A World Bank Group Flagship Report

WORLD DEVELOPMENT REPORT 2026

OVERVIEW

The Promise of **Artificial Intelligence**



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AI Disclosure Statement

Claude Sonnet 4.6 and 5, DeepSeek Chat, GPT-5 mini, Gemini 1.5 Flash, and Opus 4.6 and 4.8 were used for coding and labeling unstructured data. The World Bank's internal mAI interface using ChatGPT 5 and Copilot was used to improve clarity and shorten text in earlier drafts. All uses and outputs of AI were closely monitored by the team. All analytical judgments, policy interpretations, and conclusions were developed, reviewed, and verified by the author team.



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Foreword

The debates over artificial intelligence (AI) have devolved into exercises in self-absorption in most developed economies. Silicon Valley is racing for the holy grail—an all-purpose intelligence that outthinks the human mind. Major economies are locked in a contest for global technological supremacy. White-collar workers are losing sleep over chatbots coming to take their jobs.

Developing economies should tune out much of this noise. This Report—the first comprehensive assessment of AI's implications for the rest of the world—shows why. AI has thrown them a lifeline they should grasp before it slips away. Doing so does not oblige them to burn a trillion dollars on the ultimate large language model. It does not require them to show the door to armies of office workers. AI's potential for them is at once more basic and more radical. For the first time, it could put scarce knowledge about what matters most for economic progress within the reach of millions—through a text message, a voice call, and a variety of other low-cost but sharp instruments for clinics, courts, schools, farms, and small businesses.

If handled well, AI could help lift global growth to its strongest pace since the golden years of the 2000s, delivering tangible benefits to people in developing economies as well. This 2026 edition of the *World Development Report* shows that even if AI fails to live up to all its hype, developing economies would still be better off than they are today: The worst-case estimates suggest that potential growth rates in developing economies would rise above the dismal average of the first half of the 2020s. At a time when development progress has dipped to a 75-year low, nothing else on the horizon offers as much upside. Such an opportunity might not come again any time soon.

Of course, nothing worthwhile ever comes without risk. AI could close off a promising route to middle-class employment in many developing economies, threatening call-center work and entry-level jobs in software, finance, and business services. It could worsen electricity and water shortages. It could deepen dependence on foreign technology—and force poorer countries to choose between rival AI systems controlled by the most powerful nations. It could bring an array of other unwanted outcomes: greater income inequality, stealthier misinformation, and political repression.

This litany of dangers, however, only strengthens the case for immediate action. Developing economies cannot afford to watch new AI technologies from the sidelines: The experience from earlier waves of innovation shows that the costs of defensiveness or passivity are simply too high. The first Industrial Revolution—the age of steam power and machines of mass production—left those outside the mainstream in the dust. At its outset, Britain was roughly four times richer per person than India. By the end of the 20th century, it was 10 times richer. The gap had widened into an impossible-to-bridge chasm.

This time around, developing economies must determine their own destiny. *World Development Report 2026* offers them a road map. Until now, concrete evidence about AI's impact on the developing world has been scant. This Report starts to fill that void. It provides the first detailed assessment of how people, businesses, and governments in poorer countries are using AI, what is holding them back, and where the largest gains are likely. It offers a simple framework to decode AI and strike a sensible blend of measures to adopt, adapt, and advance AI-based technologies. Finally, based on the facts and framework, it provides low- and middle-income countries—and even small high-income economies—the essentials of a potent national strategy.

As a rule, developing economies today have more to gain—and less to fear—from AI than richer ones, our analysis finds. Less than a tenth of their jobs are susceptible to AI automation, compared with more than a third in high-income economies. Yet the upside is substantial: One out of every six developing-economy jobs would be enhanced rather than replaced, only slightly less than the share in high-income economies. AI, for example, might enable the judiciary to radically reduce caseloads, help teachers to prepare better lessons, assist nurses in interpreting a medical scan, or guide a farmer on when to plant and which pesticides to avoid.

It costs little, moreover, to reap such benefits—no need for massive investments in data centers or large language models. AI can help solve important problems involving narrow tasks even when local computing power is limited, electricity is unreliable, and internet service is dodgy. *Small AI* models can be constructed to run offline on just about any hardware. For most developing economies, the first step of AI adoption will involve exactly such models: The immediate benefits are most likely to come from off-the-shelf AI tools.

These are not pie-in-the-sky predictions. It is already happening on a significant scale. One in five small firms surveyed across six developing economies already uses AI chatbots—only modestly below the share in the United States. So far, AI use is often shallow, concentrated on information searches, writing, and translation rather than deeper changes in how businesses and governments operate. Even so, the effects on public services have been impressive. In Bangladesh, for example, AI-generated medical imaging has increased by 40 percent per day the number of patients screened for diabetes-related eyesight problems. In India, AI weather forecasts produced savings of as much as $560 per small farmer in the state of Telangana.

AI, however, is unusually sensitive to context: A tool that works in one country may fail in another unless it is adapted to local languages, institutions, and ways of working. In Nigeria, a medical AI trained on data from wealthy countries recommended more laboratory tests than local conditions warranted. In Ghana, by contrast, the Rori AI tutoring system was designed for basic phones and weak internet connections. Delivered by text message, it produced nearly a full year of mathematics learning for as little as $5 per student. For most developing economies, the greatest opportunity lies in adapting AI to local needs.

Over time, they may also seek greater control over the technologies they rely on. That need not mean pursuing "AI sovereignty" by building every layer of an AI supply chain themselves. A more practical way to reduce dependence on a single country is to buy models, cloud services, and other AI tools from many countries—and make sure they can work together and be swapped out without requiring the entire system to be rebuilt. India's UPI and Brazil's Pix—national instant-payment networks that connect banks, fintech firms, and payment apps—show how

this might work. By giving many providers access to the same underlying system, they promote competition and make it easier to add or replace one provider without rebuilding the entire network.

World Development Report 2026 urges developing economies to adopt an *optimistic* mindset. Still agrarian and reliant on small enterprises, poorer economies are less likely to suffer large-scale job losses: AI is more likely to lend their workers a hand than put them out of work. And wielded adroitly, AI could help extend otherwise costly medical, legal, educational, and agricultural services to underserved billions—doing in a decade what might otherwise take a century.

Time is of the essence. AI is spreading much faster and is more context-specific than earlier general-purpose technologies like steam power, electricity, and the internet. That calls for policies that poor countries can afford and implement now—not later. Most developing economies do not yet have the wherewithal to develop AI technologies of their own, so advancement cannot be a big part of an AI strategy for them. And the context-specificity of AI-based technologies defies simple import-and-adopt approaches. For developing economies, the Report recommends strategies in which *adaptation* is the mainstay.

Implementing such a strategy requires deliberate choices. To extend medical, judicial, educational, and agricultural extension services, the Report points to *predictive* AI in back-end functions instead of generative AI at the frontline of service delivery. To mitigate against the danger of becoming overly reliant on technologies being developed in a single country, the report advises making interoperability a feature instead of aiming for sovereignty. To balance the imperatives of innovation and protection, the Report advocates encouraging industry to debate and develop voluntary standards. And perhaps most important, it recommends an emphasis on *small AI* applications diffused widely across the economy instead of big investments in large language models concentrated in a few firms.

Developing countries should leave it to the rich world to agonize over whether AI will one day doom humanity. Their own question is more immediate: Will they again arrive late to a technological revolution? Or will they use it this time to improve the lives of millions? Today's developing economies missed the first Industrial Revolution and spent the next two centuries paying the price. They cannot afford to miss this one.

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Glossary

- **Agentic AI (AI agent).** An AI system that pursues a goal by planning and carrying out a sequence of steps on its own, using external tools such as software or web search along the way, rather than answering only a single request.
- **AI stack.** The layered set of building blocks that make up AI, ranging from the hardware and computing infrastructure to the models and applications.
- **Application programming interface.** A connection that lets one software system use another's capabilities over a network. It enables an organization to send data to a model hosted elsewhere and receive results without running the model itself.
- **Augmentation.** The use of AI to complement people in tasks they continue to perform and oversee, complementing their skills rather than replacing them. It is usually contrasted with *automation*. AI can also complement physical capital and infrastructure.
- **Automation.** The use of AI to perform tasks previously carried out by people, reducing direct human involvement in doing them. It is usually contrasted with *augmentation*.
- **Benchmark.** A standardized test used to measure and compare how well AI models perform on tasks such as answering questions or reasoning through a problem.
- **Bias.** A systematic tendency in an AI model's outputs, usually traced to imbalances in its training data, that can make results unfair or inaccurate.
- **Chatbot.** An application that lets people interact with an AI model through plain language prompts, either typed or spoken**.**
- **Compute.** The processing power resulting from chips and related hardware needed to train and run AI models.
- **Deepfake.** AI-generated audio or video made to realistically depict people saying or doing things they did not say or do.
- **Fine tuning.** Further training that adapts an already trained, general-purpose model to a particular task or local context.
- **Foundation model.** An AI model trained on broad data that can be adapted to many different tasks and applications. Large language models are one type.
- **Frontier model.** The most advanced AI model available at a given time.
- **General-purpose technology.** A technology that affects the entire economy, improves continuously, and leads to complementary innovation. Examples include steam power, electricity, and the internet.

- **Generative AI.** AI that creates content, such as text, images, audio, or code, usually in response to a typed request, as in a chatbot.
- **Inference.** The stage at which a trained AI model produces an output from a new input, such as answering a question or scoring an application.
- **Large language model.** An AI model trained on very large amounts of data that can understand and generate content. Large language models underlie chatbots and many writing and coding tools.
- **Machine learning.** Algorithms that learn patterns from data rather than by following rules written by hand, becoming more accurate as they take into account more data.
- **AI model.** Algorithms that have been trained to recognize patterns in data, making predictions, generating new content, and taking decisions based on those patterns.
- **Model drift.** The decline in a model's performance over time as the data or conditions it meets in use move away from those it was trained on. It is one reason models are rechecked after deployment.
- **Open-source model.** A model released for anyone to use and modify, usually including its underlying code. Making a model open source grants broader rights than an open-weight release.
- **Open-weight model.** A model whose internal values (*weights*) are released publicly, so that others can download and adapt it on their own systems.
- **Parameters (weights).** The numerical values inside an AI model that encode what the model has learned during training (that is, the model's knowledge). A model's size is often described in terms of the number of its parameters, which are often loosely referred to as weights.
- **Predictive AI.** AI that forecasts outcomes or assigns scores from data, such as predicting crop yields or credit risk, rather than generating content.
- **Training.** The process of teaching an AI model to recognize patterns to make predictions, generate content, and take decisions.
- **Validation.** Checking how well a trained model performs by comparing its outputs against independently verified data, usually data the model was not trained on. Because performance can drift, models are often revalidated after deployment.

Overview

In brief

This Report is the first comprehensive assessment of what artificial intelligence (AI) means for 6.8 billion people living in low- and middle-income countries. It argues that AI represents a historic opportunity for these countries, potentially enabling them to overcome development challenges that have defied solution for decades. Given the scarcity of information on AI's use in developing countries, the Report sets the ball rolling on closing the gap. It uncovers new facts about how businesses and governments in developing countries are using AI—and identifies the main obstacles to greater and more productive use.

AI is a general-purpose technology, or GPT. That puts it in rare company. Steam power. Electricity. Computers and the internet. Each transformed not just one sector, but entire economies, and did so continuously, over decades. Each also followed a pattern: slow and uncertain at first, but eventually reshaping how economies produce and how societies function. AI is following a similar pattern, but on a much faster timeline. It took about 80 years for the steam engine to reach lower-income countries, 40 years for electricity, and 20 years for the internet.[1] *By contrast, middle-income countries accounted for half of ChatGPT's global traffic within six months of its launch.*[2] *Rapid diffusion on such a scale has not been seen before.*

But history also teaches us that the countries that benefited most from previous GPTs were not always the ones that came up with the underlying technology. Those that benefited had built the necessary foundations and moved fast to develop applications on top of them. The countries that did not invest in the infrastructure, skills, and institutions that such technologies required to function benefited less and felt the most pain from disruption. This lesson is directly relevant to AI: The winning approach will take advantage of the new technologies, not seek refuge from them.

In only a few years, AI has evolved from making predictions to generating content from text, audio, and video to now autonomously executing complex tasks. As it becomes more powerful and pervasive, its value as a tool for development depends on three factors. The first is capabilities. *Unlike computers or the internet, AI can perform complex thinking tasks that guide decision-making and usually require human expertise, such as diagnosing diseases, forecasting weather, or advising farmers. These skills are often in short supply in developing countries, so AI has the potential to fill important gaps.*

The second is concentration. *The most advanced AI models, the chips they rely on, and the data centers that run them are controlled by a small number of companies in just a few economies. This concentration creates dependency risks and affects whether the AI tools available will meet developing countries' needs. However, this concentration also allows countries to customize AI models without having to spend billions of dollars creating the most advanced AI systems from scratch.*

The third is complements: *the foundations that allow AI to be used safely and effectively. AI works best where reliable infrastructure, good education systems, and strong institutions are present. Developing countries often have shortages in all three. AI, moreover, needs to be customized to the local context because it learns from the data upon which it is trained. How quickly countries build these complements—and*

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how well governments and businesses reorganize to use AI productively—will determine how much and how fast AI improves development. In that respect, AI is no different from GPTs that have come before. Ten years ago, World Development Report 2016: Digital Dividends *called these prerequisites the analog complements to digital technologies. Today, AI requires both strong analog and digital complements to deliver its full benefits.*

What developing countries should do: Adopt and adapt, then advance

Developing countries can benefit from AI in three ways: by adopting *existing AI tools, by* adapting *AI to local needs, and by* advancing *the technology: building their own frontier AI models and the infrastructure that powers them. Each step requires more investment, skills, and infrastructure than the last.*

Advancing frontier AI models is by far the hardest and most expensive path. It requires chips, large data centers, huge amounts of training data, and world-class AI researchers. Today, only a handful of companies in a few countries can afford to do this, spending billions of dollars to train leading AI models. In 2026, the amount these companies are expected to spend on AI infrastructure is larger than the entire economies of many countries.[3]

For most developing countries, building frontier AI models is not a realistic goal in the near future. Only a small number of countries and companies have the resources to compete at that level, and progress might take years. A few countries are making inroads. Examples include India's Sarvam AI, the United Arab Emirates' Falcon, and Sub-Saharan Africa's InkubaLM, which were built from scratch to work better in local languages.

Instead, the best place to start is by adopting AI tools that already exist, such as AI tools that can make it easier for doctors to diagnose patients, farmers to improve crop decisions, and businesses to become more productive. But these benefits depend on strong analog foundations, including reliable electricity, fast internet, and basic education.

Merely adopting AI, however, will not be enough. AI systems trained in high-income countries often do not work well in other settings. In Nigeria, for example, an AI tool trained on data from high-income countries systematically recommended far too many laboratory tests because it learned medical norms that were more appropriate for Los Angeles than for Lagos.[4] *AI tools should also be designed to work for people with different levels of access to technology. For example, AI solutions will need to be delivered through voice calls on basic mobile phones for those who cannot read or afford smartphones. Simply importing an AI model does not mean it will work well locally.*

That is why adapting AI to local conditions is likely to deliver the biggest benefits for developing countries. Entrepreneurs can build on existing open AI models—such as Apertus, Bidirectional Encoder Representations from Transformers (BERT), Gemma, Llama, Mistral, and Qwen—to create AI that better understands local languages, laws, and needs. Examples include Latin America's Latam-GPT and Southeast Asia's Southeast Asian Languages in One Network (SEA-LION).

Developers can also use these models and AI coding tools to build practical applications, such as medical-imaging systems for clinics with few specialists, chatbots that advise small businesses, and AI algorithms that help governments monitor public spending. To make this possible, countries need the right digital and analog complements, including access to computing infrastructure, local-language data, and workers with AI skills.

Doing in a decade what once took a century

Many developing countries have a shortage of highly skilled people to solve complex problems. There are too

few doctors to diagnose disease and too few business specialists who can grow small businesses, too few agricultural experts to support farmers, and too few skilled public officials to deliver better services. Building this expertise through education and training can take generations. AI, when it is adapted to local languages and context, can radically speed up the pace of transformation. It can put expert knowledge within reach of millions instead of just a small elite.

The benefits can radiate across the economy, society, and politics. Among economic impacts, AI can help millions of small businesses and farmers become more productive. In India, for example, AI is supporting weather forecasting systems, which have previously enabled smallholder farmers to alter their behavior in response to specific risks, causing some to increase farm expenditures by as much as one-third and others to reap net savings of as much as $560 per farmer.[5] Among social impacts, predictive AI analytics and decision support for back-office administrative work in government can have large payoffs. In Kenya, for example, the judiciary used AI to assign more than 10,000 court cases each year to more than 1,500 mediators, helping reduce a large backlog of cases.[6] Among political impacts, AI can improve transparency and accountability. In Ukraine, for example, a machine-learning tool developed by Transparency International Ukraine detects suspicious patterns in government procurement and directs citizens' complaints to law enforcement.[7]

Managing the risks

This Report urges developing countries to be deliberate about AI technologies. This means pursuing policies to actively exploit the potential of AI solutions for enterprises, households, and governments. Without this, developing countries risk losing economic dynamism and global relevance. But this active policy stance also means being aware of the accompanying risks.

On the economic side, AI is not yet replacing large numbers of jobs in most developing countries. But it is already having an impact in some industries. Countries that rely on business process outsourcing (such as call centers and back-office services) face growing pressure as AI automates more of this work. On the social side, AI can be biased if it is trained on data that do not reflect local people, languages, and cultures. It can also make it easier to spread false information, commit fraud, and carry out cybercrime. On the political side, the world's most advanced AI systems are controlled by a small number of companies, mainly in the United States and China. This means developing countries could become dependent on technology they do not control. Like all countries, they also face risks from unexpected consequences of AI.

Making AI work for development

To benefit from AI, developing countries must first and foremost keep investing in the analog foundations. They still need reliable electricity, internet access, and strong education systems, which remain inadequate in too many developing countries. In Sub-Saharan Africa, for example, nearly one-third of rural schools still do not have reliable electricity; more than two-thirds lack dependable internet access; and nearly nine out of ten 10-year-olds cannot read a simple text.[8]

Countries also need the digital building blocks for AI. They should expand access to affordable computing infrastructure (the hardware and processing power needed to train and run AI models) and build shared data resources so local developers have the local-language data needed to adapt AI to their own countries.

But these foundations are only the starting point. To encourage AI innovation, governments should create a business environment that helps start-ups raise investment and experiment with new ideas. Today's AI coding tools make it easy to build new applications, so there are already thousands of pilot AI projects. The bigger challenge is knowing which ones actually work. Governments and businesses need better evidence, along

with stronger capacity to test, evaluate, buy, and expand successful AI solutions.

Finally, building public trust in AI is just as important. With limited regulatory capacity and the technology evolving fast, governments in developing countries should first leverage voluntary standards concerning impact assessments, independent audits, and testing protocols to encourage responsible AI use. Where such standards do not adequately protect people, governments should use existing laws to address harms such as unsafe AI systems, while developing flexible AI regulations that avoid creating unnecessary barriers.

Developing countries must start now

Without the right preparation, developing countries could miss AI's benefits while becoming increasingly exposed to its risks. That preparation has begun in a substantial number of developing countries, but not in the countries that need it most. As of mid-2026, more than 80 countries had published national AI strategies. But only one of the world's 25 low-income countries, Rwanda, has done so.[9] *The countries with the most to gain appear today to be the least prepared.*

It will be especially important for all developing countries not to mimic the priorities of advanced economies, where the focus is either on the peril of massive job losses or the need to win the global race to build the most advanced AI. Developing countries face different challenges. Their priority should be to use AI to improve productivity, strengthen public services, and solve local development problems. In short, they should be blinded neither by the hype nor the hysteria surrounding AI in the global headlines. Adopting, adapting, and then advancing new technologies—with care but without delay—is the proven path to prosperity. In the area of AI, that approach could enable developing countries to solve problems that have resisted solutions for generations.

" . . . AI will be either the best, or worst thing, ever to happen to humanity."

—Stephen Hawking, speech delivered at the launch of the Leverhulme Centre for the Future of Intelligence, University of Cambridge, October 19, 2016

Few technologies divide opinion as starkly as AI—both across regions of the world and between technology companies, citizens, and governments. In the United States and Asia, tech executives mostly see the bright side. In the United States, Europe, and Latin America, many citizens worry that AI could automate too many white-collar jobs, raise demand for energy, introduce algorithmic biases into decision-making, and pose risks for data privacy. In Africa, policy makers line up in the middle—enthusiastic about the possibilities that AI can bring for improving public services but anxious that AI could widen the current digital divide. Since the launch of ChatGPT in November 2022, people around the world have tuned in to conversations about AI on social media and, as Stephen Hawking did, tend to perceive only the extremes.[10]

This polarization cuts across AI's potential economic, social, and political impacts. Its *economic impacts* can shape what businesses do, how they organize their operations, and how much workers earn. AI's advice on marketing delivered through a mobile messaging app can unlock growth

possibilities for small businesses. But its automation of call centers may displace workers and narrow the paths to economic growth. AI's *social impacts* can improve delivery of government services. If it improves learning in public schools, it will expand access to knowledge, but if it embeds bias in government decision-making, it can harm people. AI's *political impacts* can give people more voice and agency to fulfill their aspirations but can leave people worse off if malicious actors armed with AI spread pernicious disinformation, invade their privacy, or engage in cybercrime.

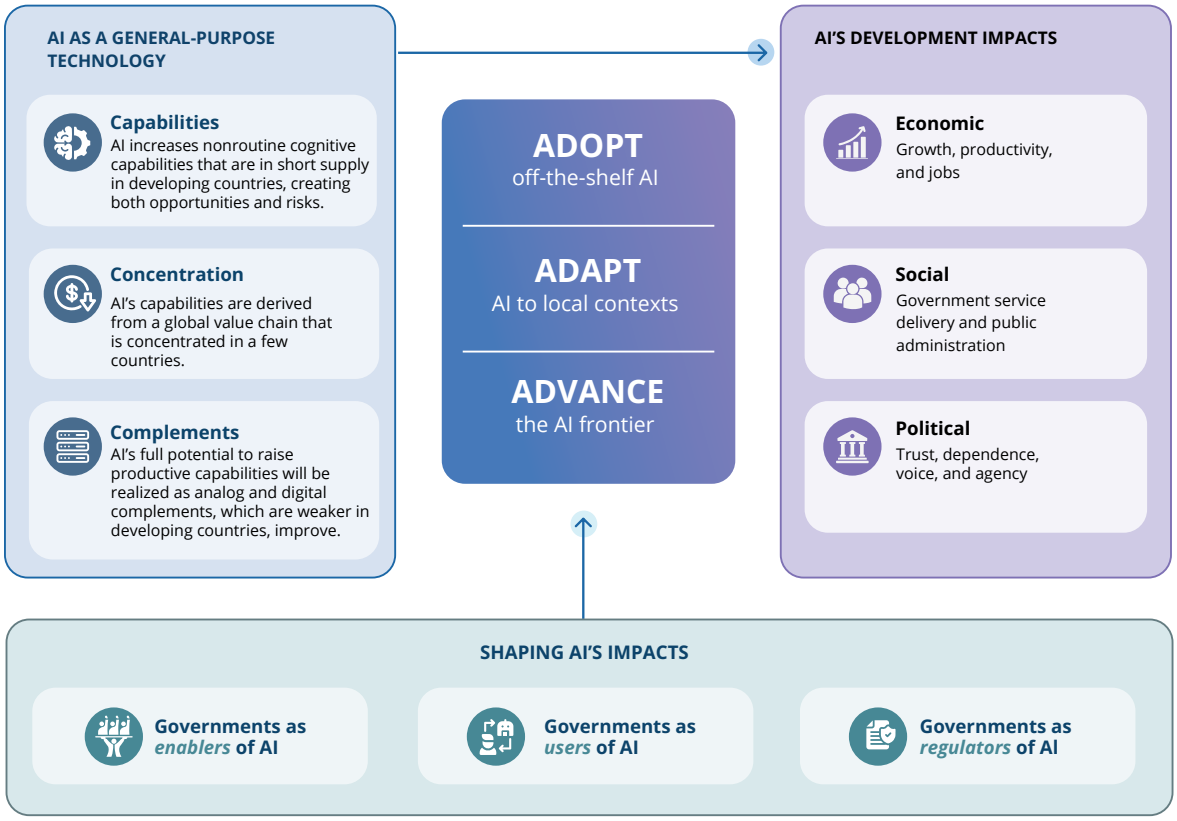
Evidence of AI's impacts—good or bad—is still evolving. Entrepreneurs, researchers, and civil society groups have created thousands of new AI applications, and the rapidly proliferating pilots in agriculture, health, and education are yielding a range of benefits. But definitive evidence that AI is accelerating economic growth, generating more and better jobs, and improving service delivery at scale—the outcomes that shape people's daily lives—is hard to find. Reconciling the myriad vantage points described earlier is easier once AI is understood as a GPT, much like steam power, electricity, computers, and the internet. The effects of AI will unfold through its initial disruption, gradual diffusion, and eventual transformation of economies, societies, and polities. These *transitional dynamics* will depend not only on changes in the production and use of AI but also on resulting spillover effects that range from changes in the demand for workers to patterns of trade and the movement of people across places.

AI as a general-purpose technology: Tuning out the noise

A *general-purpose technology* is characterized by its widespread use, its potential for continuous innovation, and its spurring of complementary innovations in industries.[11] AI fits the bill.[12] In a few short years, AI has evolved from machine-learning algorithms that make predictions to large language models that generate content from text, audio, and video, to AI agents that autonomously execute a series of tasks. AI's capabilities are also improving continuously and rapidly. In competition-level mathematics, AI leaped from well below the best human performers to parity in only a few years (2021–24), and AI performance on PhD-level science questions exceeded human parity within a year (2023–24).[13] In its evolution from *predictive* to *generative* to *agentic*,[14] AI has spawned innovative applications in medical imaging, weather forecasting, personal tutoring, and much more.

Viewing AI as a GPT becomes even more useful when examining the mechanisms that determine its role in the development process (refer to figure O.1). First, unlike previous technologies, AI enhances *capabilities* to perform nonroutine cognitive functions that guide decision-making and are often in short supply in developing countries. Second, the production of AI models and the related hardware and data centers is *concentrated* in a few countries—even more so than previous technologies—and linked through global value chains. These value chains shape developing countries' access to the capabilities of AI, which can be customized to build and use AI solutions that fit their context. Third, the effectiveness of AI solutions to raise the capabilities of individuals, businesses, and governments depends on the presence and quality of *complements* (particularly data that AI learns from, but also infrastructure, skills, institutions, and the like), which tend to be less available in developing countries, and the removal of organizational frictions, which tend to abound.

Figure O.1 AI's capabilities, concentration, and complements determine its economic, social, and political impacts through the pathways of adoption, adaptation, and advancement



Source: WDR 2026 team.
Note: AI = artificial intelligence.

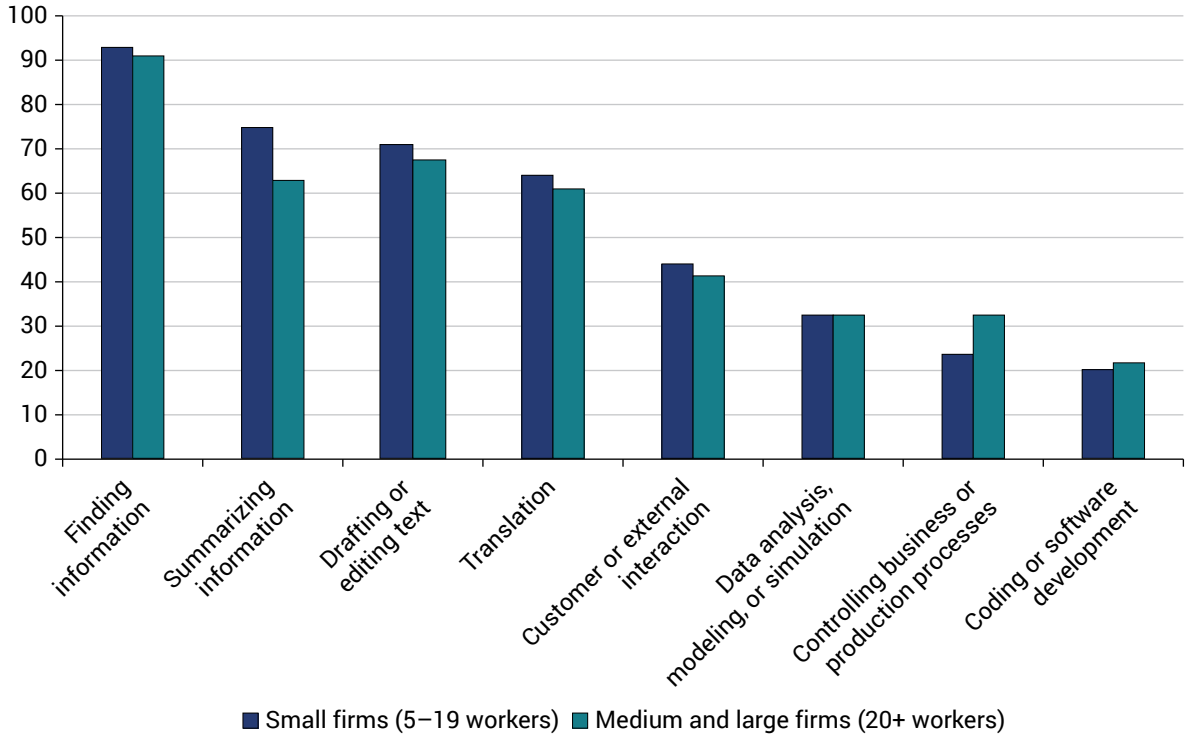
Capabilities: AI can do in a decade what might otherwise take a century

AI is "an umbrella term for a set of loosely related technologies."[15] AI's capabilities support nonroutine cognitive or analytical tasks that require judgment, contextual understanding, and problem solving.[16] This can be extremely helpful in developing countries, where capabilities to perform many cognitive tasks are scarce, costly, or undersupplied—too few teachers and too few health care professionals are a case in point.[17] Businesses now use AI across tasks that range from summarizing information, writing, and analyzing data to translation, customer interaction, and software development (refer to figure O.2). Governments use AI to guide the allocation of resources, disseminate citizen alerts, improve forecasting, enhance frontline services, and provide virtual assistants for citizen engagement.

Many developing countries face shortages of highly skilled workers. AI can help by enabling less experienced workers to perform more advanced cognitive tasks, allowing some work to be shifted away from scarce specialists and making existing workers more productive. First, if AI automates more expert tasks within an occupation, it lowers the entry requirements for people to carry out the work in that occupation.[18] There is evidence of such *leveling up*

Figure O.2 Businesses use AI for a wide range of tasks, including summarizing information, writing, analyzing data, translating, interacting with customers, and developing software

Average share of firms across sample countries that report using AI, by function, 2026 (%)



Source: WDR 2026 team, based on World Bank Enterprise Survey on AI Adoption.

Note: The sample includes formal firms with five or more employees, in manufacturing, construction, and services. The samples are as follows: India (1,355 firms), Jordan (358), Kenya (360), Mexico (603), Nigeria (777), Thailand (360), United States (392). Microdata are available at Enterprise Surveys (data portal), World Bank, https://www.enterprisesurveys.org/en/data. AI = artificial intelligence.

across cognitive occupations, including customer support,[19] professional writing,[20] and software development.[21] Second, AI can shift a given cognitive task to adjacent occupations that employ people with less expertise, such as shifting the task of medical-image screening from scarce medical specialists to lower-level health care providers.[22] Third, AI makes people more productive at what they currently do. For example, generative AI tools improve the quality of instruction in schools by supporting teachers with lesson planning, generating learning materials matched to students' skill levels, and providing quicker feedback on student work.

AI, however, can also have undesirable effects: It can eliminate some jobs, increase inequality, enable new forms of fraud and cybercrime, and weaken people's skills if they become overly dependent on it. It could, for example, displace call center jobs or exacerbate electricity shortages in developing countries. Fraudsters are already using AI to create deepfakes. Other malicious actors could use AI to launch cyberattacks, enlarging vulnerabilities for developing countries where institutional checks and balances are typically weaker.[23] In the classroom, moreover, there are early signs of *cognitive offloading*—students

are letting AI do some of the thinking and learning they would otherwise do for themselves.[24] In the workplace, AI's negative impact on the demand for entry-level workers[25]—for example, in software services—can reduce opportunities to learn on the job.[26] Finally, because today's AI systems are largely designed in high-income countries, they might not fit the cultures, laws, languages, or social norms of developing countries.

The impact of AI-powered capabilities will depend not only on what AI can do in principle, but also on how quickly and widely AI diffuses, in practice. Today, AI is spreading across the globe faster than previous general-purpose technologies. High-income countries began using the steam engine, for example, about 80 years before lower-income countries adopted it widely. For electricity, the adoption lag halved to 40 years, and then it halved again to 20 years in the case of computers and the internet.[27] The diffusion of AI has been swifter still: When ChatGPT was launched in November 2022, more than 70 percent of user traffic originated from the United States, where the model was developed, but within six months, middle-income countries collectively accounted for half of ChatGPT traffic.[28] That creates a major opportunity for developing countries to catch up with the living standards in wealthier countries. Yet gaps in the intensity of use remain large. For example, nearly 25 percent of internet users in high-income countries had adopted ChatGPT on average by April 2025, compared with only 5.8 percent in upper-middle-income countries, 4.7 percent in lower-middle-income countries, and 0.7 percent in low-income countries.[29] That suggests that AI's benefits could remain concentrated in higher-income countries, at least initially.

Concentration: AI's capabilities depend on a value chain that is concentrated in a few countries

AI companies that are leading the development of AI models—and the related massive up-front investments in data centers, semiconductors, large data sets, and specialized talent—are concentrated today in a handful of countries. Most of the leading publicly listed AI companies are based in either the United States or China (refer to table O.1). So too are the world's prominent private AI companies.[30] Such concentration leads to so-called agglomeration effects, in which a deep pool of specialized talent attracts more firms and venture capital, fueling more research and start-ups, drawing in even more talent and investment. This cycle reinforces the efficient matching of top talent to leading firms, and of leading firms to capital, making it increasingly difficult for followers to catch up to AI's frontier. Little surprise, then, that the San Francisco Bay area maintains its position as the leading global AI hub.

The concentration of the most important building blocks of AI—such as advanced models, computing infrastructure, and specialized hardware—within a few companies and countries leaves developing countries potentially dependent on technologies they do not control. However, such concentration also allows developing countries to customize AI models to their local context without having to spend billions of dollars creating the most advanced systems from scratch.[31] For example, developing countries can build useful AI applications on top of existing models rather than creating the models themselves. The cost of using advanced large language models such as ChatGPT, Claude, and Gemini has declined considerably.[32] At the same time, many companies now offer large language models that are freely available or open for modification—including Apertus, DeepSeek, Falcon, Gemma, Kimi, Mistral, Llama, and Qwen.[33] These models can be downloaded, adapted to local languages and needs, and used to create new applications without requiring large investments in computing power, data, or highly specialized talent.

Table O.1 As of the end of 2025, most leading publicly listed AI-related companies are predominantly based in the United States and China

Company	Compute	Infrastructure	Data tools	Models	Applications
	Products and services				
Headquartered in the United States					
Advanced Micro Devices (AMD)	●		●		
Alphabet	●	●	●	●	●
Amazon	●	●	●	●	●
Apple	●	○	●	●	●
Cisco	●				
Meta	○	○	●	●	●
Microsoft	○	●	●	●	●
NVIDIA	●	●	●	●	●
Oracle		●	●	●	●
Palantir			●		●
Tesla	○	○	○	○	●
Headquartered in China					
Alibaba	●	●	●	●	●
Tencent		●	●	●	●
Headquartered in Taiwan, China					
Taiwan Semiconductor Manufacturing Company (TSMC)	●				
Headquartered in the Republic of Korea					
Samsung	●			○	●
SK Hynix	●				
Headquartered in the Netherlands					
ASML Holding NV	●				

● Marketed product or service ○ Used internally only

Source: WDR 2026 team, based on data of Frost et al. 2026.

Note: Firms are defined as *leading* based on supply chain presence and valuation. If a firm both sells a product or service and uses it internally, the product or service is coded as marketed. *Compute* refers to the hardware and processing power needed to train and run artificial intelligence (AI) models.

Complements: AI's capabilities have immediate effects, but its full potential will be realized as analog and digital complements improve

AI tools are becoming easier to use and customize. Today, people without formal technical skills or expensive hardware are accessing AI advice through local-language prompts in chatbots on smartphones. Similarly, AI coding assistants allow people with little or no programming experience to build applications using everyday language instead of computer code.[34]

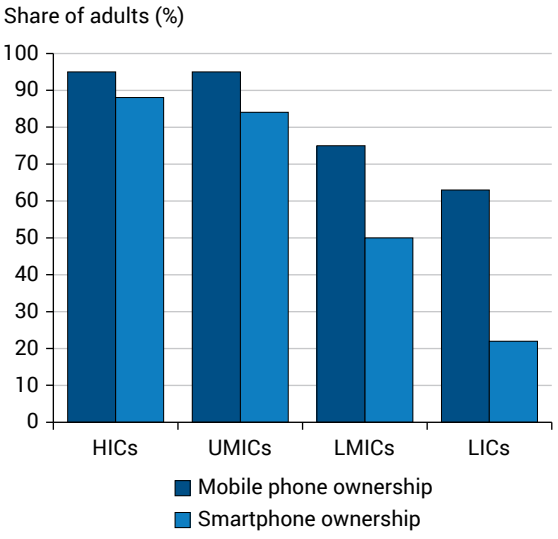
Yet AI's full potential to raise capabilities for productive use will be realized only when the required analog and digital complements—infrastructure,

skills, data systems, a good business environment, and institutions, among others—become widespread.[35] Without the right complements, AI's harmful capabilities can spread fast. For example, with legacy information technology systems and insufficient capacity to detect harmful incidents, AI can be used by malicious actors for cyberattacks.[36] This is precisely where developing countries risk losing out, because complements are typically weaker and slower to evolve—infrastructure is not built overnight, institutions are slow to adjust, and human capital accumulates gradually.[37]

Because of differences in the availability of complements across countries, AI's benefits will not be felt everywhere at the same speed. In places where people already have basic tools such as mobile phones and where AI can easily fit into existing ways of working, the impact could be rapid. Farmers, small business owners, and teachers, for example, can receive advice in their local language through voice or text messages on basic mobile phones, which are more common than smartphones in many low-income countries (refer to figure O.3). The benefits could be greater once people have access to smartphones and reliable internet connections, allowing them to use AI-powered chatbots through popular messaging apps. The benefits could be even greater when AI developers are able to tailor AI solutions to better align with local norms, culture, and regulations because local-language data are digitized.

Even when critical complements are in place, the adoption of AI may move slowly because of organizational frictions within businesses and governments. The decision-making process necessary for adoption can be arduous, going from gathering information to selection to piloting, evaluation, and implementation. Each stage requires scarce time and resources. The slow pace of change is compounded because AI adoption is a continuous process; as one bottleneck is relieved, another might emerge. For example, a pharmaceutical company using AI to discover new medicines may face capacity constraints in implementing human trials.[38]

Figure O.3 Many more people in developing countries own a mobile phone than a smartphone



Source: WDR 2026 team, based on Klapper et al. 2025.
Note: The figure shows, by country income group, the share of the population ages 15 and above that owns a mobile phone and a smartphone. Data are as of 2024. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

History shows that new technologies often take time to deliver their full benefits because organizations must first change the way they work. For example, when electricity first became available, factories had to redesign their layouts before they could take full advantage of electric power, which slowed adoption.[39] Similarly, computers did not immediately boost productivity because businesses needed years to change their workflows, management practices, and operating procedures to make effective use of them.[40]

AI in developing countries: Adopt and adapt, then advance

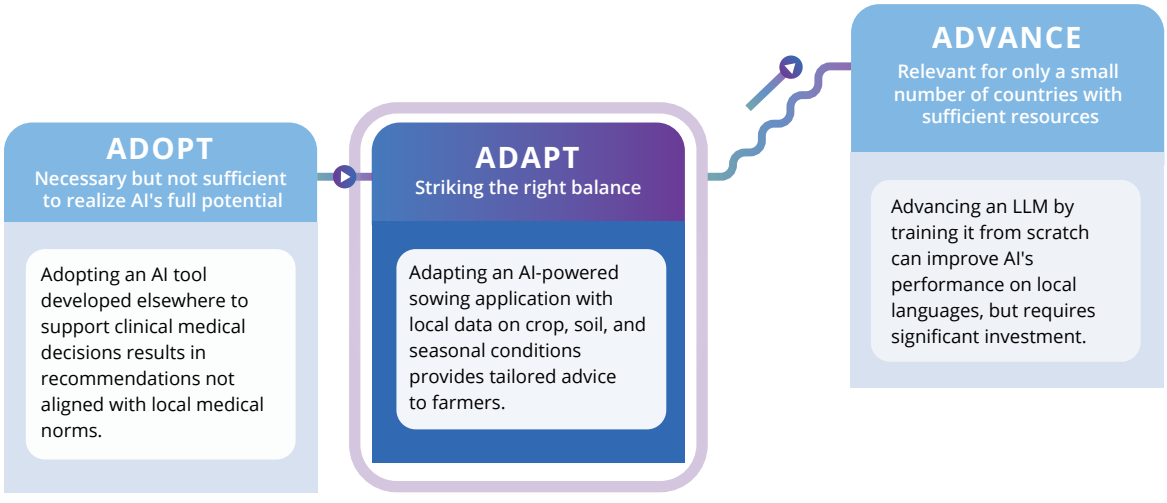
Countries can adopt AI, adapt AI to the local context, or advance frontier AI systems themselves (refer to figure O.4). The last option is by far the most expensive, requiring enormous complementary investments in semiconductors, data centers, data, and talent. In fact, the biggest AI companies in the United States are expected to spend more than $750 billion on AI infrastructure in 2026 alone—more than the entire annual GDP of many developing countries (refer to figure O.5).[41] Because the costs are so high, only a handful of countries are likely to compete at the cutting edge of AI development.

That, however, still leaves a wide berth for developing countries to benefit from the technology. The adoption of off-the-shelf AI applications by households, businesses, and governments is a starting point. In 2025, more than half the users of ChatGPT, Claude, DeepSeek, and Gemini were in developing countries.[42]

Some AI solutions can meet users where they are—for example, through voice calls on regular mobile phones—and spur productive adoption. Even so, broader adoption will depend on local constraints: AI solutions will be less effective when providing advice to a small business owner, a court case mediator, or a teacher if electricity access is intermittent, if internet connectivity is patchy, if access to digital devices is limited, or if people cannot read. As of 2024, 32 percent of rural schools in Sub-Saharan Africa did not have regular access to electricity, 68 percent of rural schools did not have consistent internet access,[43] and 89 percent of 10-year-olds could not read and understand simple text.[44]

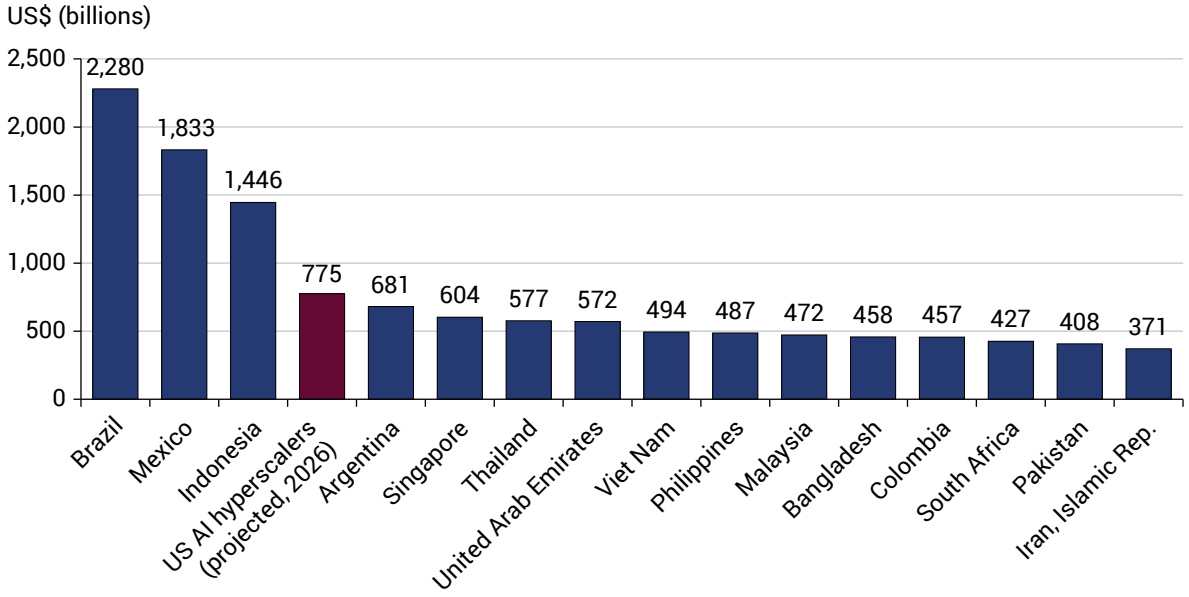
Adoption, in any case, will need to be supplemented with adaptation—because AI solutions are not always easily transplanted. The performance of an AI model developed in the United Kingdom

Figure O.4 Most developing countries do not need to advance the AI frontier to benefit substantially, but all need to adopt and adapt AI



Source: WDR 2026 team.
Note: AI = artificial intelligence; LLM = large language model.

Figure O.5 The projected capital expenditures by AI hyperscalers exceeds the nominal GDP of many countries



Source: WDR 2026 team, based on projected 2026 capital expenditure by Alphabet (Google), Amazon, Meta, Microsoft, and Oracle; data on GDP, Current Prices (dashboard), International Monetary Fund, https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD.

Note: The figure shows projected 2026 capital expenditures for AI hyperscalers (red bar; Alphabet [Google], Amazon, Meta, Microsoft, and Oracle; *AI hyperscalers* operate massive cloud infrastructures required to train and deploy AI models and applications) and 2025 nominal GDP for countries (blue bars). AI = artificial intelligence; US = United States.

to triage patients suspected of having COVID-19 declined sharply when it was tested using data from Viet Nam because patient demographics were so different.[45] Similarly, an AI tool used to screen for a complication of diabetes that affects the eyes rejected more than 20 percent of the images nurses took of patients because the lighting in the clinics did not match the lighting conditions that the model had been trained on.[46] The biggest benefits for developing countries will come when local entrepreneurs tailor AI tools to their own needs and circumstances. Doing this does not require the massive investments needed to build cutting-edge AI models, but it does require some access to computing power, data in local languages, and people with knowledge of local industries and problems. *Small AI* solutions are one important avenue of adaptation. Such solutions are grounded in specific development challenges and built for the complements that already exist in low-resource settings (refer to box O.1).

Countries can customize prediction systems like Google's Flood Hub to improve flood forecasting, for example. They can also make large language models like ChatGPT, Claude, and Gemini more useful by connecting them to local documents and knowledge or by building AI chatbots that work inside popular local messaging apps and provide business advice. Some countries are also creating AI models designed specifically for their own languages and cultures. Examples include Latin America's Latam-GPT and Southeast Asia's Southeast Asian Languages in One Network

Box O.1 Small AI, big impact

What makes artificial intelligence (AI) *small* can vary. In the tech industry, small AI refers to model size.[a] For example, small language models are trained to approach the performance of a large language model on far fewer *parameters*—the internal values that store what the model has learned.[b] Or it can be small in scope, built for one narrow task, such as identifying a crop disease or screening a medical image. Either way, small AI is built to run where the complements it depends on, such as power, internet connectivity, and digital devices, are scarce.[c] Small AI models can run offline on a phone or laptop. The model can also remain large in the cloud but can be accessed by users in low-resource settings through an application from a basic phone over a voice call or a text.

Small AI models are typically adapted from larger foundational AI models but can perform better on a narrow task—such as in the case of detecting hate speech on Nigerian Twitter.[d] Small AI applications can be built from large or small AI models and are already at work on real development challenges in a variety of areas. For example, Nuru, powered on a phone and even available offline, outperformed agricultural extension officers at diagnosing a diseased leaf.[e] Cough Against TB, built by Wadhwani AI with India's Central Tuberculosis Division, correctly flagged 9 in 10 people while screening for tuberculosis from the sound of a cough to identify who needed a test to confirm results.[f] In a randomized controlled trial across 40 Kenyan facilities, mothers who accessed the PROMPTS chatbot gained knowledge and sought care for their children and themselves more often.[g] In Ghana, Rori provides AI-powered tutoring in mathematics by text message on basic phones and weak networks; it generated nearly one full year of learning from two 30-minute weekly sessions over eight months at a cost of about five dollars per student.[h]

Source: WDR 2026 team.

a. Caballar and Stryker (2026); Kumar, Davenport, et al. (2025); Wang et al. (2024).
b. Abdin et al. (2024).
c. Chakravorti (2025); Goldin (2026).
d. Tonneau et al. (2024).
e. Mrisho et al. (2020).
f. Cough Against TB (web page), Wadhwani AI, AI Unit, Lords Education and Health Society, https://www.wadhwaniai.org/impact/healthcare-solutions/cough-against-tb/.
g. Jacaranda Health (2024).
h. Henkel et al. (2024).

(SEA-LION), which can sometimes perform better in local languages than the largest global AI models.

Over time, countries that gain experience adapting AI may begin advancing their own AI technologies from the ground up. For example, India's Sarvam AI has started developing new AI models rather than simply modifying existing ones. In Africa, Lelapa AI created InkubaLM, a model trained directly in five African languages. In the Middle East, the United Arab Emirates developed the Falcon family of AI models for Arabic. A similar pattern can be seen in the semiconductor industry. After spending decades building expertise in assembling and manufacturing computer chips, Malaysia is now moving into chip design. In 2025, a Malaysian company, SkyeChip, launched the country's first locally designed 7-nanometer chip, called MARS1000.[47]

The promise and peril of AI: Assessing its economic, social, and political impacts

Through the three pathways identified in this Report—adoption, adaptation, and advancement—AI is transforming national well-being economically (by affecting what people do and how much they earn); socially (by changing how people access public goods and services); and politically (by reshaping power relationships between countries, between governments and corporations, between corporations and individuals, and between citizens and states).

AI's economic impact: Restructuring growth, increasing productivity, and transforming jobs

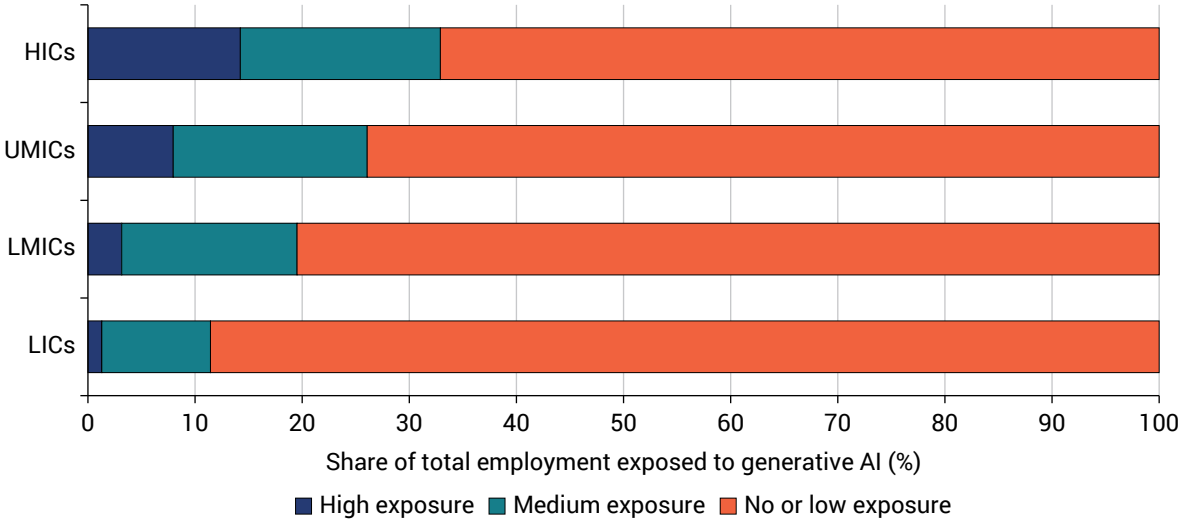
In developing countries, the immediate risk of disruption from AI is limited to a small share of jobs, involving people employed in knowledge-intensive professional services. On the flip side, AI has the potential to improve the capabilities of many small businesses, in which most people are currently employed and in which they undertake manual rather than cognitive work. AI can also help productive businesses grow by reducing transaction costs. However, if complements do not evolve to match the need, gaps in productivity between small and large businesses and between developing and high-income countries are likely to widen. AI adoption will also have cascading economic effects, including by reshaping trade patterns, increasing human capital, raising energy costs, and creating economic volatility.

Immediate impacts: AI adoption will disrupt a small portion of the overall labor force in developing countries but can raise the capabilities of many small businesses

In low- and middle-income countries, about 4.5 percent of existing jobs are amenable to automation by generative AI—compared with 14.2 percent in high-income countries—while 16.2 percent of jobs are amenable to being complemented by AI (refer to figure O.6).[48] Some sectors with more cognitive jobs, such as information and communication technology (ICT), finance, and business services, are more amenable to automation by AI but employ relatively few people in developing countries.[49]

Early evidence reveals that the launch of ChatGPT reduced the demand for jobs that are more amenable to automation by AI, although the impact is much smaller in low- and middle-income countries than in high-income countries.[50] In China, the introduction of generative AI reduced job postings, with disproportionate impacts on entry-level, highly educated workers.[51] In India, the introduction of generative AI reduced monthly job postings for white-collar occupations most amenable to AI use and least complementary to AI, with disproportionate impacts on entry-level workers.[52] Even though these job displacement effects have been narrow in scope, they have outsized importance because

Figure O.6 The share of jobs amenable to AI use is lower in developing countries than in advanced economies



Sources: WDR 2026 team, based on Gmyrek et al. 2026.

Note: The figure displays the average score for exposure to generative AI across 137 countries (47 HICs, 38 UMICs, 35 LMICs, 17 LICs). Income classifications are for fiscal year 2027. High exposure will more likely lead to AI automating jobs, while medium exposure will more likely lead to AI complementing jobs. For details on the definitions of high exposure, medium exposure, and no or low exposure, refer to Gmyrek et al. (2026). AI = artificial intelligence; HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

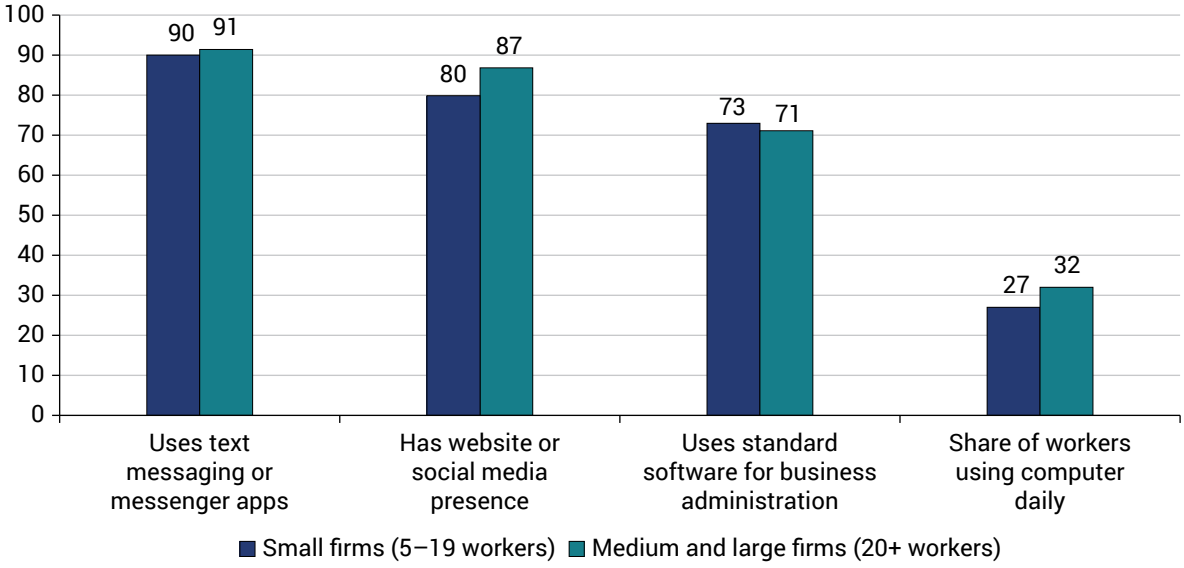
knowledge-intensive services account for a growing share of middle-class jobs in developing countries and share links with other sectors.[53]

AI adoption is also expanding some jobs. The share of online job postings mentioning AI skills—those for software developers, systems analysts, and web developers—has surged since 2023, although this share was more than five times higher in high-income countries than in middle-income countries in the first half of 2025.[54]

In low-income and lower-middle-income countries, most people work in very small businesses. Nearly 90 percent work in firms with fewer than 10 people, and more than half work for themselves.[55] Most of these businesses are in agriculture, retail, and hospitality. Such small businesses can start benefiting from AI right away because AI can power up the tools they already use—messaging apps, business software, and social media (refer to figure O.7). For example, about one-fifth of small firms—those with 5 to 19 employees—across India, Jordan, Kenya, Mexico, Nigeria, and Thailand, on average, have adopted AI chatbots in their business operations compared with one-fourth of firms in the United States.[56] AI can boost productivity even in places with only basic internet or phone service, although people might need some training on how to use AI effectively. Kenya's experience illustrates both the opportunity and the challenge. A Kenyan WhatsApp-based AI assistant gave small business owners advice on managing inventory, handling customer inquiries, and creating marketing materials. But the app benefited only small-scale businesses that were already performing well and better at choosing and applying the advice they received.[57]

Figure O.7 Many businesses in developing countries already use digital technologies that facilitate the adoption of AI solutions

Share of firms using digital technology in surveyed developing countries, 2026 (%)



Source: WDR 2026 team, based on World Bank Enterprise Survey on AI Adoption.

Note: The figure reports data on formal firms in manufacturing, construction, and services with five or more employees. *Standard software* refers to software such as Excel. The data for surveyed developing economies average country-level indicators, with equal weight for each country. The samples are as follows: India (1,355 firms), Jordan (358), Kenya (360), Mexico (603), Nigeria (777), Thailand (360), United States (392). Microdata are available at Enterprise Surveys (data portal), World Bank, https://www.enterprisesurveys.org/en/data. AI = artificial intelligence.

Longer-term impacts: With the right complements, AI adoption can enable transformative entrepreneurship; without them, it could widen productivity gaps

Over time, AI can help small businesses and start-ups grow by making it easier to organize finances, manage customer service, create marketing materials, and reach customers in other countries.[58] Even very small businesses can use AI tools to perform tasks that once required the management resources of much larger companies. Businesses that find successful ways to use AI may be able to expand quickly and create new jobs.

Some of these opportunities will come from building AI products and services themselves. In many developing countries, start-ups backed by venture-capital investors are creating AI tools that other businesses can use.[59] Developing countries also play an important role in supplying the hardware needed for AI. About half of global exports of products used to build AI systems come from developing countries, including China, Mexico, Malaysia, Viet Nam, and Thailand, in that order, which have benefited from growing investment in semiconductors, electronics, and data center equipment.[60]

For now, AI adoption remains highly uneven. The World Bank Enterprise Survey on AI Adoption—in surveys of firms in India, Jordan, Kenya, Mexico, Nigeria, Thailand, and the United States—found that businesses with better management capabilities, past instances of product or process innovation, and better market access and labor

productivity are much more likely to adopt AI. In China, the biggest benefits from AI have gone to firms that were already highly productive and located in regions with strong digital infrastructure, financial systems, and competitive markets.[61] These findings suggest that without the right complementary factors—infrastructure, skills, institutions, and venture capital that enable business dynamism—AI might do little to increase the number of successful entrepreneurs and fast-growing businesses in developing countries.

At current trends of AI adoption and with the current composition of jobs, the productivity benefits of AI are expected to be more than double in advanced economies than in developing countries.[62] About two-thirds of this gap is simply because advanced economies are adopting AI much more widely.[63] This could translate into a more sizable boost to economic growth in advanced economies; in the most optimistic scenario, AI is estimated to raise average annual potential growth from 1.2 percent to 3.6 percent in advanced economies, and from 4.1 percent to 4.9 percent in developing countries, during the 2020s.[64] Higher rates of AI adoption can result in higher potential growth in developing countries.

Cascading effects: AI could disrupt global trade patterns, increase human capital, raise energy costs, and create economic volatility

AI could change how countries grow by reshaping global trade and creating ripple effects across the economy. One example is the business process outsourcing industry—such as call centers, customer support, data processing, and back-office services—which has helped countries like India and the Philippines create jobs and grow their economies. As AI becomes better at handling many office and knowledge-based tasks, companies in wealthy countries may need fewer workers overseas to do this work. In fact, one major online freelance platform reported that jobs outsourced to developing countries fell by 39 percent in 2025, especially in occupations that AI can easily replace.[65] But the evidence is mixed: Some studies suggest AI could actually increase outsourcing by making workers more productive,[66] while others find no measurable effects.[67] AI could also affect the manufacturing sector. As robots become "smart" and able to perform complex tasks, low labor costs could become less important as a competitive advantage. This could make it harder for some developing countries to create manufacturing jobs through exports based mainly on cheap labor.

AI adoption is also likely to have other spillover effects—both positive and negative. On the positive side, AI could improve education and health care through tools such as personalized tutoring and medical decision support. Better education and health can lead to a more skilled and productive workforce, benefiting the entire economy. On the negative side, it could put pressure on prices and resources. AI data centers consume enormous amounts of electricity.[68] This could contribute to higher energy prices. Governments might also offer tax breaks and other incentives to attract AI investment. This can encourage growth, but it can also lead to too much money flowing into AI-related industries, inflating asset prices and increasing the risk of boom-and-bust cycles of growth and investment.

AI's social impact: Improving the delivery of public services

AI can help government officials do their jobs better by improving forecasts, helping them decide how to allocate scarce resources, and making it easier to track and manage government programs. AI can also help address shortages of skilled workers who interact directly with citizens—such as teachers and health care workers in government schools and hospitals—although evidence of these

benefits is still limited and emerging. However, many governments face obstacles to using AI widely. They often lack clear information on which AI tools to choose, how to buy them, and how to implement them effectively. In addition, important supporting factors—such as reliable internet access, digital systems, and worker skills—are often missing, especially in government services that deal directly with the public.

AI turns government data into information that improves decision-making

AI can make a variety of back-office government functions far more efficient than they historically have been. In India, AI-supported weather forecasts are helping farmers—who relied little on information from the government and extension agents—make better production and investment choices.[69] In Kenya, the judiciary used a predictive AI algorithm to allocate more than 10,000 court cases per year to more than 1,500 mediators. This made case assignments fairer and increased the chances of successful mediation.[70] AI can also analyze large data sets to spot patterns that humans might miss in the monitoring and oversight of government programs. In Brazil, AI models use municipal audit data to predict which local governments might be at higher risk of corruption, allowing federal oversight bodies to focus their audits where problems are most likely to occur.[71] Across developing countries, government back-office use of AI applications substantially involves predictive AI, which helps officials forecast events, target scarce resources, analyze geographic information, and detect risks early (refer to figure O.8).

AI shows promise in improving the delivery of frontline public services

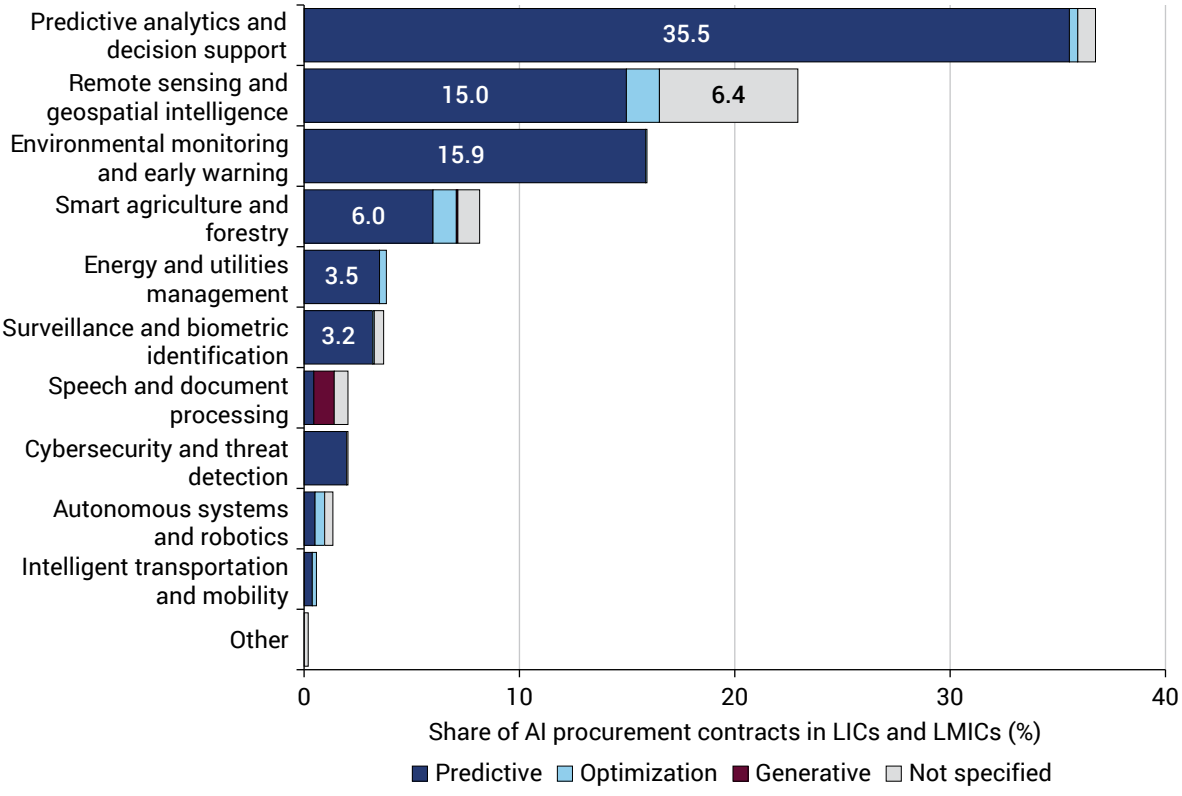
AI can strengthen frontline public services by helping tax officials, teachers, and health workers do their jobs more effectively. Early evidence shows that AI can save citizens time, improve teaching support, and expand access to medical screening, especially where skilled workers are in short supply. For example, Singapore's tax authority has an AI assistant that lets taxpayers check what they owe, change payment plans, and make payments. In 2024 alone, it saved taxpayers nearly 12,000 hours.[72] Similarly, generative AI tools are improving the quality of instruction in schools. In Sierra Leone, teachers increasingly used an AI assistant on WhatsApp instead of a standard web search because it provided cheaper and more useful advice on matching lessons to students' skill levels.[73] AI is also filling skills gaps in medical diagnosis. In Bangladesh, for example, AI-generated medical imaging increased the number of patients screened for a complication of diabetes by nearly 40 percent per day.[74]

Limited information on what works is slowing AI adoption in government, especially in frontline services

Governments face challenges at every step of adopting AI solutions—from choosing potential vendors and procurement systems to testing, deploying, evaluating, and improving them.[75] Yet there is little evidence or practical guidance on the best way to surmount these challenges in areas critical to the welfare of citizens: education, health care, social protection, and justice. That is a high-stakes concern: Mistakes in these areas could cause serious harm. AI algorithms can be inaccurate, biased, or poorly suited to local conditions. In Bangladesh, for example, an AI system based on mobile phone data identified poor households less accurately than traditional methods for targeting cash transfers.[76] In Nigeria, an AI tool used to support medical decisions tended to recommend more laboratory tests than were appropriate, reflecting practices common in high-income countries rather than local needs.[77]

Figure O.8 Governments in lower-income countries use AI mostly for decision support, geospatial intelligence, and early warning systems, and overwhelmingly rely on predictive AI

Types of AI used for the most common back-end tasks in low- and lower-middle-income countries



Source: WDR 2026 team, based on analysis of data on procurement contracts from Open Contracting Partnership 2025; Tenders Electronic Daily, EU Tenders, Publications Office of the European Union, https://ted.europa.eu/en/; World Bank.

Note: GPT-5 was used to classify 6,127,564 procurement contracts. The figure focuses on the 10 most frequent categories of tasks in procurement contracts classified as back end in low- and lower-middle-income countries. The sample of procurements of AI for back-end government services includes contracts from 19 low-income countries (338 contracts), 48 lower-middle-income countries (1,302 contracts), 43 upper-middle-income countries (1,190 contracts), and 40 high-income countries (11,156 contracts). Procurement contracts may not capture all possible uses of AI in government.
AI = artificial intelligence; LICs = low-income countries; LMICs = lower-middle-income countries.

These issues can lead to poor decisions. Governments may delay the procurement of AI products until more evidence is available. Alternatively, they might move ahead despite insufficient evidence about what works and end up purchasing systems that are ineffective or poorly matched to their needs.

AI adoption faces bigger obstacles at the front lines of public service delivery than in government back offices

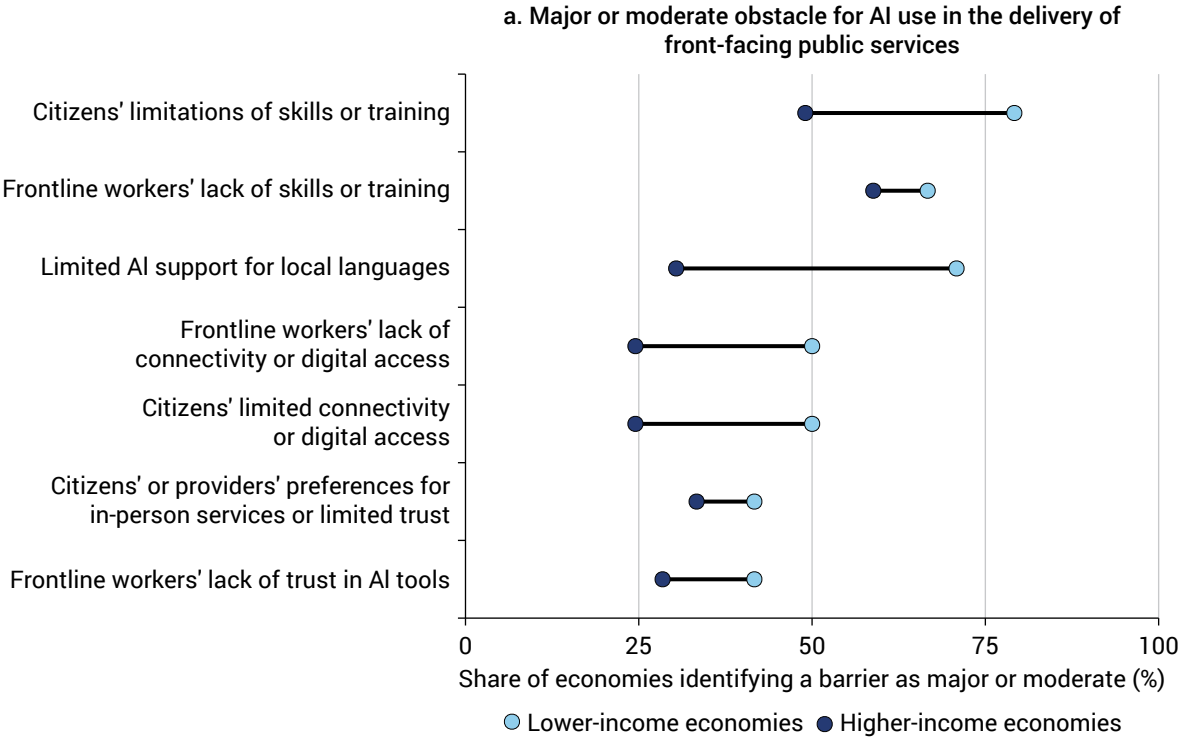
For services delivered directly to the public, the main barriers for service providers are often basic ones: limited internet access, a lack of AI tools

in local languages, and shortages of digital skills (refer to figure O.9, panel a).[78] Frontline workers also need training and support to use AI effectively. In Sierra Leone, for example, early evidence shows that teachers are more likely to use AI tools when they have received guidance on how to integrate them into their work, even popular messaging apps such as WhatsApp.[79]

In government back offices, by contrast, the core constraint is usually data (refer to figure O.9, panel b). In many developing countries, government records are scattered across PDF manuals, legal documents, old computer systems, and staff knowledge rather than in organized digital databases. AI can help organize, process, and consolidate this information, but many countries have not yet undertaken the necessary investments for that to occur.

Figure O.9 Governments in developing countries cite skills and connectivity on the front lines and data at the back end as the main obstacles to using AI to deliver public services

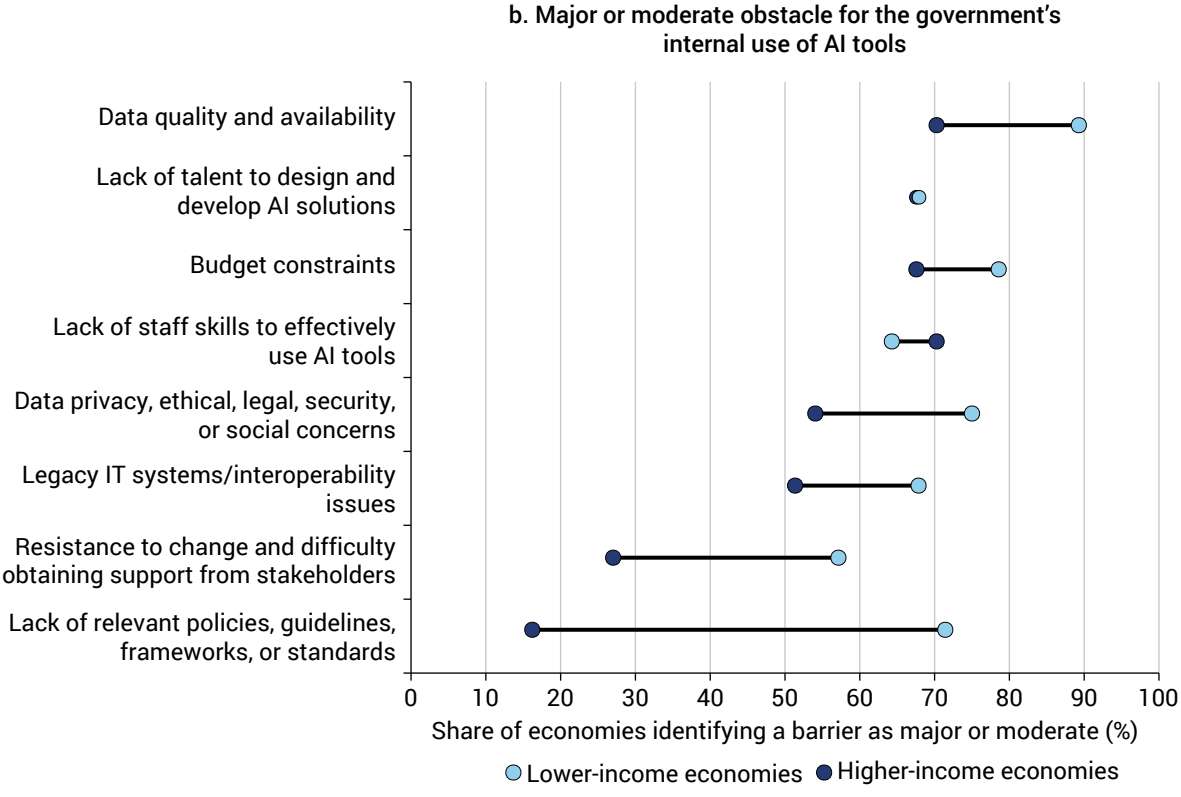
Survey question: "To what extent do the following constraints prevent or limit your government's use of AI in the delivery of front-facing public services?"



(Figure continues next page)

Figure O.9 Governments in developing countries cite skills and connectivity on the front lines and data at the back end as the main obstacles to using AI to deliver public services (*continued*)

Survey question: "To what extent do the following constraints prevent or limit your government's internal use of AI tools?"



Source: WDR 2026 team, based on the AI and Data for Better Governance Survey, World Bank.

Note: The sample includes 12 low-income and 12 lower-middle-income economies (lower-income group) and 16 upper-middle-income economies and 17 high-income economies (higher-income group). AI = artificial intelligence; IT = information technology.

AI's political impact: Reshaping power within and across countries

AI is reshaping power relationships in four ways: between countries, between governments and corporations, between corporations and individuals, and between citizens and governments. Between countries, control over key parts of the AI value chain can give some nations leverage over others and limit their access to AI. Within countries, AI's benefits might not be widely shared if governments, businesses, and citizens are not aligned on the appropriate use of AI and strong institutions are lacking. AI can also be misused, giving governments new tools for surveillance and disinformation that weaken the rights and influence of citizens.

Geopolitics will shape countries' access to AI's full capabilities

Governments increasingly see AI as a foundational force shaping economic activity, national security, and global influence. Control over key parts of the AI value chain—raw materials, advanced chips, and data centers—by the world's leading powers, especially the United States and China, creates dependency risks for other countries. The availability of open AI models and the falling price of proprietary AI models (albeit for older versions) make advanced AI more accessible, but using them at scale still depends on data centers built on chips and commercial cloud services that are largely controlled by the major powers. Developing countries can reduce dependencies by sourcing these AI products and services from different countries, choosing the most suitable available technology. However, because AI systems depend on the different layers working together, this strategy can create interoperability problems and expose countries to conflicting regulations tied to technologies from different jurisdictions.

Pursuing *AI sovereignty* by building fully independent AI capabilities is an alternative in principle, but it is unlikely to deliver the desired results in practice. Investing across all layers of the AI value chain is extremely costly. Simply having a local data center cannot avoid dependencies on chips from major foreign providers. Large investments in data centers may also impose other societal costs, such as higher electricity prices.[80] Meanwhile, if several countries have built sovereign AI systems, they will be unable to benefit from global demand that lowers costs across AI systems, from model training and chip manufacturing to application development.[81] Thus, a more practical middle path is to combine open AI models with shared regional computing infrastructure, reducing dependence without requiring full AI sovereignty.

AI could deepen inequality unless policies are carefully designed

Millions of people, including in developing countries, already use AI to get practical advice, find information, and complete everyday tasks.[82] However, early evidence suggests that a growing share of the economic gains from AI is going to owners of technology and capital rather than to workers. In the European Union, regions with more intense AI patenting tend to experience a decline in the share of income earned by workers as wages, salaries, and benefits.[83] Workers who help build AI systems also earn little, in some cases. In Kenya, for example, gig workers who performed data-labeling tasks that are crucial for training frontier AI models were paid as little as $1.32 to $2.00 per hour in 2023—barely above Kenya's statutory minimum wage of about $1.20 per hour.[84]

Governments across the world are also providing subsidies and other incentives to support AI investments.[85] But if these policies are poorly designed, taxpayers could bear most of the financial risk while a small number of politically connected firms capture most of the rewards. Unless the benefits of AI are broadly shared, tensions between governments, businesses, and citizens could be exacerbated. That would limit AI's contribution to economic development.

The use of AI to misinform or monitor citizens leaves developing countries especially vulnerable

Generative AI creates possibilities for improving the integrity of information. In South Africa, biweekly AI-enabled fact-checks delivered via WhatsApp over six months improved citizens' ability to identify new misinformation.[86] In Ukraine, Transparency International Ukraine's DOZORRO applies machine learning to the government's e-procurement system, ProZorro, to flag irregularities and route citizens' complaints to law enforcement bodies.[87] However, generative AI has also been used to "sow doubt, smear opponents, or influence public debate" across countries through fake images, videos, and text.[88] Many developing countries are more vulnerable to generative AI's sophisticated manipulation of

information because they lack institutional checks and balances or have weak ones. In 2025, Africa had only 66 active fact-checking organizations serving 1.5 billion people, compared with 139 in Europe serving 750 million people.[89]

The weak rule of law, few constraints on executive power, and limited space for civil society dialogue in countries can tip the balance toward AI-powered surveillance tracking citizen activity.[90] Autocracies and weak democracies are more likely to import AI surveillance technologies, such as facial recognition, following domestic political unrest.[91]

Shaping AI: Governments as enablers, users, and regulators

AI's economic, social, and political impacts in developing countries hold both promise and peril. Governments—in tandem with markets—can leverage AI's potential and guard against AI's risks as *enablers* of AI, *users* of AI, and *regulators* of AI along the pathways of AI adoption, adaptation, and advancement (refer to table O.2).

As enablers of AI, governments should focus on establishing the analog and digital complements

Table O.2 Governments shape the opportunities to adopt, adapt, and advance AI as enablers, users, and regulators

	Government role		
AI pathway	Enabler of AI	User of AI	Regulator of AI
Adopt (use off-the-shelf AI)	• Build foundational infrastructure and skills. • Share information about what AI can do. • Build AI as public infrastructure. • Avoid tax and other regulatory policies that encourage replacing workers with AI.	• Make government data AI-ready. • Invest in staff capacity.	• Start with voluntary standards. • Use existing laws to address AI risks now. • Build AI rules that can adapt over time. • Work with other countries to keep AI rules compatible internationally.
Adapt (build AI solutions that incorporate the local context)	• Expand access to computing infrastructure. • Invest in better data. • Invest in AI-related technical skills. • Create a business environment where entrepreneurs can thrive.	• Create better systems to buy, test, evaluate, and improve AI solutions. • Use government procurement to crowd in local AI solutions if they work better in the local context.	
Advance (participate in frontier AI development)			

Source: WDR 2026 team.

Note: The policy recommendations for adapting and advancing AI solutions are qualitatively similar but quantitatively different. For example, investments in computing infrastructure, data, and AI-related technical skills are significantly larger in AI advancement relative to AI adaptation. AI = artificial intelligence.

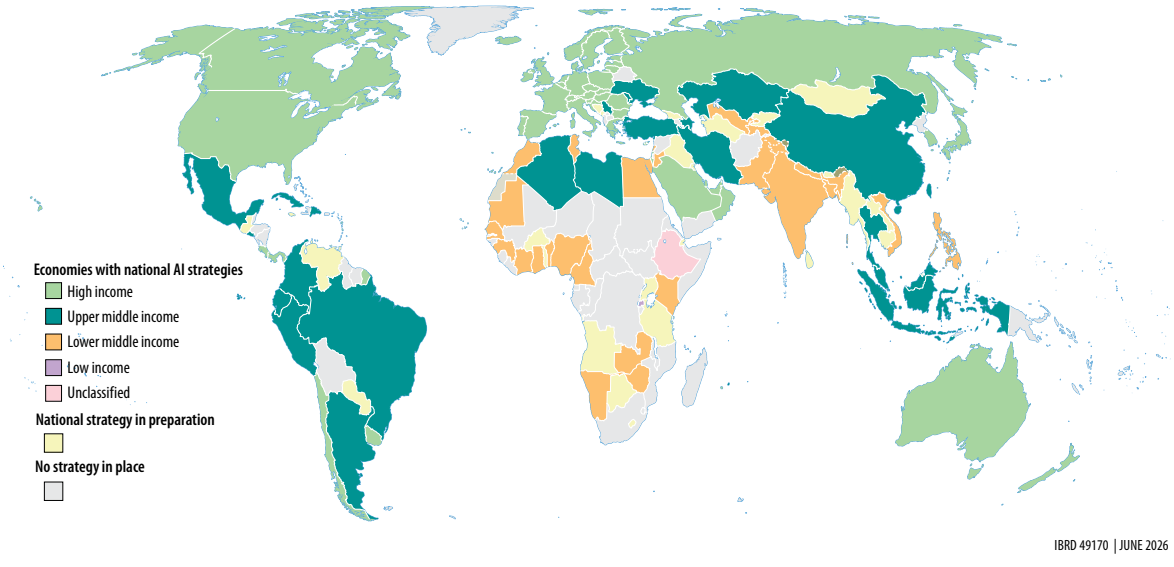
that enable the productive adoption and adaptation of AI by the private sector. As users of AI, governments should leverage their position as anchor customers to scale up AI adaptation. As regulators of AI, governments should rely on voluntary standards as a starting point, while using existing legal instruments to counter social harms where voluntary standards fall short. Standards, whether voluntary or mandatory, should draw on international cooperation to guard against regulatory fragmentation across countries.

Countries are already making these choices. As of June 2026, more than 80 countries had published national AI strategies (refer to map O.1). However, countries with the most to gain from AI might be the least prepared. For example, among 25 low-income countries, only one—Rwanda—had published a dedicated AI strategy, compared with more than half of high-income countries.

Governments as enablers: Invest in analog and digital complements for the productive adoption and adaptation of AI

As enablers of AI, governments should focus on strengthening the analog complements—reliable electricity, broadband connectivity, and foundational literacy—necessary for the productive adoption of AI by small firms and farms. These are areas where the private sector may not invest sufficiently. In themselves, these analog complements do not guarantee productive AI use—businesses may be unaware of AI solutions, unable to access AI solutions if those solutions require subscriptions, or use AI solutions to substitute for workers because regulations increase hiring and firing costs. Governments should therefore fill information gaps about AI solutions, build AI as public infrastructure, and reform regulations

Map O.1 Very few low-income countries have published national AI strategies



Source: WDR 2026 team, based on Radu 2026.

Note: The map includes published strategies for which the full text could be found online as of June 2026. World Bank income classifications for 2025 were therefore used. For the purposes of this analysis, a national AI strategy is defined as a stand-alone, government-led framework defining a country's vision and action plan for artificial intelligence (AI). Ethiopia has a national AI strategy, but its income level was unclassified in 2025. For Lebanon and Switzerland, published sector-based strategies are included. South Africa is not included as an economy with a strategy because of the withdrawal of the Draft National AI Policy in April 2026. *National strategy in preparation* refers to AI strategies under development, from early stages of consultation to near-final drafts.

that create incentives for businesses to replace workers with AI.

To foster the development of AI applications that are adapted to the local context, governments can help by expanding access to data, computing infrastructure, and digital skills and increasing support for local entrepreneurship. Without these analog and digital complements, local business will have fewer opportunities to compete in the market, innovate, and adapt AI to meet domestic needs.

Strengthen the analog complements to support the productive adoption of AI

Build foundational infrastructure and skills to widen access to AI

Governments have an important role in providing the basic infrastructure upon which AI depends, especially in remote areas where the private sector is unlikely to invest.[92] This includes electricity and internet access in schools, hospitals, and public service centers. In Mali, for example, improving the reliability of a community health care worker mobile app more than doubled the chances that workers completed the minimum expected number of home visits.[93] Governments can also make it easier for people and businesses to use digital technologies by reducing taxes on low-cost smartphones, computers, and other digital devices.[94]

Governments should also invest in the basic skills that help people benefit from AI, including literacy, numeracy, reasoning, basic digital skills, and teamwork. These skills make it easier to learn how to use new technologies and adapt as jobs change.[95] Building them starts with high-quality formal education from an early age. In Rwanda, for example, the government is introducing AI-awareness modules in secondary schools as part of its broader digital transformation strategy.[96]

Share information about what AI can do

Even when businesses have internet access, electricity, and the skills to use AI, many still do not adopt it because they do not know which AI tools work, what they cost, or how they can be deployed to improve their business. In developing countries, businesses say that lack of information and lack of finance are the two biggest reasons they either do not use AI products or do not expand AI's use (refer figure O.10). Evidence from a recent study of more than 500 start-ups around the world shows that entrepreneurs who learned how other businesses had successfully used AI identified more ways to apply AI across their own operations.[97] Governments can help by making it easier for businesses to find AI solutions—for example, through online directories, industry-specific registries, or technology advisers who match AI providers with potential users.[98]

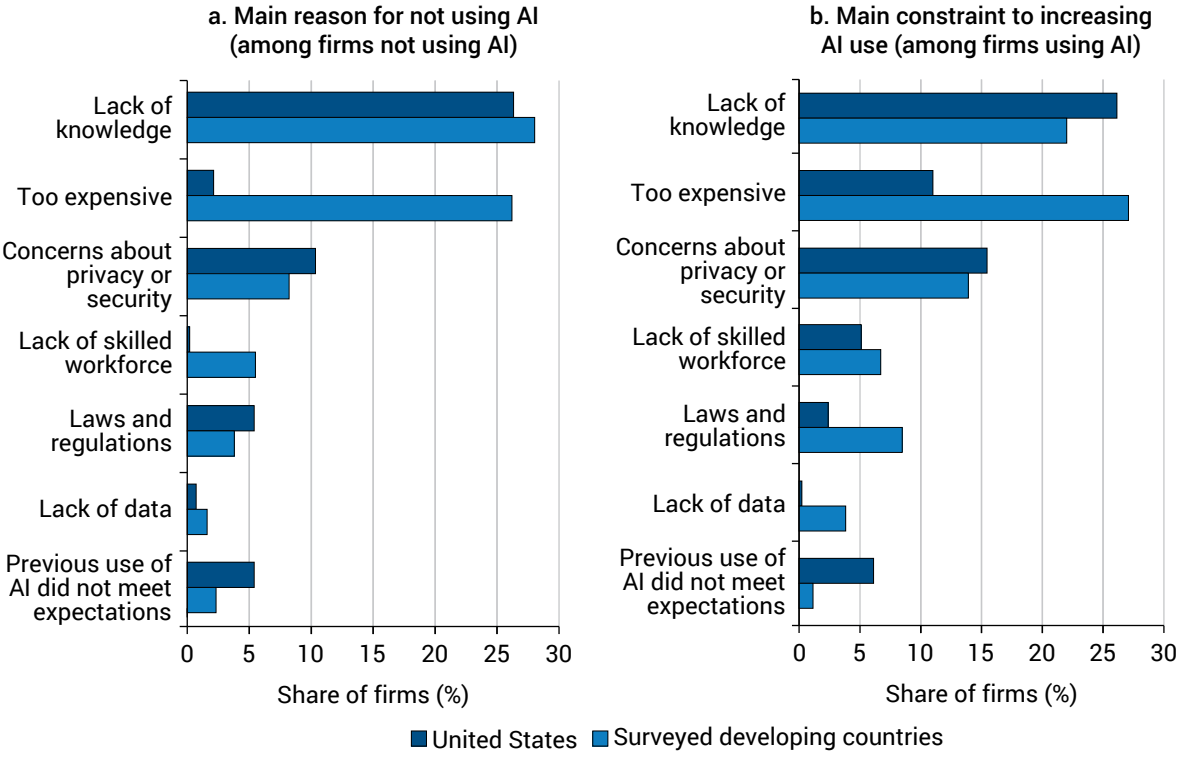
Build AI as public infrastructure

Governments can also expand access to AI by making low-cost open and interoperable AI tools in local languages more widely available through digital public infrastructure, an approach that would be especially beneficial to people employed in agriculture, small retail, and other microenterprises. Brazil's Pix payment system, Estonia's X-Road data exchange, and India's Unified Payment Interface (UPI) exemplify the approach. All were designed as reusable foundations for digital public infrastructure.[99] When AI runs on public rails, its benefits can diffuse more widely and quickly.

Avoid tax and other regulatory policies that encourage replacing workers with AI

Tax systems in many high-income countries make it cheaper for businesses to invest in automation than to hire workers. In the United States, for example, businesses today pay a tax of less than 5 percent when buying automation equipment or software. By contrast, over the last four decades, businesses have paid an average rate of 25 percent in payroll and income taxes for hiring workers to perform the same tasks.[100] Tax differences of this kind can encourage businesses to use AI to replace workers rather than to

Figure O.10 Lack of information and finance are the biggest reasons businesses do not adopt and scale up AI solutions



Sources: WDR 2026 team, based on World Bank Enterprise Survey on AI Adoption; Davies et al. 2026.

Note: Firms could select only one option. The figure covers formal firms with five or more employees, pooling data across all countries (averaging country-level indicators). The data for surveyed developing countries average country-level indicators, with equal weight for each country. The samples are as follows: India (1,355 firms), Jordan (358), Kenya (360), Mexico (603), Nigeria (777), Thailand (360), United States (392). Microdata are available at Enterprise Surveys (data portal), World Bank, https://www.enterprisesurveys.org/en/data. AI = artificial intelligence.

help them become more productive. Governments in developing countries—where millions of people are joining the workforce each year—should avoid taxes and other regulatory policies that make the purchase of AI software more attractive than hiring or retaining workers.

Build the analog and digital complements that enable local businesses to adapt AI

Expand access to affordable computing infrastructure

Because data centers needed for AI development are concentrated among a handful of large companies in high-income countries, developing countries will need to rely on cloud services to meet their immediate needs. In larger middle-income countries, private investment in local data centers can help businesses adapt AI to local needs—because faster data transmission enables AI tools to respond more quickly to users while supporting the growth of local AI companies. Governments can also improve access to AI compute by making it easier for foreign companies to invest in local data centers. That is already happening: developing countries now collectively account for about 40 percent of new foreign direct investment projects in data centers worldwide.[101] Smaller economies can reduce costs by working together—for example, by adopting common rules that attract private investment or

by jointly financing regional data centers, as the African Union has done.[102] Governments can further help small businesses, start-ups, and researchers by offering compute at lower cost, as India has done through its INDIAai mission.[103] In lower-income countries, where many people still lack reliable electricity and internet access, governments should balance support for data centers with investments in the physical and digital complements necessary for AI to thrive.

Invest in better data

Governments can help make the data needed to build AI solutions more widely available. One option is to make more public data—especially administrative data in local languages—open for AI developers to use.[104] The government of India's BHASHINI initiative, for example, has significantly increased the accessibility of public records.[105] Governments can also work with universities and civil society to create more open data sets. In Africa, the Masakhane project is building language data sets from African speakers for use in AI training data.[106] Strong data-sharing agreements that give local communities a say in how their data are used can build trust and encourage more people to participate.[107] In Ghana, researchers from the Kwame Nkrumah University of Science and Technology are developing realistic synthetic data[108] for applications in health care and agriculture.[109] Finally, governments can help small businesses gain access to high-quality data owned by private companies through grants, vouchers, or other financial support, as the European Union's Horizon 2020 initiative has shown.[110]

Invest in AI-related technical skills

Countries need more people with the technical skills to adapt and advance AI—especially in fields such as computer science, data science, cybersecurity, AI ethics, and systems engineering.[111] Governments can help by ensuring that these subjects are taught in universities and vocational schools, in ways that allow workers to keep learning throughout their careers. Partnerships between businesses, universities, and governments can support this objective. Singapore, for example, has introduced AI into its national school curriculum, with an emphasis on using AI safely and responsibly.[112] In Morocco, industry federations work with the government to provide training on AI applications in sectors such as agriculture and manufacturing.[113] Governments can also draw on the expertise of skilled professionals living abroad by engaging the diaspora and creating incentives for AI research and innovation hubs.

Create a business environment in which entrepreneurs can experiment and thrive

AI makes it easier to start and grow a business by giving entrepreneurs better access to information, customers, and decision-making tools. It also encourages more productive businesses to grow while less competitive ones either improve or leave the market. But these benefits will materialize only if governments create a business environment that supports innovation and entrepreneurship.[114] The gap in financing start-ups is particularly acute, and venture capital markets in most low- and middle-income countries are weak. In many African countries, for example, local entrepreneurs struggle to raise funding because most investment comes from foreign investors, and investment often goes disproportionately to domestic business owners with foreign connections.[115] Governments can support blended finance combining public and private monies as well as partial credit guarantees to help AI solution developers raise capital and experiment. Governments can also help by making it easier to start and close businesses, attracting foreign investment, and keeping markets open to trade.

Governments as users: Wield buying power to support AI solutions that are adapted to local needs

Governments can play an important role in helping countries adapt AI to local needs by becoming early users and buyers of AI. They hold vast amounts

of data and deliver many services that require AI solutions tailored to local languages, laws, and conditions. By testing, evaluating, and buying AI products, governments can reduce the risks of developing new AI solutions and create demand for AI products designed for local needs—especially when the private sector is slow to do so. This will require governments to invest in staff capacity.

Make government data AI-ready

Governments already collect huge amounts of information—from censuses, tax records, and birth and death registries to court records, land records, and social programs. Much of this information, however, is either still on paper, incomplete, or scattered across multiple agencies, making it difficult to use. The first step is to digitize old records and convert them into structured, machine-readable data that AI systems can analyze. In Brazil, for example, the VICTOR system converts scanned court documents into machine-readable text. It has reduced the amount of time it takes to determine eligibility for an appeal to the Brazilian Supreme Federal Court from 40 minutes to just 5 seconds.[116]

Governments should also connect data across agencies instead of keeping them in separate systems. Some countries already are doing this. In India's Telangana state, the TGDeX data exchange platform brings together data from sectors such as health care and agriculture so they can be used more effectively.[117] More broadly, *digital public infrastructure*—such as digital IDs, digital payment wallets, and secure data-sharing platforms—can help create standardized, linked records that different government agencies can share and use.

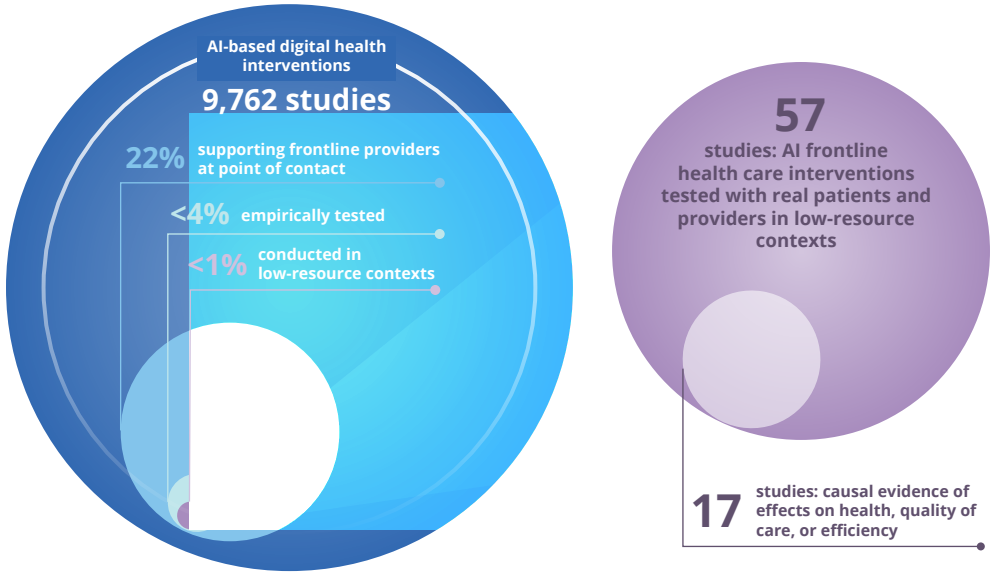
Create better systems to buy, test, evaluate, and improve AI solutions

Even as AI applications proliferate around the world, the evidence remains limited regarding what works and what does not (refer to figure O.11). As a result, many AI projects never move beyond small pilot programs. To fix this, governments need better ways to buy, monitor, and evaluate AI systems. Procurement should be based on clear performance standards, so AI tools are measured against agreed-upon benchmarks. For example, the World Health Organization's benchmark for AI systems that screen for tuberculosis prioritizes the detection of positive cases and lowers the risk of false negatives in its recommendations for follow-up.[118] Buying AI solutions is different from purchasing traditional software because AI systems improve over time as they are tested, refined, and adapted to local needs.[119] Governments therefore need procurement processes that support ongoing learning and improvement rather than one-time purchases. Governments should also work with universities and research institutions to evaluate whether AI solutions actually improve outcomes and provide good value for money.[120] Shared evidence and public benchmarks can help countries identify which AI applications are worth scaling up and avoid the problem of running too many pilot projects that are never expanded.[121]

Use government procurement to crowd in local AI solutions for uses in which the local context matters greatly

Governments often have the data needed to use AI to improve public services, but they usually lack the expertise to build AI applications themselves. That makes procurement the main mechanism for bringing AI into government services. Used well, government procurement can encourage privately developed local AI solutions that are aligned with public goals. This approach is similar to the one taken for the development of vaccines, in which governments commit in advance to buying successful products. This approach is especially useful in areas such as health care, education, and the justice system, in which AI that is poorly adapted to local conditions can cause serious harm. It also makes sense for AI tools that provide broad public

Figure O.11 Few AI health interventions have been evaluated well enough to justify large-scale deployment



Source: Sautmann and Weinert 2026.

Note: Low-resource contexts refers to contexts in low- and middle-income countries, as well as low-resource settings in high-income countries. AI = artificial intelligence.

benefits, such as digital teaching assistants or digital public infrastructure.

When buying AI, governments should avoid becoming dependent on a single vendor. Contracts should make it easy to switch providers by requiring that data be able to be accessed and transferred to another system.[122] Vendors should also be rewarded for collecting data that helps measure whether the AI solution is working as intended, and for continually improving it.[123] One way to do this is through performance-based contracts, in which vendors are paid based on the results they deliver rather than for simply providing the technology.[124]

Invest in staff capacity to make AI work

Governments need people with the skills to buy, deploy, maintain, and improve AI systems over time. The skills most needed to do this are not training AI models, but understanding user workflows, evaluating vendor claims, and safely connecting government data to AI tools.

The starting point is recruiting experienced practitioners from academia, nonprofits, and the private sector in government departments and specialized digital agencies, as well as using partnerships with research institutes and universities. Such talent can hit the ground running. In Brazil, for example, the use of AI tools by digital teams improved productivity and helped accelerate service delivery across 53 projects.[125] Empowering digital teams in the decision-making process around AI solutions can help consolidate these benefits. Building *AI literacy*—understanding what AI can and cannot do, when its use is appropriate, and how to interpret its outputs—across the broader civil service also matters. Many governments around the world report that training and capacity building would make the biggest

difference for responsible AI use.[126] In India, the iGOT Karmayogi has enabled more than 1.3 million government officials to complete AI-related courses.[127]

Governments as regulators: Build trustworthy AI, using voluntary standards and flexible rules

AI can create real benefits, but it also comes with real risks. Poorly designed AI systems can discriminate against people, violate their privacy, create cybersecurity risks, and reduce public trust. When people do not trust AI, they are less likely to use it in ways that improve public services and productivity. Building trustworthy AI systems does not require governments to start from scratch. They can begin by encouraging the use of voluntary standards for trustworthy AI and by enforcing existing laws in circumstances in which AI creates risks. Clear rules give businesses confidence to develop and use AI responsibly. Over time, governments should build a flexible AI governance system that regularly reviews new developments, fills regulatory gaps, strengthens enforcement, and adapts as the technology changes. Policy makers should build on what already works, test new approaches when needed, and systematically involve businesses, researchers, civil society, and citizens in shaping AI policy. International cooperation is also important so that countries do not create conflicting rules.

Start with voluntary standards

Voluntary standards—such as guidelines for AI safety testing, auditing, transparency, and risk management—are a good starting point for AI governance.[128] Already, more than 800 AI-related standards have been published or are under development.[129] These standards have several advantages. They are created by technical experts in industry, they focus on preventing problems before they occur, and they can be updated much faster than legislation. Voluntary standards, however, are not enough on their own. Companies may not fully account for the broader social risks of AI, especially when commercial incentives conflict with the public interest.[130] Developing countries also often have limited influence over how these standards are created because they have fewer resources and less representation in international standards-setting processes.[131]

Use existing laws to address AI risks now

AI can create harm faster than governments can create new laws. Rather than waiting for AI-specific legislation, governments should use the laws they already have to protect people. Existing laws on data protection, consumer protection, human rights, intellectual property, and cybersecurity, for example, already provide important tools for managing many AI risks. Governments in several developing countries have begun to do exactly that. Senegal's Commission for Personal Data Protection blocked the use of facial recognition to monitor employees because of privacy concerns.[132] The Constitutional Court of Colombia ruled that AI cannot replace human judgment in court decisions.[133] In the Philippines, the government temporarily blocked Grok over concerns about AI-generated sexually explicit content until stronger safeguards were in place.[134]

Build AI rules that can adapt over time

Governments should review their existing legal frameworks to identify where AI creates new challenges and decide whether those gaps can be addressed by updating current laws or warrant the introduction of new ones.[135] Some countries are already updating existing regulations. Singapore, for example, has clarified how machine learning can be used for software in medical devices. Other countries have updated election laws to address AI-generated deepfakes. In some cases, new regulations will be needed—for example,

to improve transparency around AI training data, prohibit especially harmful uses of AI, limit AI-enabled surveillance without consent, and regulate government purchases of high-risk AI systems. Strong enforcement and compliance is just as important as good laws. Many developing countries already have modern consumer protection and privacy laws, but lack the resources to enforce them effectively.[136] Regulatory *sandboxes* can help by providing a controlled environment in which companies can test AI tools before wider deployment.[137]

Work with other countries to keep AI rules globally compatible

Countries should avoid creating AI regulations that conflict with one another. Shared principles make it easier to avoid a regulatory race to the bottom while allowing AI companies—especially smaller firms—to operate across multiple markets without facing different rules everywhere.

Developing countries should participate actively in international discussions on AI governance. Forums such as the United Nations Global Dialogue on AI Governance give governments, businesses, and civil society an opportunity to shape global AI policy together.[138] Regional cooperation is also important. For example, the Association of Southeast Asian Nations has developed guidance to make AI governance more consistent across all member countries,[139] while the Council of Europe's Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law promotes AI systems that respect human rights, democracy, and the rule of law.[140] The Framework Convention's signatories include the European Union, the United States, Canada, Japan, Israel, and Uruguay. Developing countries should also participate in international standards-setting processes[141] so they can help shape the technical standards that define trustworthy AI rather than simply adopting standards created elsewhere.

The future of AI's impacts depends on the choices made today

No one knows exactly how far or how fast AI will advance. If you listen to leading AI companies in Silicon Valley or follow technology podcasts on social media, you might be inclined to think that artificial general intelligence—AI that can match human thinking in almost any task—is just around the corner. Others are already talking about even more powerful AI systems. Rather than trying to predict whether or when these breakthroughs will happen, this Report focuses on a more practical question: How can countries use AI to improve people's lives? For developing countries, the answer will depend less on how capable AI becomes and much more on how widely, effectively, and responsibly AI is used to address real economic, social, and political challenges.

There is much to learn from previous waves of transformative technology. Digital technologies spread quickly, but many developing countries did not see the full economic and social benefits because the right supporting conditions were missing, as the *World Development Report 2016: Digital Dividends* showed.[142] The same has been true for the explosion of data, much of whose value in developing countries remains untapped, as the *World Development Report 2021: Data for Better Lives* noted.[143] AI has even greater potential, but whether it delivers on that promise will depend on the policy decisions governments make today.

For developing countries, the priority should be to use AI to expand people's capabilities and improve opportunities for them. Governments can help by making AI easier to access, ensuring that it works in local languages and is suited to local conditions, and investing in the digital infrastructure, skills, and institutions needed to support it. At the same time, they must reduce the risks of AI so that its benefits exceed its harms. With the right policies,

countries can move beyond today's multitude of small pilot projects and shift toward deploying AI at scale to improve public services, strengthen businesses, and raise living standards. That is the only way AI can fulfill its promise as a transformative tool for development.

Notes

1. Comin and Mestieri (2018); Gill (2020).
2. Liu and Wang (2026).
3. Sajadieh et al. (2026).
4. McPeak et al. (2024).
5. Burlig et al. (2025); Government of India (2026); Vallangi (2026).
6. Analysis of mediation data by the WDR 2026 team, based on Farabi et al. (2026).
7. Yukins and Kelman (2022).
8. World Bank (2023).
9. Radu (2026).
10. Refer to "LCFI [Leverhulme Centre for the Future of Intelligence] Launch: Stephen Hawking—Event Recordings," https://www.lcfi.ac.uk/resources/cfi-launch-stephen-hawking.
11. Bresnahan and Trajtenberg (1995).
12. AI-related technologies, including big data, data mining, data science, machine learning, and natural language processing, conform to these criteria (Goldfarb et al. 2023). More recently, with substantially fewer resources than ever before, the coding tools of generative AI have helped create software because the code is verifiable. The speed of progress might be slower in other application domains in which human feedback is typically needed to verify outputs.
13. Maslej et al. (2025).
14. *Predictive AI* uses statistical and machine learning models for prediction or classification tasks. *Generative AI* creates new content, such as text, images, or audio. *Agentic AI* executes a series of tasks independently based on goals, context, and learning gained during the process.
15. Narayanan and Kapoor (2024).
16. Bick et al. (2025); Felten et al. (2023).
17. There were 2.9 physicians per 10,000 people in Sub-Saharan Africa in 2019, far below the global average of 16.7. Physician-patient densities were also low (less than 10 per 10,000) in the Middle East and North Africa and in South Asia (Haakenstad et al. 2022). Similarly, the average student-teacher ratio in primary schools across low-income countries is approximately 40:1, compared with about 15:1 in high-income countries. Refer to UIS Data Browser (dashboard), Institute for Statistics, United Nations Educational, Scientific, and Cultural Organization, https://databrowser.uis.unesco.org/.
18. This will lower wages if demand for the work does not increase (Autor and Thompson 2025).
19. Brynjolfsson, Li, et al. (2025).
20. Noy and Zhang (2023).
21. Cui et al. (2026).
22. Autor (2024).
23. The restricted release of Anthropic's Claude Mythos exemplifies the tension that AI's capabilities can be used by criminals to threaten cybersecurity much more quickly than large organizations can prepare cyber systems to guard against such attacks.
24. Students researching a question with the help of large language models produced less relevant cognitive responses (Stadler et al. 2024). Students who were given unrestricted access to such models bypassed opportunities for "desirable difficulty" and performed worse on subsequent knowledge tests (Barcaui 2025; Bastani et al. 2025).
25. Brynjolfsson, Chandar, et al. (2025); Brynjolfsson et al. (2026); Hosseini and Lichtinger (2025).
26. Gans (2025).
27. Comin and Mestieri (2018); Gill (2020).
28. Liu and Wang (2026).
29. Liu and Wang (2026).
30. Anthropic and OpenAI are headquartered in the United States, as is SpaceX (which went public in June 2026). ByteDance, DeepSeek, and Moonshot AI are based in China.
31. The diffusion of frontier knowledge that enables countries to catch up rapidly has been described as an advantage of technological backwardness (Gerschenkron 1962).
32. For example, the cost of processing 1 million tokens with models that have performance similar to GPT-3.5, the model that powered the first released version of ChatGPT, fell from about $20 in late 2022 to only $0.07 by late 2024. Comparable reductions in price are taking place across a range of AI models (Maslej et al. 2025). These price reductions refer to a given model capability, not the latest frontier model.
33. Open weights allow AI developers to run the AI model on their own computer systems, customize the model, examine it for safety or bias, and develop applications without relying solely on one provider. Open-source models provide transparency and customization, allowing those that are building AI applications to access the model weights, but also the model architecture, training data, and even source code, with minimal licensing restrictions.
34. Generative AI products can also be used to accelerate the process of turning *unstructured data* that cannot be organized, indexed, or queried effectively in a traditional database management system into *labeled data* that are formatted for machine learning algorithms.
35. For example, the use of predictive machine learning algorithms to make forecasts requires large amounts of data and specialized talent to build the

AI model and to integrate it with databases and software systems.

36. In 2022, a ransomware attack compromised multiple ministries across the government of Costa Rica, forcing the government to declare a national emergency (Assenza et al. 2026; Murray and Srivastava 2022).
37. As of 2025, the intensity of generative AI chatbot use by consumers was significantly higher in countries with better physical infrastructure (fast internet and access to electricity), higher human capital (higher literacy rates and higher average years of schooling), and stronger institutions (in government effectiveness and regulatory quality) (Liu and Wang 2026). These estimates account for differences in levels of per capita GDP.
38. Jones (2025).
39. David (1990).
40. Bresnahan et al. (2002); Brynjolfsson et al. (2021).
41. Global private investment in AI in 2025 was more than 20 times larger in the United States—at $285 billion—than in China, which occupied second position. The remaining countries that constituted the top 15 were the United Kingdom, France, Canada, India, Germany, Israel, Australia, Saudi Arabia, Singapore, Republic of Korea, Belgium, Japan, and Sweden (Sajadieh et al. 2026).
42. WDR 2026 team, based on Semrush (Software as a service platform), Semrush Holdings, https://www.semrush.com/. The data on the number of ChatGPT users are based on unique IP (Internet Protocol) addresses/devices. Therefore, a person using multiple devices or in different locations may be counted more than once.
43. UNESCO (2023).
44. World Bank (2023).
45. Yang et al. (2024).
46. Beede et al. (2020).
47. Poon (2025).
48. These estimates might understate AI's potential to complement workers because they are based on existing tasks and do not consider any new tasks that AI could perform. Following Gmyrek et al. (2026), occupations are considered exposed to generative AI if they fall within exposure gradients 1–4 as defined in the ILO-NASK AI exposure index (Gmyrek et al. 2025). This threshold captures approximately 25 percent of all occupations under ISCO-08 codes. Other studies, such as Cazzaniga et al. (2024), report higher shares of employment exposed to AI because they use the median occupation as their cutoff. If the median ILO-NASK score is used as the cutoff instead of the threshold that sits closer to the top quartile, the share of employment exposed to GenAI is comparable with the shares found in Cazzaniga et al. (2024).
49. WDR 2026 team, based on Gmyrek et al. (2026) and data of ILOSTAT (dashboard), International Labour Organization, https://ilostat.ilo.org/; WDI (World Development Indicators) (dashboard), World Bank, Washington, DC, https://datatopics.worldbank.org/world-development-indicators/.
50. Huang et al. (2026).
51. Li et al. (2026).
52. World Bank (2025c). These findings conform to evidence from the United States, where employment among early-career workers (ages 22–25) in occupations highly amenable to automation by AI use fell by 13 percent between late 2022 and 2025 (Brynjolfsson, Li, et al. 2025).
53. Nayyar et al. (2021).
54. WDR 2026 team analysis, based on Lightcast data covering more than 100 countries globally. Refer to Lightcast Data (dashboard), Lightcast, https://lightcast.io/products/data/overview.
55. Based on ILOSTAT (dashboard), International Labour Organization, https://ilostat.ilo.org/.
56. WDR 2026 team, based on World Bank Enterprise Survey on AI Adoption; Davies et al. 2026.
57. Otis et al. (2024).
58. AI's capabilities are reducing trade costs, which can help businesses in developing countries become internationally competitive. AI-powered solutions facilitate compliance with complex regulations, such as with the European Union (EU) Carbon Border Adjustment Mechanism (CBAM), whereby the integration of machine learning into data platforms is helping firms collect, manage, and report emissions data more efficiently (Nexer 2025). AI can improve the efficiency of border procedures, such as through the automatic verification of sanitary and phytosanitary (SPS) standards certificates (Turchetto Júnior 2025). AI can also lower communication costs. The introduction of a machine translation system thus increased international trade on eBay by 17.5 percent (Brynjolfsson et al. 2019).
59. WDR 2026 team, based on the data of Digital Business Indicators (database), World Bank, https://www.worldbank.org/en/research/brief/digital-business-indicators.
60. The share of AI-enabling goods in world trade increased from about 13 percent to nearly 17 percent between 2023 and the end of 2025.
61. Luo et al. (2024). This reinforces evidence from the United States that shows that AI adoption depends on the characteristics of businesses (Akcigit et al. 2026).
62. WDR 2026 team, based on Acemoglu (2025); Aghion and Bunel (2024); Baily et al. (2023); Bergeaud (2024); Filippucci et al. (2025).
63. WDR 2026 team, based on Acemoglu (2025).
64. WDR 2026 team, based on Acemoglu (2025); Aghion and Bunel (2024); Baily et al. (2023); Bergeaud (2024); Filippucci et al. (2025); World Bank (2026).
65. Betai and Chen (2026).
66. Stapleton and O'Kane (2021).
67. Bastos and Nayyar (2026).
68. IEA (2026).
69. In the state of Telangana, statistical forecasts of the rainy season enabled farmers to alter their behavior in response to weather-related risks (Burlig et al. 2025). The Government of India subsequently delivered AI-based weather forecasts to more than 30 million farmers across the country,

providing most with advanced prediction of the rainy season earlier than ever before (Government of India 2026).

70. Analysis of mediation data by the WDR 2026 team, based on Farabi et al. (2026).
71. Ash et al. (2025).
72. OECD (2025b).
73. Björkegren et al. (2025).
74. Abramoff et al. (2023). The condition, diabetic retinopathy, is a leading cause of preventable blindness in the working population. It is projected to affect 160 million adults by 2045 (Teo et al. 2021).
75. For example, among thousands of published articles on AI in health care, less than 0.2 percent provide causal evidence of the effects on health care quality or efficiency in low-resource contexts (Sautmann and Weinert 2026).
76. Aiken et al. (2025).
77. McPeak et al. (2024).
78. Based on findings from the AI and Data for Better Governance Survey of governments conducted by the World Bank for this Report. The survey's findings focus on the use of, barriers to use of, and governance of AI, highlighting key differences across countries according to income level. The survey included a core module for digital agencies (or ministries of digital transformation or the equivalent), as well as two modules each for the following sectors: health, education, tax, public finance, civil service, and procurement. The survey was sent to relevant authorities in 129 economies. Respondents in 60 economies completed at least one of the modules, with 57 economies responding to the core module, including 12 low-income economies (Burkina Faso, Burundi, Central African Republic, Democratic Republic of Congo, Ethiopia, Malawi, Mali, Niger, Federal Republic of Somalia, South Sudan, Uganda, Republic of Yemen); 12 lower-middle-income economies (Benin, Bhutan, Cambodia, Arab Republic of Egypt, Kenya, Lao PDR, Lesotho, Myanmar, Nepal, Nigeria, Tajikistan, West Bank and Gaza); 16 upper-middle-income economies (Argentina, Azerbaijan, Bosnia and Herzegovina, Brazil, Ecuador, Guatemala, Jordan, Kazakhstan, Kosovo, Malaysia, Mexico, Peru, Philippines, Thailand, Türkiye, Ukraine); and 17 high-income economies (Australia, Austria, Belgium, Canada, Chile, Costa Rica, Czechia, Greece, Hungary, New Zealand, Panama, Poland, Portugal, Saudi Arabia, Singapore, United Arab Emirates, Uruguay). Kim et al. (2026).
79. Choi et al. (2024).
80. Anand and Mookerjee (2026); Mozur et al. (2025); Pooler (2026).
81. Refer to Clayton et al. (2025) for a general discussion on how excessive fragmentation can lead to a self-reinforcing fragmentation doom loop.
82. Chatterji et al. (2025).
83. Minniti et al. (2025).
84. Perrigo (2023). The demand for AI content moderation work also exposes workers to deeply disturbing imagery. A 2023 lawsuit by Kenyan content moderators against Meta and Sama alleged exposure to traumatic content without adequate psychological support, leading to diagnoses of depression and anxiety (Espada 2023).
85. In Uzbekistan, for example, the government has introduced policies to attract AI-related investments through tax exemptions and discounted electricity rates for data centers (Reuters 2025).
86. Bowles et al. (2025).
87. Kelman and Yukins (2022).
88. Funk et al. (2023, 1).
89. Ryan (2025).
90. Acemoglu and Johnson (2023).
91. Beraja et al. (2023).
92. Private investment in infrastructure can also help close the digital divide. For example, foreign satellite technology providers, such as OneWeb, SpaceSail, and Starlink, have bypassed the prohibitive costs of laying terrestrial fiber in remote regions in Bangladesh, Brazil, Nigeria, and Rwanda. In India, the progressive liberalization of the telecom sector—culminating in 100 percent foreign direct investment—has spurred competition and large-scale network rollouts, helping drive affordable data and rapid internet take-up.
93. Yang et al. (2021).
94. The removal of the 16 percent value added tax on mobile handsets in Kenya in 2009 increased handset purchases by 200 percent and internet penetration by more than 50 percent (Deloitte and GSMA 2011). It is estimated that the welfare costs of handset taxes are more than three times the revenue these taxes raise (Björkegren 2019).
95. World Bank (2018); World Bank et al. (2022).
96. Ministry of Education, Rwanda (2026).
97. Kim et al. (2026). In Czechia, capacity building and peer learning programs that exposed firms to how a variety of AI tools work increased the adoption of AI within firms by 26 percent (Pereira-López et al. 2025).
98. Cirera et al. (2020). In Nigeria, a marketplace platform providing quality ratings for professional business service providers shifted the preferences of purchasing firms toward more highly rated providers (Anderson and McKenzie 2021).
99. Velmet (2026); World Bank (2025a).
100. Acemoglu and Johnson (2023).
101. Large middle-income countries, including Brazil, India, and Malaysia, stand out as the main recipients of such data-center foreign direct investment. In December 2025, Microsoft announced a $17.5 billion data-center investment in India, which is expected to be implemented by 2029 (Aykut et al. 2026).
102. African Union (2024).
103. MeitY (2026).
104. Administrative data are information collected routinely by government departments and agencies to administer programs and deliver services.
105. Kumar, Sarin, et al. (2025).
106. Nekoto et al. (2020).
107. Data licensing frameworks in Africa, such as the Nwulite Obodo Open Data License (NOODL), ensure that the communities generating these assets maintain structural ownership of the data (Verhulst et al. 2025).

108. Synthetic data are artificially generated data that mimic the characteristics and patterns of real-world data.
109. Muinde (2025); Mwigereri et al. (2025). A combination of lung ultrasound image data from real patients with simulated data yielded better results in the detection of lungs infected with COVID-19 (Zhao et al. 2024).
110. Mitra and Niakaros (2023).
111. Martins-Neto et al. (2026).
112. MOE (2026).
113. CGEM (2025).
114. Successful entrepreneurship ultimately depends on talent, ideas, capital, market access, and a supporting ecosystem of financial institutions, researchers, incubators, and policy makers (Cruz and Zhu 2023; Grover et al. 2019).
115. Colonnelli et al. (2026).
116. Becker and Ferrari (2020). Large language models can now learn directly from unlabeled scanned documents, which makes digitalization 100 times less expensive than manual processes (Bäcker-Peral et al. 2025).
117. Data for Public Good (2026).
118. WHO (2026).
119. Athey (2025).
120. For example, evidence shows that people face difficulties in taking in and using information provided by an automated decision support system, either overrelying on it or overruling it at the wrong time (Agarwal et al. 2023; Mosier and Manzey 2019; Nielsen et al. 2025; Stevenson and Doleac 2024).
121. Governments can also integrate AI safety guardrails into public procurement to shape responsible AI practices. In Chile, ChileCompra has pioneered bidding documents that require AI vendors to demonstrate transparency, conduct risk assessments, and ensure data quality from the outset.
122. Hagiu and Wright (2025); OECD (2025a).
123. Athey (2025).
124. For example, refer to Kremer et al. (2022). Government procurement of AI applications also needs to ensure the safety of sensitive government and citizen data. For high-sensitivity tasks, the AI model might need to be hosted on a trusted centralized data platform.
125. For details, refer to Serpro (Serviço Federal de Processamento de Dados, Federal Data Processing Service) (homepage), https://www.serpro.gov.br/.
126. Lundy et al. (2026).
127. For details, refer to CBC (Capacity Building Commission) (web page), https://cbc.gov.in/about-cbc.
128. World Bank (2025d).
129. Hennessy et al. (2026). They provide organizations with guidance on how to adopt an AI risk management system (NIST AI Risk Management Framework–National Institute of Standards and Technology (United States); ISO/IEC 42001 International Organization for Standardization/International Electrotechnical Commission); how to conduct an AI impact assessment (ISO/IEC 42005); and how to measure and test levels of transparency (IEEE 7001-2021–Institute of Electrical and Electronics Engineers).
130. Hennessy et al. (2026); Smuha and Yeung (2025).
131. Galvagna (2023); World Bank (2025d).
132. Tsebee and Oloyede (2024).
133. Valenzuela (2025).
134. Trajano (2026).
135. Bennett Moses (2017); Maas (2025).
136. World Bank (2025b).
137. World Bank (2024).
138. If countries are too small to engage meaningfully in global AI governance, such as in Africa, the governments can use regional groupings, such as the African Union, regional economic communities, the Continental AI Strategy, and the AfCFTA Digital Trade Protocol.
139. ASEAN (2024).
140. For details, refer to COE (2024).
141. World Bank (2025d).
142. World Bank (2016).
143. World Bank (2021).

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In a time when development progress has slowed to its weakest pace in 75 years, artificial intelligence (AI) offers developing economies a rare path to greater prosperity. *World Development Report 2026* provides the first comprehensive assessment of what AI means for these economies—how firms and governments are already using it, what is holding them back, where the largest gains may lie, and how the risks can be managed.

Its central message is both practical and ambitious. Developing countries do not need to build trillion-dollar, all-purpose models to benefit from AI. But importing AI tools is also not enough. Countries must adapt AI to local languages, institutions, data, and development needs; ensure that national systems can work seamlessly with multiple platforms and providers; and steadily build the skills and infrastructure needed to do more. Low-cost tools—"small AI"—can put scarce expertise within reach of millions, through text messages, voice calls, basic phones, and other technologies that work even where electricity, computing power, and internet access are limited. The gains are already visible. AI is accelerating medical screening, assisting farmers with more accurate weather forecasts, and aiding teachers in creating better lessons for students.

The Report offers a clear framework—adopt, adapt, and advance—for the road ahead to help countries capture AI's benefits without wasting scarce resources or deepening dependence on any single supplier. Earlier technological revolutions left much of the developing world behind. This landmark edition of the *World Development Report* offers countries a road map to prevent a repeat of that outcome.

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