. Additionally, India is already pulling ahead of developed Western economies in AI skills.

The country is also moving forward with a technology architecture (the India Stack) that provides innovators with the required building blocks (data, infrastructure, skills, etc.) and will continue to ride its advantage as the largest ICT services exporter and a key source of scientific and engineering graduates. Combined, these characteristics position India in a privileged place to take the lead in coordinating global AI standards and steering AI development, diffusion, and adoption.

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The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India strategizes for the next 25 years to India@100, Indian industry must scale the competitiveness ladder to drive growth. It must also internalize the tenets of sustainability and climate action and accelerate its globalisation journey for leadership in a changing world. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2023-24 as 'Towards a Competitive and Sustainable India@100: Growth, Inclusiveness, Globalisation, Building Trust' has prioritized 6 action themes that will catalyze the journey of the country towards the vision of India@100.

With 65 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.