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The New Frontier in Entrepreneurship

Artificial intelligence unleashed: Transforming the entrepreneurial scene in developing countries

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Overview

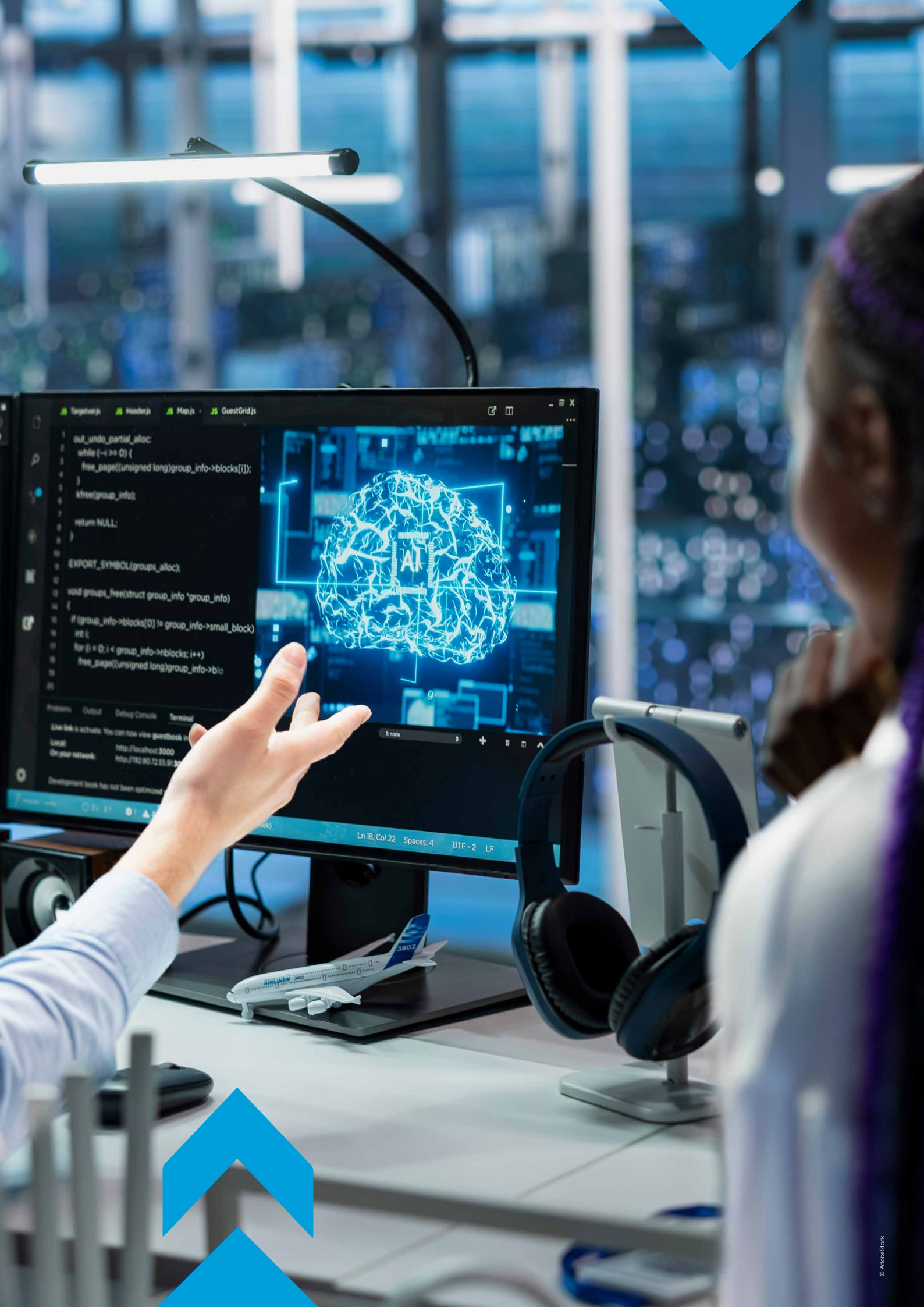
***Artificial Intelligence unleashed: Transforming the entrepreneurial scene in developing countries* examines what is required for micro, small and medium-sized enterprises (MSMEs) and innovative start-ups in developing countries to seize the potential of artificial intelligence (AI) and the distinct barriers they face. Drawing on the United Nations Conference on Trade and Development's (UNCTAD) Entrepreneurship Policy Framework (EPF), it touches upon best practices for governments to strengthen entrepreneurship ecosystems, ensuring smaller enterprises and start-ups can fully benefit from the new technological wave while acknowledging risks and challenges. It also highlights updated business development services, including AI-focused training offered through, for instance, UNCTAD's global Empretec network, designed to equip entrepreneurs for AI adoption.**

This publication is informed by an extensive literature review and a broad range of stakeholder consultations, including representatives from international organizations, government bodies, business development centres, the private sector, not-for-profit organizations, investors, academia, business and AI specialists, and entrepreneurs. It also incorporates findings from a survey conducted through the global Empretec network. The publication concludes with a strategic set of policy recommendations anchored in the EPF, aimed at supporting inclusive and effective AI integration within entrepreneurial ecosystems.

Findings from this publication suggest that MSMEs and start-ups have better chances of adopting AI when the wider entrepreneurship ecosystem is supportive. This includes regulatory systems that, for instance, enable responsible experimentation, accessible platforms and tools, opportunities to build both strategic and technical skills, as well as financing mechanisms that lower the initial costs and risks of trying out new technologies. With these ecosystem elements strengthened, countries can support MSMEs and start-ups to better adopt AI technology and scale innovations that address local needs.

This publication is part of UNCTAD's "The New Frontier in Entrepreneurship" series. Designed to be accessible and actionable, the series brings the future of entrepreneurship to life through real-world examples, offering insights tailored to the needs and realities of developing countries. It provides:

- governments a strategic menu of policy options and practical insights to shape what comes next;
- entrepreneurs, MSMEs, and start-ups a timely update on best practices and emerging growth opportunities, and
- the wider business development ecosystem a view of how it can support sustainable growth, innovation, and competitiveness by responding to the evolving needs of MSMEs and start-ups.



Today's state of affairs

In an era where innovation is the currency of progress, entrepreneurship holds the potential to leverage artificial intelligence in ways that can transform societies and bridge North-South divides.

As the world transitions into the "Intelligence Age", generally understood by the ability of intelligent systems to analyze information, learn from it, and make informed decisions, we find ourselves at a particularly pivotal moment for sustainable and inclusive development.

A handful of countries like the United States and China are leading the global artificial intelligence race. It is key for all countries to engage proactively so as to remain competitive and avoid being left behind. Urgency is thereby paramount, as each technological breakthrough carries the risk of widening existing divides or causing entrepreneurs, particularly in developing countries, to miss out on the opportunities it brings.[1] [2]

Artificial Intelligence (AI) has the potential to reshape our collective future in profound ways and may help business sectors in developing countries leapfrog, if opportunities are seized. It has the potential to bring new jobs and higher levels of productivity[3] and engagement, transform value and supply chains, and spark novel ways of doing business, reshaping how societies operate.[4] [5]

AI can offer real, measurable value to businesses. From automating tasks to optimizing procurement and inventory, AI can drive significant cost savings and increase operational efficiency. It can sharpen market focus, enable personalized customer experiences, and help build a culture of innovation and sustainability as highlighted in the Technology and Innovation Report 2025.[6] But these benefits are not automatic. Success depends on internal and external conditions that vary across enterprises and regions.[7] [8]

Globally, the impact of AI is not always immediate or assured. While interest in AI continues to grow and expectations around productivity gains and new business models remain high, early evidence suggests that outcomes can vary significantly across implementations. Studies show that tools which are easy to experiment with and adaptable, like chatbots, tend to perform well, whereas solutions that are more complex to integrate

1 International Labour Organization. (2024). Mind the AI Divide: Shaping a Global Perspective on the Future of Work. Geneva: ILO.
2 Goldin, I. Technology and the Future of Work (New York University, 2020).
3 Acemoglu, D., & Johnson, S. (2024). The Simple Macroeconomics of AI. MIT Department of Economics Working Paper.
4 International Labour Organization. (2023). Generative AI and Jobs: A global analysis of potential effects on job quantity and quality. Geneva: ILO.
5 International Labour Organization. (2018). Artificial intelligence and the future of work: Human-centred, rights-based approaches. ILO: Geneva.
6 UNCTAD (2025). Technology and Innovation Report 2025.
7 United Nations Secretary-General report to the General Assembly on Entrepreneurship for sustainable development (2024), A/79/20
8 In developing countries, there are additional challenges to consider, such as energy supply, and cooling systems for hardware centers, as well as other generalized capital expenditures.

Only 27 per cent of people from low-income countries are online.

or less aligned with existing workflows may present greater challenges. That said, this reflects the current stage of adoption. As technologies mature, digital capabilities expand, and businesses gain experience, the conditions for realizing AI's full potential are expected to improve.[9] [10]

Firms in advanced economies are, for example, far more likely to adopt AI tools where strong digital infrastructure, innovation ecosystems and skilled workforces create favorable conditions for uptake.[11] By contrast, businesses in developing countries, especially smaller enterprises, face greater adoption barriers, such as limited understanding of how AI can address real business challenges and digital readiness as well as lack of quality data, which limits their ability to create, access or apply AI tools in their operations.[12] In addition, large enterprises do not necessarily encounter the same challenges as smaller ones in the adoption of AI. On one hand, the technologies they rely on demand access to large datasets[13] and substantial computing power - resources that are often out of reach for smaller enterprises. On the other hand, large companies also possess distinct technological, financial, and other resources, which further shape their capacity to engage with innovation. For micro, small and medium-sized enterprises (MSMEs) and start-ups, particularly in developing countries, the challenge is to swiftly harness the opportunities and navigate the complexities of AI.

AI can act as an equalizer and open the doors for vulnerable groups in entrepreneurship, like women and youth. Research shows that women are 25 per cent less likely than men to adopt AI,[14] with many women entrepreneurs reporting lacking confidence to engage with it. While many youth are reportedly already using AI, they feel the need for additional training on ethics in AI.[15] Targeted support initiatives can ensure that all segments of the workforce are equipped to engage with AI.

To fully realize AI's potential for entrepreneurs, MSMEs and start-ups in developing countries, they must first overcome key adoption barriers. Connectivity is the first step to unlocking AI's potential, but for many, it is still out of reach. While internet use is nearly universal in high-income countries, at 93 per cent, only 54 per cent of people in lower-middle-income countries and just 27 per cent in low-income countries are online. In least developed countries, the number drops to 35 per cent, leaving over 60 per cent of the population disconnected. The main reasons have been widely documented: lack of infrastructure, affordability, and limited digital skills.[16] Without access, opportunity stalls, and the promise of AI remains out of reach for millions.

It is projected that only 25 per cent of the workforce in developing countries is exposed to AI as of today.[17] Estimates predict that half the global labor force may need reskilling over the next two years, with 1.1 billion jobs to be transformed by technology in the coming decade according to the International Monetary Fund.[18] Successful adoption of AI also depends on a broader set of enablers,[19] including access to relevant tools and quality

[9] MIT / Project NANDA. (2025). The GenAI Divide: State of AI in Business 2025.
[10] Harvard Business Review (Stanford & MIT-affiliated authors) – How to Make Enterprise GenAI Work. (2025).
[11] OECD. (2025). The Adoption of Artificial Intelligence in Firms.
[12] Ibid.
[13] Ayinaddis, S. G. (2025). Artificial Intelligence Adoption Dynamics and Knowledge in SMEs and Large Firms: A Systematic Review and Bibliometric Analysis.
[14] Harvard Business School. (2024). Women Are Avoiding AI. Will Their Careers Suffer?
[15] UNESCO-UNEVOC. (2025). World Youth Skills Day 2025: Youth Voices on AI and Skills for the Future.
[16] International Telecommunications Union. (2024). Measuring Digital Development. Facts and Figures.
[17] International Monetary Fund. 2024. "AI Will Transform the Global Economy. Let's Make Sure It Benefits Humanity."
[18] Ibid.
[19] Recent developments underscore the scale of investment needed to enable AI innovation. At the U.S. Energy and Innovation Summit in July 2025, a coalition of technology and energy giants -including Meta, Google, Anthropic, and Exxon announced over $90 billion in commitments to support AI infrastructure, energy systems, and workforce development. See: https://www.reuters.com/business/energy/some-big-us-investments-being-made-ai-energy-2025-07-15/

data. In developing countries, a lack of AI literacy and skills among entrepreneurs remains a major challenge, as well as high implementation costs and regulatory uncertainties in the absence of clear national strategies. Without these foundations in place, access to AI can remain out of reach for many entrepreneurs, especially those in areas where resources are scarce.

In the right context, AI presents a meaningful opportunity for entrepreneurs in the developing world. When foundational conditions, such as digital infrastructure, education and skills, and access to finance, are in place, AI can help businesses of all sizes move beyond traditional development barriers and engage more competitively in regional and global markets. But the path is not uniform. The impact of AI depends on how well it is matched to local realities, business needs, and the ability of enterprises to absorb and adapt the technology into their operations. Other important factors are '*fit for purpose*' policies and regulations that de-risk implementation across economic sectors. As part of a well-designed strategy, AI can be a key comparative advantage and act as catalyst for inclusive growth and innovation.

The United Nations formally recognizes entrepreneurship as a key ingredient in development through a series of General Assembly resolutions on entrepreneurship for sustainable development since 2012. The most recent stresses the potential of AI to create new opportunities for businesses to improve their competitiveness, productive capacities and resilience.[20] UNCTAD seeks to strengthen the domestic institutional and policy environment, as well as build the requisite skills and knowledge, to boost the growth, competitiveness, and local absorptive capacities of enterprises to contribute to the advancement of the sustainable development goals.

[20] United Nations General Assembly resolution on Entrepreneurship for sustainable development A/RES/79/201. (2024).

Conducive environments for AI adoption

Effective AI governance requires collaboration and stakeholder engagement. To unlock AI's full potential in sustainable entrepreneurship development, frameworks are needed that empower MSMEs and start-ups to adopt with ease, define responsibility with clarity, and support responsible innovation. Trust is essential, requiring an elevation in awareness about AI's potential and limitations, encouraging experimentation with AI tools and demystifying AI to boost confidence in its use.

Given the profound impact of AI on business and society, governance must ensure the safe, secure and trustworthy development, and use of AI in alignment with ethical standards,[21] values, and norms that can differ widely among countries.[22] [23] Global cooperation is vital to harness AI's potential for advancing human progress, equality and equity. As United Nations Secretary-General António Guterres notes, "*Humanity's hands must be firmly in control of technology. As AI reshapes our world, every nation must help shape AI. Together, let's ensure AI serves its highest purpose.*"[24]

International efforts to establish ethical standards are already underway. The United Nations Educational, Scientific and Cultural Organization produced the 2021 Recommendation on the Ethics of Artificial Intelligence, the world's first global standard on AI ethics which provides guidance on ensuring that AI deployment upholds human rights, transparency, and accountability.[25]

The promotion of fairness, transparency, and accountability when using AI, while fostering innovation that benefits all, is key.[26] A clear narrative must be crafted that sparks business creativity and innovation while minimizing risks like non-inclusiveness, bias and discrimination, intellectual property right infringements and lack of safety, transparent processes and auditable systems to name a few.

The *United Nations report on Entrepreneurship for Sustainable Development* supports the view that the equitable deployment of technologies such as AI has the potential to increase the capabilities and productivity of entrepreneurs and small enterprises, provided they receive adequate support.[27] However, the report also underscores that the uneven adoption of these technologies poses considerable challenges.

[21] United Nations Educational, Scientific and Cultural Organization produced the world's first global standard on AI ethics (2021) Recommendation on the Ethics of Artificial Intelligence.
[22] United Nations. (2024). General Assembly, Seizing the opportunities of safe, secure and trustworthy artificial intelligence systems for sustainable development (A/78/L.49)
[23] World Economic Forum. (2024) Governance in the Age of Generative AI.
[24] United Nations. (2024). Humanity's hand must be firmly in control [LinkedIn post]. LinkedIn.
[25] See: https://www.unesco.org/en/artificial-intelligence/recommendation-ethics
[26] International Telecommunication Union. AI Governance Day. (2024). *AI Governance Day 2024 Report*.
[27] United Nations Secretary-General report to the General Assembly on Entrepreneurship for sustainable development (2024), A/79/208

With the rapid pace of AI innovation in major economies, it is crucial that developing countries do not merely observe from the sidelines, but that they actively participate in the discussions when AI governance is being designed.[28] By having a seat at the table, developing countries can advocate for legal frameworks that reflect their cultural values, economic realities and development priorities. This is particularly vital for entrepreneurs, who are often at the forefront of applying AI to solve local challenges, from agriculture and health to education and logistics.

This section explores the challenges and opportunities of AI governance for entrepreneurs, MSMEs, and start-ups, with a focus on what matters most for developing countries. It calls for a governance approach that is inclusive, ethical, and innovation-friendly; one that enables sustainable entrepreneurship to thrive in the age of AI.

Building bridges: effective collaboration and stakeholder engagement

Addressing governance issues in AI requires a collaborative approach involving governments, private sector, academia, research institutions, technologists, and non-profit organizations at both national and international levels, as was, among others, called for by participants at the annual gathering of industry stakeholders of the 2024 World Economic Forum[29] and the AI for Good Summit 2025.[30] [31]

Multistakeholder dialogue helps shape policy that reflects shared principles while respecting cultural and linguistic diversity.[32] [33] For MSMEs and start-ups, this matters deeply. They need governance that adapts to local realities, so that they can innovate with confidence, attract investment, build customer trust and avoid the risk of unclear or inconsistent rules when deploying AI.

This approach can also help ensure that regulations keep pace with technology. As AI evolves continuously, regulations may require revisions to keep up with rapid advancements and emerging applications, and remain relevant and impactful.[34] Moreover, by widening the conversation, knowledge and best practices can flow across sectors.

Support is growing for a national agency to regulate AI, to ensure they are used ethically and legally.[35] A central agency can help create clear and consistent rules across industries. However, this approach faces two main challenges: first, the risk that dominant players could influence regulations, and second, the difficulty of applying one-size-fits-all rules to very different sectors like healthcare, manufacturing, and agriculture.[36] Hence, in some cases, specialized oversight, where sector-specific authorities regulate AI within their domain, has proven to be more effective, as it can address the unique risks and operational contexts of each industry.[37]

A central agency can help create clear and consistent rules across industries.

[28] Ibid.
[29] World Economic Forum. (2024). Shaping the future of artificial intelligence: Reflections from the AI Governance Alliance.
[30] International Telecommunication Union. (2025). ITU's AI for Good Global Summit energizes collaboration on AI governance, skills and standards
[31] Collaboration is vital because no single actor can address the complex risks and opportunities of AI alone. Inclusive, multi-stakeholder governance helps ensure transparency, accountability and that the perspectives of SMEs and the developing countries are represented (Resilient Governance and Regulation Working Group; AI for Good Summit 2025).
[32] World Economic Forum. (2024). *AI Value Alignment*.
[33] World Economic Forum. (2024, January). Surprising Things to Know About AI and Emerging Technology at Davos 2024.
[34] World Economic Forum. (2023). It's time we embrace an agile approach to regulating AI.
[35] World Economic Forum. (2024). Governance in the Age of AI: A 360° Approach for Resilient Policy and Regulation.
[36] Organization for Economic Co-operation and Development (OECD). (2025). How do different sectors engage with AI?
[37] World Economic Forum. (2024). Governance in the Age of Generative AI: A 360° Approach for Resilient Policy and Regulation.

A sector-specific regulatory approach aligned with national development plans can help ensure practical rules that foster innovation.

Going for a sectoral approach

Collaboration with technologists, researchers and industry practitioners can help policymakers deepen their understanding of how AI systems are designed and how they function in real-world contexts. This engagement ensures that governance frameworks are both technically informed and ethically grounded, aligning policy with practical realities and public interest.[38]

In agriculture, for example, collaboration between government officials, AI developers, and farmers can help design safeguards that prevent land overuse, protect biodiversity, and uphold farmers' rights. This kind of collaboration is especially important when AI is used to guide decisions about how to manage water and soil among others, helping farms stay productive while protecting the environment.[39] The rise of AI-generated content in the entertainment industry presents both opportunities and challenges for MSMEs and start-ups. These smaller players often rely on creative output for growth, but unclear rules around ownership and monetization can put them at a disadvantage. Without proper safeguards, they risk losing control over their content, missing out on revenue, and facing barriers to distribution. A collaborative approach, bringing together regulators, platforms and creators, is essential to ensure fair access, protect intellectual property, and support responsible innovation that empowers MSMEs and start-ups to compete and thrive.[40]

A collaborative approach may be applied to other sectors as well. In healthcare, the cooperation between regulators, sectoral experts and healthcare practitioners enables innovators to use AI responsibly - for example, to predict patient outcomes and manage electronic health records in compliance with regulatory standards.[41] In transportation, collaboration between regulators, engineers, and AI developers helps ensure that technologies like self-driving cars and traffic management systems are safe, reliable, and properly monitored.[42] In financial services, joint efforts between regulators and industry stakeholders are essential to design rules that address risks such as bias and discrimination, protect data privacy and consumer sovereignty, and ensure transparency and accountability in algorithmic trading.

A well-planned commitment to AI can not only unlock economic potential but also ensure that its benefits are equitably shared across society.[43] A collaborative regulatory approach that is sector- specific and aligned with national development plans can help ensure that rules are both practical and supportive of innovation. This allows AI to be deployed not in isolation, but as a tool to advance national priorities and economic development. It can contribute to addressing systemic challenges, boosting productivity, and promoting inclusive growth.[44]

[38] The United Nations General Assembly's 2025 decision to establish the Global Dialogue on AI Governance and the Independent International Scientific Panel on AI further reinforces this approach. These mechanisms aim to bridge the gap between cutting-edge AI research and policymaking, ensuring that governance is grounded in scientific evidence and shaped through broad-based dialogue.

[39] Ahmad, A., Shah, S., Azim, N., & Bano, S. (2024). AI can empower agriculture for global food security: Challenges and prospects in developing nations. Frontiers in Artificial Intelligence, 7, 1328530.

[40] UNCTAD. (2024). Creative Economy Outlook 2024.

[41] World Economic Forum. (2025). The Future of AI-Enabled Health.

[42] United States Department of Transportation. (2024). Understanding AI Risks in Transportation.

[43] The World Investment Report 2025 highlights that AI, alongside other frontier digital technologies, is emerging as a priority sector for investment and national development planning, with countries introducing new strategies to harness its potential for productivity and inclusive growth.

[44] Organization for Economic Co-operation and Development. (2021). An overview of national strategies and policies.

Proportionate regulations for MSMEs and start-ups

For MSMEs and start-ups, navigating the evolving regulatory landscape around AI presents unique challenges. On one hand, they must comply with increasingly complex frameworks, among which data protection, privacy laws, and cybersecurity standards. On the other, they are often expected to meet new AI requirements designed with large corporations in mind; requirements that can be disproportionately burdensome for smaller enterprises. MSMEs and start-ups typically operate with leaner resources and rely on agility, rapid iteration, and innovation to remain competitive. Heavy compliance obligations, such as mandatory risk assessments, detailed technical documentation, and adversarial testing, can slow them down and limit their ability to innovate.[45] Clear and proportionate regulation, tailored to local realities, is key. It ensures that compliance becomes a bridge instead of a barrier for MSMEs and start-ups to adopt AI responsibly and confidently. Achieving this balance requires that the voices of small enterprises be meaningfully included in the regulatory conversation.[46]

Canada has taken a step in this direction through its proposed Artificial Intelligence and Data Act (AIDA).[47] It introduces obligations that scale with both the risk level of the AI system and the capacity of the actor deploying it. To support implementation, the government also launched a Voluntary Code of Conduct for Generative AI, providing practical guidance and a transitional period for smaller businesses to build internal capacity, including establishing basic governance structures or training staff to understand AI risks, before binding obligations take effect.[48]

Defining responsibility and accountability in AI systems

A key challenge in AI governance is establishing clear accountability when AI systems fail or fall short of expectations. In developing countries, this challenge is compounded by limited resources and expertise, which may prevent technology entrepreneurs from fully grasping the policy and societal implications of their work and rather focus on innovation than consequences of potential failures.[49]

Different views exist regarding responsibility and accountability. There is a belief that stakeholders behind the technology should be held accountable and should ensure that safeguards are in place. Here, accountability should lie with developers, i.e. technology companies as they possess the technical knowledge, control, and resources necessary to design and manage AI systems responsibly. End users, such as MSMEs or consumers, especially in developing economies, often lack the capacity to address risks associated with AI. This makes it imperative for those who create and deploy technology to ensure its ethical and safe application.[50]

There is also the viewpoint that responsibility for AI use may lie with those integrating existing technologies into products and services.[51] These businesses, often MSMEs and start-ups, play a key role in determining

[45] See for instance the AI Act of the European Union

[46] For example, European Commission-SME Test: a regulatory impact tool that assesses the effects of proposed EU legislation on SMEs, part of the 'Think Small First' approach to make policy-making more SME-friendly via consultation, impact analysis, and mitigation of burdens: https://single-market-economy.ec.europa.eu/smes/sme-strategy-and-sme-friendly-business-conditions/sme-test_en

[47] Innovation, Science and Economic Development Canada. (2023). The Artificial Intelligence and Data Act (AIDA) – Companion Document.

[48] Innovation, Science and Economic Development Canada. (2023). Voluntary Code of Conduct on the Responsible Development and Management of Advanced Generative AI Systems.

[49] World Bank. (2025). Devising a Strategic Approach to Artificial Intelligence.

[50] Organization for Economic Co-Operation and Development. (2023). *Advancing Accountability in AI.*

[51] World Economic Forum. (2024). Responsible AI: Steps Businesses Can Take to Ensure Ethical GenAI Deployment.

how AI tools are applied in practice and are therefore most directly exposed to the associated risks and impacts.[52] For smaller enterprises in developing countries, this perspective presents both opportunities and challenges. While access to ready-made AI solutions can accelerate innovation, it may also introduce complex regulatory obligations and potential liabilities. Ensuring these businesses have the necessary guidance, resources, support is essential to help them navigate this evolving landscape responsibly and confidently.

In practice, accountability is increasingly viewed as a shared responsibility. Both developers, those that possess technical expertise and manage AI systems, and deployers - who determine how these technologies are applied, play essential roles in ensuring the safe and responsible use of AI.[53]

Failure to clearly assign responsibility can diminish investor and consumer confidence, create unfair advantages or disadvantages among different actors in the supply chain, and result in unmanaged risks and unresolved harms.[54]

Balancing act: regulation and innovation in harmony

Another important consideration is assessing how far regulations should go. In the spirit of AI enhancing creativity and innovation for small businesses and entrepreneurs alike, there is a rising consensus that regulations should not hinder innovation. Even if legislation can be felt as light - often outlining principles or objectives, the accompanying regulatory burden in practice can be heavy, in particular when it provides operational requirements, reporting obligations, risk assessments, and enforcements mechanisms that entrepreneurs need to follow. This can slow down technological progress,[55] hamper progress and competitiveness and impede capital flow. A selective regulatory approach balancing all aspects could be advocated for in such situations, apart from high-risk sectors such as finance, transportation, healthcare or defense.

As emphasized by Amandeep Singh Gill, United Nations Under-Secretary-General and Special Envoy for Digital and Emerging Technologies, "*AI regulation is not about slowing down progress. It is about making sure innovation happens responsibly whereby clear rules help build trust and create a fair playing field. Without proper oversight, AI could end up benefiting only a few large companies while leaving smaller businesses and entrepreneurs behind.*"[56]

Attempts to shape the course of AI's evolution and the extent to which it should be regulated emerge out of the United Nations' 2024 Summit of the Future, such as the *Global Digital Compact report*[57] that calls for an open, secure and inclusive digital world, tackling the digital divide and build trust in technology, and the *Governing AI for Humanity report*[58] that sets out a blueprint for AI that is safe, transparent, and accountable, anchored in human rights and global cooperation, see box 1. Together, they form a global reference point for how AI should be developed and used, with the goal of ensuring its benefits reach all communities, including entrepreneurs in the developing countries.

[52] European Union. (2023). Article 26: Obligations of deployers of high-risk AI systems. EU Artificial Intelligence Act.
[53] Douglas, D., Howard, G., & Lacey, J. (2021). *Moral responsibility for computationally designed products*. AI and Ethics
[54] World Economic Forum. (2024) Governance in the Age of Generative AI, p. 10
[55] UNCTAD (2025). Technology and Innovation Report 2025.
[56] Interview with Amandeep Singh Gill, United Nations Under-Secretary-General and Special Envoy for Digital and Emerging Technologies, November 2024.
[57] United Nations. (2024). Global Digital Compact, A/79/L.2, United Nations: New York.
[58] United Nations. (2024) Governing AI for Humanity report. United Nations: New York.

Box 1

Global Initiatives to Advance Inclusive AI Governance and Capacity Building

To support the implementation of the frameworks described in the Global Digital Compact and the Governing AI for Humanity reports, member States are currently facilitating the establishment of an International Independent Scientific Panel on AI and a Global Dialogue on AI Governance.[a] These initiatives aim to operationalize the principles of the Global Digital Compact, strengthen international coordination, and ensure that AI governance reflects the needs and capacities of developing countries. In parallel, innovative voluntary financing options[b] for AI capacity building are being explored by the United Nations to ensure that developing countries and underserved communities have the necessary resources, tools, and expertise to fully leverage AI for sustainable development.[c] Also, the work of the Working group on data governance at all levels is also highly relevant, as effective data governance forms a cornerstone for the responsible deployment and development of AI.[d]

[a] The United Nations General Assembly has endorsed the establishment of two new AI governance mechanisms—the Global Dialogue on AI Governance and an Independent International Scientific Panel on AI-to foster inclusive dialogue and provide scientific assessments to guide policymaking. See more: https://dig.watch/updates/un-general-assembly-adopts-terms-of-reference-for-ai-scientific-panel-and-global-dialogue-on-ai-governance.

[b] See: https://digitallibrary.un.org/record/4085951?ln=en&v=pdf

[c] United Nations Office for Digital and Emerging Technologies.

[d] United Nations Trade and Development. (2024). Working group on data governance at all levels. Commission on Science and Technology for Development.

At the 2025 Global AI Summit in Paris, several developed countries were promoting the concept of more relaxed regulations to foster innovation and maintain its competitive edge, arguing that overly stringent rules could stifle progress.[59] Balancing the need for guardrails while still encouraging creativity remains a central theme in shaping global AI policy.[60]

With a view to create a "*safe and trustworthy*" development of AI, the European Union (EU)'s AI Act (AIA) that was passed in 2024, classifies AI systems by risk level, ranging from what it calls 'unacceptable risk' (prohibited practices) to 'minimal risk' (largely unregulated).[61] It classifies the AIA sets obligations for AI system developers and users, both within and outside the EU, especially for high-risk applications in sectors like healthcare or law-enforcement that impact safety, rights, or well-being.

In light of these developments, the EU is now better positioned to determine how to ensure safety and efficacy without hindering technological advancement. The AIA benefits MSMEs and start-ups by providing a clear and flexible regulatory framework that enables them to innovate confidently with AI technologies while ensuring safety, trust, and sector-specific support.

Singapore is well advanced in building trustworthy and ethical AI systems. At the 2023 World Economic Forum, the country highlighted its robust AI governance framework, focusing on transparency, accountability, and fairness. The Infocomm Media Development Authority (IMDA) has been key, launching initiatives like the AI Verify toolkit to help companies showcase responsible AI use.[62] Its approach underscores the power of collaboration between governments, businesses, and international

[59] Elysee (2024). Global AI Governance.
[60] Diana Spehar, "Paris AI Summit 2025: 5 Critical Themes Shaping Global AI Policy," Forbes. (2025)
[61] European Commission (2025) EU AI Act: first regulation on artificial intelligence.
[62] World Economic Forum, "How Singapore is Demonstrating Trustworthy AI". (January 2023)

organizations. For example, IMDA has teamed up with global partners to create best practices for AI governance, keeping frameworks flexible and responsive.[63]

One innovative approach gaining traction worldwide is the creation of regulatory sandboxes - controlled environments where entrepreneurs can test AI-powered solutions under real-world conditions, overseen by regulators.[64] This allows MSMEs and start-ups to experiment without fear of breaking the rules, while regulators gain a better understanding of the technology before enacting permanent laws. For example, the United Arab Emirates launched the Global TradeTech Sandbox to test applications in AI-driven trade finance, digital trade documentation, and blockchain-based product traceability.[65] In just two years, Saudi Arabia's Fintech Lab moved from opening the door to AI-powered investment advice to greenlighting firms that are redefining financial guidance - smarter, faster, and more accessible.[66] This reflects a global trend: regulatory sandboxes are not just fostering innovation, but also helping regulators learn in real time, identify policy gaps, and adapt governance to emerging technologies.[67]

Regulation fostering local data creation

One key factor for businesses to use AI is data access. For MSMEs and start-ups, data is the foundation that allows them to train AI models, adapt tools to local realities, and build services that respond to customer and community needs. While some better-resourced start-ups may benefit from datasets released by major technology companies, this is not enough on its own.

Entrepreneurs still require relevant, local, and sector-specific data to create solutions in specific areas such as retail, health, logistics, or agriculture. In many developing countries, this kind of data remains fragmented, costly, or is simply not available.[68] Well-crafted regulations can expand data access through open-data programmes, setting clear rules on what can be shared in the public domain, and even standardizing how information is handled, all while ensuring strong privacy protections and accountability.[69] This can help level the playing field, enabling businesses of all sizes to harness AI for growth and problem-solving.

Data protection regulations can further ensure that trust is fostered in AI systems used by government and businesses alike. While strong privacy-preserving regulations safeguard personal information, policymakers also recognize the need to allow data pooling to facilitate AI breakthroughs. By balancing privacy considerations with data sharing allowances, they aim "*to promote innovation for public goods in critical areas like agriculture, health and education*."[70]

AI-ready communities: paving the way for adoption

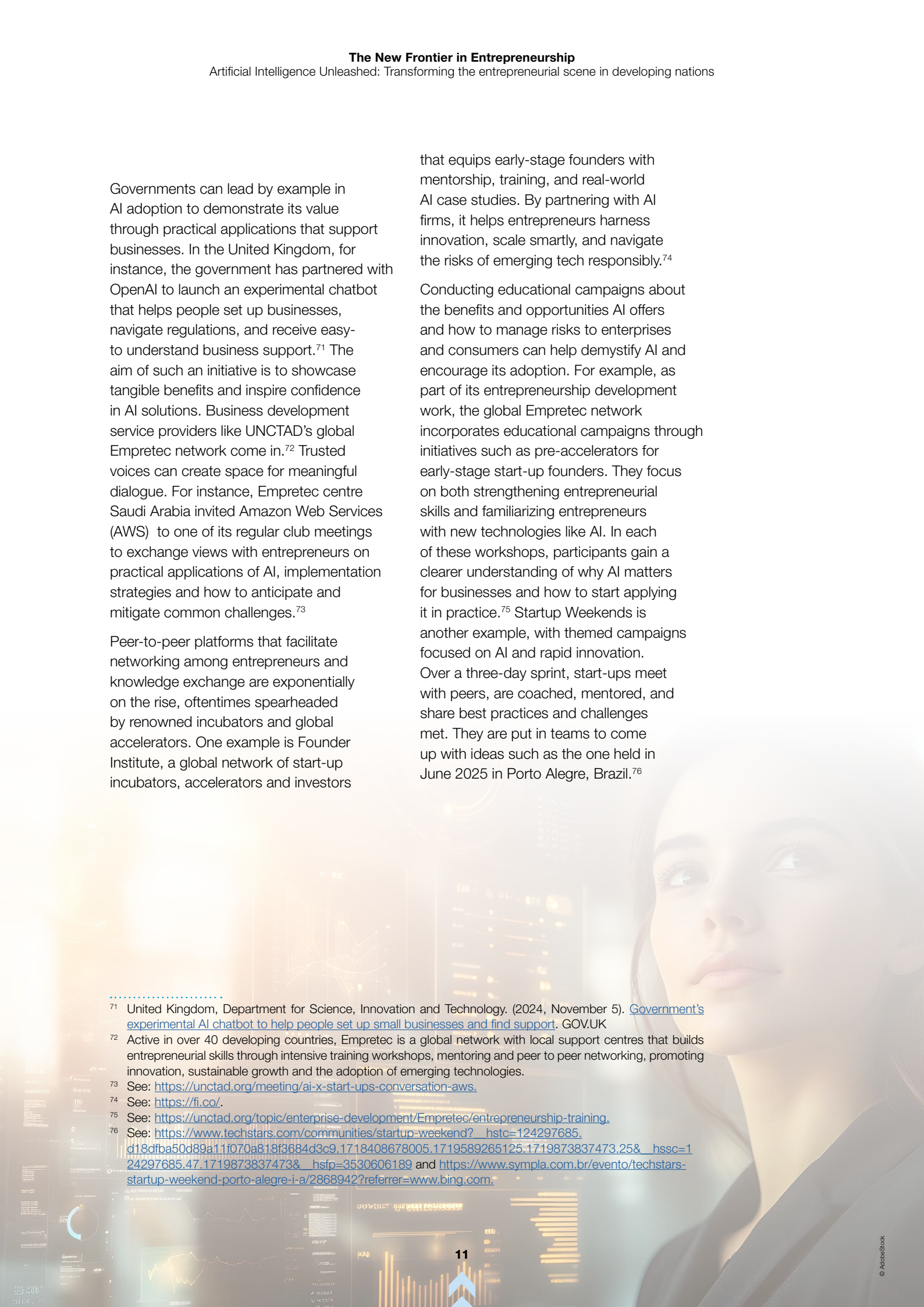
Getting entrepreneurs and start-ups to adopt AI means building confidence through hands-on experimentation, while avoiding loopholes like intellectual property rights, data protection, cybersecurity, transparency, and fairness. It is essential to make AI not just accessible, but safe and trustworthy. Awareness campaigns, forums, and live showcases help turn AI into a practical, relatable tool for real-world business impact.

63 Infocomm Media Development Authority (IMDA). "Artificial Intelligence." (2023).
64 G7 Italy. (2024). *G7 Report on Driving Factors and Challenges of AI Adoption and Development Among Companies, Especially Micro and Small Enterprises*.
65 World Economic Forum. (2025). *TradeTech Forum 2025: Shaping the Global Economy*.
66 Interview with Abdullah Aldeweesh, Portfolio Manager at National Industrial and Logistics Program (NIDLP), June 2025.
67 World Bank. (2020). Global Experiences from Regulatory Sandboxes.
68 UNCTAD. (2022). Entrepreneurship and Innovation in the New Health Economy.
69 UNCTAD. (2025). Technology and Innovation Report 2025.
70 World Economic Forum.(2024). Governance in the Age of Generative AI, p.6.

Governments can lead by example in AI adoption to demonstrate its value through practical applications that support businesses. In the United Kingdom, for instance, the government has partnered with OpenAI to launch an experimental chatbot that helps people set up businesses, navigate regulations, and receive easy-to understand business support.[71] The aim of such an initiative is to showcase tangible benefits and inspire confidence in AI solutions. Business development service providers like UNCTAD's global Empretec network come in.[72] Trusted voices can create space for meaningful dialogue. For instance, Empretec centre Saudi Arabia invited Amazon Web Services (AWS) to one of its regular club meetings to exchange views with entrepreneurs on practical applications of AI, implementation strategies and how to anticipate and mitigate common challenges.[73]

Peer-to-peer platforms that facilitate networking among entrepreneurs and knowledge exchange are exponentially on the rise, oftentimes spearheaded by renowned incubators and global accelerators. One example is Founder Institute, a global network of start-up incubators, accelerators and investors that equips early-stage founders with mentorship, training, and real-world AI case studies. By partnering with AI firms, it helps entrepreneurs harness innovation, scale smartly, and navigate the risks of emerging tech responsibly.[74]

Conducting educational campaigns about the benefits and opportunities AI offers and how to manage risks to enterprises and consumers can help demystify AI and encourage its adoption. For example, as part of its entrepreneurship development work, the global Empretec network incorporates educational campaigns through initiatives such as pre-accelerators for early-stage start-up founders. They focus on both strengthening entrepreneurial skills and familiarizing entrepreneurs with new technologies like AI. In each of these workshops, participants gain a clearer understanding of why AI matters for businesses and how to start applying it in practice.[75] Startup Weekends is another example, with themed campaigns focused on AI and rapid innovation. Over a three-day sprint, start-ups meet with peers, are coached, mentored, and share best practices and challenges met. They are put in teams to come up with ideas such as the one held in June 2025 in Porto Alegre, Brazil.[76]



[71] United Kingdom, Department for Science, Innovation and Technology. (2024, November 5). Government's experimental AI chatbot to help people set up small businesses and find support. GOV.UK

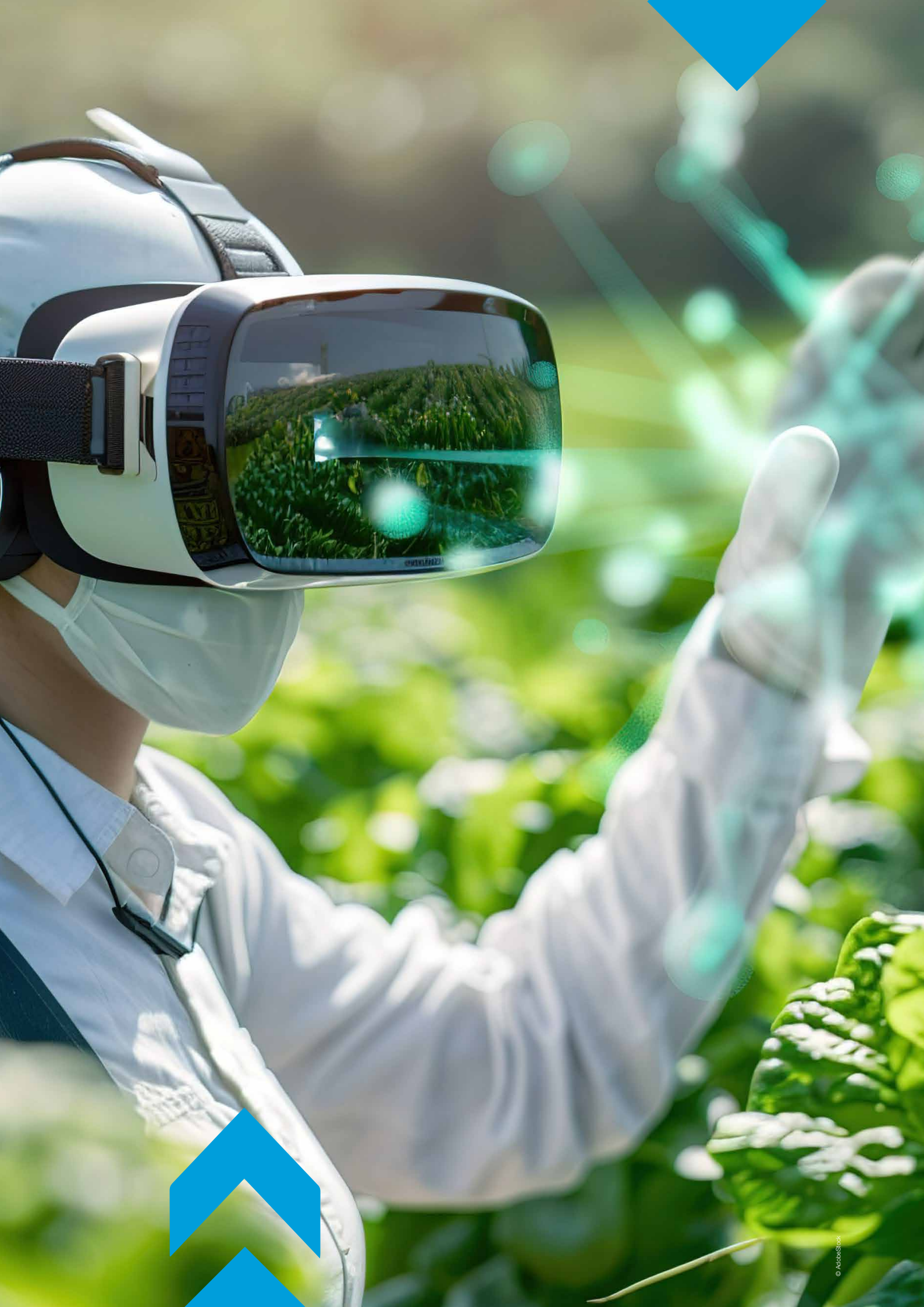
[72] Active in over 40 developing countries, Empretec is a global network with local support centres that builds entrepreneurial skills through intensive training workshops, mentoring and peer to peer networking, promoting innovation, sustainable growth and the adoption of emerging technologies.

[73] See: https://unctad.org/meeting/ai-x-start-ups-conversation-aws.

[74] See: https://fi.co/.

[75] See: https://unctad.org/topic/enterprise-development/Empretec/entrepreneurship-training.

[76] See: https://www.techstars.com/communities/startup-weekend?__hstc=124297685.d18dfba50d89a11f070a818f3684d3c9.1718408678005.1719589265125.1719873837473.25&__hssc=124297685.47.1719873837473&__hsfp=3530606189 and https://www.sympla.com.br/evento/techstars-startup-weekend-porto-alegre-i-a/2868942?referrer=www.bing.com.



Up for the challenge?

AI is not one single technology, but a broad set of tools and approaches. This section breaks down the landscape: the categories of AI and the adoption models that power them, to the open-source tools that make innovation more accessible. The focus is on how AI can impact entrepreneurship in developing countries - shaping customer engagement, business operations, and new models of growth, such as platform-based services or subscription models. An overview is given on what is currently available, what is emerging, and where gaps remain, with a particular focus on investment, knowledge and skills needed to ensure the successful adoption by MSMEs and start-ups.

The AI spectrum in entrepreneurship

AI has emerged as a dynamic force with the potential to reshape entrepreneurship worldwide.[77] For MSMEs and start-ups looking to harness the power of AI, it is important to first understand the key types of AI most relevant to their journey. Table 1 below provides an overview of these AI categories, setting the stage for successful adoption and deployment.

Entrepreneurs of all kinds, from large corporations and MSMEs to innovative start-ups and even informal "mom and pop" shops, adopt AI with varying levels of capacity and motivation. Recent research highlights that while large firms are often the first to experiment with new AI tools, smaller businesses, particularly in developing countries face distinct challenges.[78] In addition to connectivity, these include limited financial resources and, more significantly, uncertainty about how to implement AI effectively, or even why they should consider adopting it in the first place.[79] Andrea Iorio, an AI business strategist and columnist, shares these views and takes them further by noting that many businesses rush to adopt AI tools but lack data or expertise to customize these technologies for their specific needs. This often results in underutilization or ineffective implementation, particularly for smaller enterprises that cannot afford specialized talent.[80]

Through a survey conducted across the global Empretec network, many small business owners stressed that they see AI as "complex", "expensive", and "out of touch" with their daily operations. Their perception is shaped by limited awareness of AI's potential and a skills and knowledge gap in applying it to real business challenges, like managing inventory, speeding up accounting, finding new suppliers, or connecting with customers in smarter ways.

For technology-driven start-ups, AI is not just a tool – it can be a growth engine. It enables faster scaling, sharpens

[77] Ayinaddis, S. G. (2025). *Artificial intelligence adoption dynamics and knowledge in SMEs and large firms: A systematic review and bibliometric analysis*.
[78] Organization for Economic Co-operation and Development. (2025). Emerging divides in the transition to artificial intelligence.
[79] The Economist. (2023). The Widespread Adoption of AI by Companies Will Take a While.
[80] Interview with Andrea Iorio, AI business strategist and columnist, October 2024.

Table 1
Types of AI applications for entrepreneurship[a]

Categorization	Description	Business relevance and type of business
Generative[b]	AI that creates content - text, images, code and more	Used for marketing, prototyping, pitch decks, and product design (MSMEs, start-ups)
Predictive[c]	AI that identifies patterns in data, forecasts outcomes such as- sales trends, customer behavior, inventory needs	Helps with decision-making, resource planning, and investor readiness (SMEs, growth-stage start-ups)
Conversational[d]	AI that interacts with users - voice assistants, customer service bots	Enhances customer engagement and reduces support costs (MSMEs, start-ups)
Autonomous[e]	AI that acts independently: robotics, autonomous vehicles, smart logistics	Increases operational efficiency, brings AI-driven decision intelligence, and scalable innovation (For more advanced enterprises and deep-tech start-ups and innovation hubs (advanced SMEs, scale-ups[f])

[a] This typology is non-exhaustive and presented for illustrative purposes only, to facilitate readability and highlight key applications most relevant to entrepreneurship.

[b] Lim, J. (2023). Generative Artificial Intelligence: What It Is, What It Is Not and What It Can Be for the United Nations. UN Chronicle.

[c] IBM. (2024). Generative AI vs. predictive AI: What's the difference? .

[d] Google Cloud. Conversational AI for richer, more intuitive experiences.

[e] World Economic Forum. (2025). How we bring AI into the physical world with autonomous systems.

[f] A scale-up is a company that has moved beyond the start-up stage and is experiencing rapid growth in revenue, market reach, or employees.

customer acquisition and unlocks entirely new products and services. By automating routine tasks and delivering real-time, data-driven insights, AI can empower start-ups to move faster, make better decisions, and innovate with purpose. This translates into benefits for customers, such as instant responses through chatbots, more personalized experiences by offering matching products or services, and easier communication across languages with advanced AI-powered translation platforms.[81]

AI adoption reflects varying priorities across different market contexts. In developed economies, it is often leveraged to enhance productivity, supporting innovation, scaling operations, and improving competitiveness. In emerging markets, AI is more commonly applied by MSMEs to improve efficiency by streamlining workflows, increasing operational transparency, and facilitating access to markets, financing, and support services.[82] Motivations for adoption range from meeting immediate business needs to pursuing long-term growth, and from addressing local challenges to exploring broader opportunities.

Across these diverse settings, AI is increasingly becoming a tool that entrepreneurs incorporate into their business development strategies. Most notably, AI has the potential to unlock previously inaccessible markets for MSMEs and start-ups, particularly those in developing economies, and reduce barriers that have been hard to overcome.[83] [84] Today, purpose-build AI agents[85] are being

[81] World Economic Forum. 2025. How AI impacts value creation, jobs, and productivity is coming into focus.
[82] UNCTAD (2025). Technology and Innovation report 2025.
[83] World Economic Forum (2025). *AI agents: A global trade game-changer for SMEs and entrepreneurs*.
[84] See: https://unctad.org/system/files/official-document/diae2023d7_en.pdf.
[85] The International Telecommunication Union defines an AI agent as an automated entity that senses and responds to its environment and takes actions to achieve its goals. Recommendation ITU-T F.748.46 (03/2025).

developed to address complex, repetitive trade challenges by autonomously helping small businesses navigate supply chains and manage sourcing, as well as handle customs processes. They can scan real-time data to identify new market trends and opportunities, tailor products to local preferences, and launch marketing campaigns that resonate across cultures and languages. In financial services, AI can help forecast transportation costs and calculate tariffs. In logistics, machine learning can predict shipping delays and optimize delivery routes. For instance, field tests show that AI systems can now predict customs delays with much greater accuracy, and early adopters using AI-powered logistics platforms have seen shipping costs drop by 15 per cent.[86] These breakthroughs are already making a difference. In Malaysia, where start-up AllSome Fulfilment is using AI-powered systems to help small e-commerce sellers streamline operations by cutting processing times and lowering cross-border shipping costs.[87] In Saudi Arabia, the logistics start-up Mata Logistic is reimagining the baggage claim experience. Instead of relying on the traditional carousel, their AI-driven network predicts arrival times and reroutes luggage in real time. The team began with a digital twin of an airport, then moved to live trials, all with the goal of reducing delays and delivering a more seamless, reliable journey.[88]

Driven by rapid urbanization and smart city initiatives, AI is increasingly being deployed in urban areas for the optimization of traffic management, energy consumption, and waste collection,[89] [90] creating opportunities for start-ups to pilot and scale new AI-based solutions.[91] Yet, in sectors like healthcare and manufacturing, advanced applications remain largely out of reach for many due to high infrastructure costs,[92] the need for specialized equipment,[93] and limited access to skilled talent.

In developing economies, many MSMEs and start-ups begin their AI journey with accessible, off-the-shelf tools, like chatbots for customer service, to explore what is possible and understand its benefits before investing in advanced solutions or costly infrastructure. Box 2 highlights how a large corporation adopted AI through strategic, phased approaches - offering lessons and inspiration that MSMEs and start-ups in developing countries can adapt to their own scale and resources.

Global cloud providers are playing an important role in broadening access to AI technologies. By offering ready-to-use models and developer-friendly tools, they are helping MSMEs and start-ups experiment, prototype, and use intelligent applications without the need for deep technical expertise or significant infrastructure investment.[94] These services offer high security standards and global scalability, enabling smaller players to innovate more quickly and cost-effectively. But for small players in developing countries, it is not always plug-and-play. Skills gaps can slow adoption, unpredictable costs associated with scaling, and challenges related to data governance, particularly when using foreign servers, which can present real barriers for deployment.[95]

86 McKinsey & Company. (2021). *Succeeding in the AI supply chain revolution*.
87 Interview with Yi Ying Ng, Founder and Chief Technology Officer, AllSome Fulfillment, March 2025.
88 Interview with Heba Kurdi, Founder at Mata Logistic, October 2024.
89 UNCTAD. (2022). *Urban expansion, an entrepreneur's playground*.
90 Bhaduri, M. (2025). AI and IoT solutions for efficient public service delivery in smart cities. Soft Computing Fusion with Applications.
91 UNCTAD (2022). *Urban expansion, an entrepreneur's playground*.
92 World Economic Forum. (2023). The 'AI divide' between the Global North and the Global South.
93 Specialized gear refers to advanced hardware or physical equipment, such as high-performance computing systems, diagnostic devices or robotics - often required for deploying high-end AI applications.
94 Technology's Legal Edge. (2023). Hyperscalers' democratization of AI creates new opportunities for the next generation of startups.
95 Codewave (2025). Understanding Benefits and Challenges of AI in Cloud Computing

Box 2
Case Study: Sony's outline for AI Adoption

In an interview with Hiroaki Kitano, Executive Deputy President and Chief Technology Officer at Sony Group Corporation,[a] an outline is given of the company's pragmatic approach to AI adoption, a model that can hold lessons for developing ecosystems. Sony's strategy hinges on three complementary pathways:

1. integrating off-the-shelf tools like ChatGPT for widespread productivity gains,
2. collaborating with start-ups and external partners to tap into specialized expertise, and
3. building in-house AI systems for core needs.

This tiered approach mirrors the incremental skill-building, where starting with ready-made solutions allows teams to build confidence before advancing to complex AI development.

Kitano emphasizes that this phased progression, from using existing tools to co-creating and finally developing proprietary systems helps mitigate risks while maximizing learning. Sony's model demonstrates how an ecosystem can scaffold growth: by first leveraging global tools, then fostering local partnerships, and ultimately nurturing homegrown innovation.

[a] At the time of the interview (November 2024), Dr. Hiroaki Kitano served as Chief Technology Officer of Sony Group Corporation.

Technology giant Alibaba has invested heavily in AI and cloud computing, bringing scalable solutions within reach for smaller businesses.[96] Through Alibaba Cloud, small and growing businesses can access ready-made tools such as Model Studio to build smart features for marketing, customer support and operations. Accio Agent, its AI-powered sourcing engine, is already helping over 500,000 MSMEs find suppliers, discover products, and track market trends without the need to install or maintain complex systems.[97] [98] Similarly, Amazon Web Services (AWS) is expanding access to AI, offering a wide range of tools and services designed specifically for MSMEs and start-ups. These include ready-made AI solutions for speech, vision, language, and recommendations, as well as tools for building chatbots, automating document processing, and integrating AI into everyday business operations.[99]

Beyond the support offered by major cloud providers, smaller players are making affordable, ready-made AI-powered solutions available to MSMEs and start-ups.[100] Small enterprises can embed these tools into their existing workflows to boost productivity and reliability, without the need to develop or purchase costly, standalone systems. For example, with platforms like HubSpot,[101] entrepreneurs can draft emails faster and keep track of potential customers, freeing up time to focus on delivering their products instead of managing inboxes. Likewise, QuickBooks' AI-powered accounting software can act as a personal assistant, helping track expenses and forecast cash flow with ease.[102]

Table 2 outlines a number of non-exhaustive options currently available to MSMEs and start-ups for AI adoption, depending on their capabilities and objectives.

[96] Alibaba to Invest RMB380 billion in AI and Cloud Infrastructure Over Next Three Years February (2025).
[97] See: https://www.accio.com/about-us.
[98] See: https://www.alibabacloud.com/en/product/modelstudio?_p_lc=1.
[99] See: https://aws.amazon.com/ai/services/.
[100] McKinsey & Company, "The State of AI in Early 2024: Gen AI Adoption Spikes and Starts to Generate Value," May 30, 2024
[101] See: https://www.hubspot.com/.
[102] See: https://quickbooks.intuit.com/global/.

Table 2
AI integration options for SMEs and start-ups

Option	Main benefits	Chosen by
Integrating Ready-Made Tools	• Quick deployment • Lower cost • Reliable and supported	SMEs needing immediate functionality with limited technical capacity
Accessing AI-Powered Services via Platforms or Apps	• Scalable and flexible • Access to advanced tech • No need for in-house AI expertise	Start-ups aiming to innovate or automate without building infrastructure
Building Tailored Solutions In-House (Post Training)	• Custom-fit to business needs • Builds internal skills • Full control over data and processes	SMEs with growing technical teams or specialized needs
Co-Developing Tools with Partners (Universities, Hubs, Incubators)	• Shared expertise and innovation • Access to research and talent • Potential funding and mentorship	Start-ups in R&D-heavy sectors or seeking collaborative innovation

Financial constraints and gaps in AI literacy and skills continue to slow AI adoption in developing countries, as many entrepreneurs struggle to secure funding or fully understand the return on investment AI can offer.

As shown in box 3, changing mindsets is a first step toward embracing AI. Small-scale entrepreneurs can start by identifying a single, time-consuming task and building a solution around it. Whether it is answering customer questions or organizing documents, repetitive daily tasks are a smart place to begin. The goal is not to become a technology company overnight, but to take a step-by-step approach, seeing AI as a tool to expand market access, boost productivity, and reduce operational costs.

The importance of having access to data to optimize the potential offered by AI is key. Lack of access to data, as many developing countries face, also slows down AI adoption. It is essential to make use of high-quality data for training accurate and reliable AI systems. This typically involves human professionals rigorously reviewing and validating datasets and having an extensive data infrastructure which is both time-intensive and expensive. Many MSMEs and start-ups in developing countries struggle to access or generate such data, which is another factor hindering AI adoption.[103] This, in particular, is true because AI tools often come pre-trained on foreign data, reflecting business models from places like Silicon Valley. Without a basic understanding of AI, such as how algorithms make decisions or what data is needed, small business owners risk selecting unsuitable tools. Access to localized data sets and models that work for development purposes is critical for developing context-specific AI solutions.[104] [105] Although skilled individuals and innovative local AI projects do exist, their inability to access large, diverse data sets significantly limits their scope and effectiveness. These data and knowledge-related barriers make it even more difficult for resource-constrained businesses in developing countries to obtain high-quality data,[106] and underscore the need for targeted support and practical guidance to help smaller businesses navigate the complexities of AI adoption. Equally important, data-sharing initiatives, from open datasets to collaborative platforms, can help level the playing field, giving smaller enterprises access to the tools they need to build AI solutions that fit their context.

[103] World Economic Forum. (2025). AI in Action: Beyond Experimentation to Transform Industry.
[104] Findings from UNCTAD interviews with AI leaders, 2024.
[105] Interview with Amandeep Singh Gill, United Nations Under-Secretary-General and Special Envoy for Digital and Emerging Technologies, November 2024.
[106] McKinsey & Company (2024). *AI power: Expanding data center capacity to meet growing demand.*

Box 3
Case Study: Cidadania4u's targeted AI integration for legal services

In an interview with Demetrio Magno De Oliveira Souto, Chief Technology Officer of Brazil's legal services business Cidadania4u, he demonstrates how AI can drive efficiency and innovation for smaller enterprises.[a] The business' experience of achieving a 26-fold productivity increase since January 2023 showcases the transformative potential of AI when tailored to specific business needs.

The company adopted a "precision augmentation" approach, developing bespoke AI tools to address unique challenges in citizenship documentation, such as cross-referencing century-old records across languages and jurisdictions. "Off-the-shelf solutions could not handle our specialized workflows," he explains. "We built custom assistants that integrate seamlessly with our existing processes - whether helping employees match 19th-century Portuguese birth records with modern Italian forms or streamlining multilingual client updates."

This case underscores two critical barriers for SMEs, namely the affordability gap in AI tools that meet niche requirements and the integration challenge of adapting technology to legacy workflows.

Cidadania4u's solution - incremental, problem-specific AI development, is an example of how resource-constrained businesses adopted AI. As Magno De Oliviera Souto notes, "The breakthrough came when we stopped viewing AI as a standalone solution and started treating it as a cultural mindset. Now, teams ask: 'Could AI help here?' before defaulting to manual processes."

[a] Interview with Demetrio Magno De Oliveira Souto, Chief Technology Officer, Cidadania4u, October 2024.

The potential of open source and joint initiatives in AI adoption

Open-source platforms and collaborative initiatives emerge as transformative solutions for AI adoption by MSMEs and start-ups in developing countries.

As the United Nations highlights through its Global Digital Compact initiative,[107] ensuring an open, free, and secure digital environment is crucial for widespread AI adoption across diverse sectors.[108]

Open-source platforms[109] and collaborative initiatives[110] emerge as transformative solutions for AI adoption by MSMEs and start-ups in developing countries. For example, open-source platforms often encourage efficiency, allowing AI models to run on less powerful hardware, which is more accessible in developing economies.

This allows innovative entrepreneurs to develop new business models in-house without incurring significant expenses on software development and licensing fees. Consequently, it reduces reliance on costly proprietary solutions and extensive developer teams.[111] An example is the rise of open-source AI, such as DeepSeek, that seems to be disrupting traditional approaches and making AI more accessible to smaller enterprises.[112]

To fully benefit from open-source AI tools, some prerequisites are needed. Access to high-quality data, and the ability to enrich models with new inputs, is important. Funding is important, not only for digital infrastructure and its maintenance, but also for training and development programmes.

[107] United Nations. (2024) Global Digital Compact.
[108] United Nations. (2023) Our Common Agenda Policy Brief 5: A Global Digital Compact—An Open, Free and Secure Digital Future for All
[109] Open-source AI is a software that anyone can use, modify and share. This allows people and businesses to adapt it to their own needs, improve it and collaborate with others without paying expensive licensing fees: https://www.ibm.com/think/topics/open-source.
[110] Collaborative initiatives refer to partnerships or joint efforts between multiple organizations, such as start-ups universities, research institutions or large companies that combine expertise, resources and infrastructure to develop solutions, provide training or share resources – particularly for small businesses that lack resources.
[111] Interviews with Tanvir Sourov, CEO and co-founder of Socian AI, October 2024, and Dr. Hiroaki Kitano, November 2024.
[112] Reuters. (2025). What is DeepSeek and why is it disrupting the AI sector?

Skills must be in place to customize and integrate solutions, along with reliable internet and computing power to run and scale applications. Guidance on how to deploy and evolve open-source tools, along with checks for compliance with local regulations on security, ethical use, liability and privacy standards – which may be lacking or sparsely covered, helps ensure safe and effective adoption.[113] [114]

Global initiatives like OpenAI Academy are helping bridge the gap between latest research and practical applications. They do so by offering free and accessible learning resources on AI tools, prompting techniques – how to ask AI questions and give instructions, and real-world use cases.[115] Such undertakings can empower entrepreneurs, especially early-stage and solo founders, and small-business owners who may not have a technical background or access to prestigious institutions to engage with the technology and experiment.

Platforms like Hugging Face, which began as a chatbot company in 2016, quickly evolved into a space where entrepreneurs can access cutting-edge models, datasets, and tools, and connect with others who share similar interests.[116] In Africa, initiatives like Masakhane[117] and Open Source Community Africa[118] are helping nurture local talent by promoting open research, peer learning, and grassroots collaboration. These efforts are enabling African developers and entrepreneurs to apply AI to real-world challenges, whether in language, society, or development, rooted in their local context.

Beyond formal platforms, informal peer-to-peer networks also play a vital role in helping small businesses adopt AI.

For example, Cidadania4u (see box 3) advanced its AI tool through exchanges with other companies in online chat groups, discovering new ways to use AI for growth and innovation. These networks are especially valuable in developing countries, where formal infrastructure and institutional support may be limited. But they have their own set of challenges. Unlike formal programmes, informal groups rarely provide structured coordination or systematic training resulting in fragmented and uneven knowledge-sharing. Verifying the reliability of AI tools, ensuring compliance with local regulations, and sustaining momentum, especially when networks rely on volunteers, can be difficult. Still, when supported thoughtfully, these communities can be powerful drivers of innovation.[119] [120]

Universities and research institutions are increasingly teaming up with start-ups to bring research to market through collaborative initiatives.[121] They spark innovation and advance AI capabilities by blending academic depth with entrepreneurial energy, creating a direct path from ideas to products. In AI, where progress moves fast, these partnerships help bridge the gap between research and real-world impact. Challenges do exist, requiring clarity before starting a collaboration. Start-ups often work on short-term goals, while universities focus on long-term research. Aligning timelines and commercialization plans, managing intellectual property, securing joint funding, and finding skilled talent, especially in developing and most of all in least developed countries, can be difficult. But with the right support, these partnerships can unlock powerful opportunities.

[113] United Nations Industrial Development Organization. (2021). Empowering SMEs of Developing Countries through 4IR Technologies-Artificial Intelligence and UN Today. (2024). Navigating the impact of AI on MSMEs.
[114] United Nations. (2024) AI Advisory Board. Governing AI for Humanity.
[115] See: https://academy.openai.com/.
[116] See: https://huggingface.co/.
[117] See: https://www.masakhane.io/home.
[118] See: https://blog.oscafrica.org/.
[119] UNCTAD (2025). Technology and Innovation Report 2025
[120] See: https://acts-net.org/wp-content/uploads/APPLICATION-OF-AI-IN-INFORMAL-SECTOR-IN-AFRICA.pdf
[121] UNCTAD (2025). Technology and Innovation Report 2025

LLMs are emerging as foundational building blocks for scalable AI adoption.

An example of such a partnership is the collaboration of India's Institute of Technology (IITs) and International Institute of Information Technology with start-ups for the design of a local AI model named BharatGen that can support the country's diverse languages and cultures.[122] This collaboration provides innovative entrepreneurs with access to the latest AI research, technical expertise, and high-quality datasets – resources that are often out of reach due to language barriers, limited local data infrastructure or lack of access to advanced research and computing tools. Supported by the country's Department of Science and Technology, the project aims to reduce reliance on foreign AI models, address national priorities such as cultural preservation, and develop inclusive technology. This initiative seeks to create opportunities for all segments of society to benefit.[123]

Large language models

Furthermore, large language models, also known under the name LLMs, are critical for more nuanced, diverse, equitable and bias controlled inputs into chatbots, copilots and other AI tools that can shape daily life and decisions. Beyond these applications, LLMs are emerging as foundational building blocks for scalable AI adoption, offering flexible platforms that smaller businesses can build on to automate tasks, analyze data, or translate content. For entrepreneurs, connecting with customers in their native language and understanding the local context is key. While developing such models is possible, the scale and cost remain a barrier. This is why open-source efforts and local innovation matter and make it easier to create context-specific LLMs that unlock AI for more businesses.

One example of open-source AI software focused on creating localized LLMs and tools for African languages and cultural contexts is South Africa's Lelapa. This startup has developed products like Vulavula, an application offering transcription, text analysis, and translation for a variety of African languages. Vulavula is designed to understand local dialects, code-switching, accents, and cultural nuances, ensuring that MSMEs can engage authentically with their customers.[124]

Empowering entrepreneurs: the financial path to AI adoption

For MSMEs and start-ups in developing countries, getting the financing needed to adopt new technologies like AI can still be a major challenge. Many of these countries face limited access to global financial markets and low levels of financial inclusion among MSMEs and start-ups. Targeted public policy interventions may be essential to help close the gap and ensure that entrepreneurs are not left behind.

A prerequisite for the adoption of AI in developing countries is to facilitate the digital transformation of enterprises and economies by securing the necessary financing to deploy access to reliable digital infrastructure, improve connectivity, and enhance AI skills.[125] To finance the necessary infrastructure and connectivity for the adoption of AI, developing countries can leverage development finance and blended finance to attract financing from multilateral development banks and private investors. They can also attract foreign direct investment (FDI) into AI-related sectors of the digital economy, by offering co-investment opportunities, tax breaks and streamlined

[122] See: https://bharatgen.com/
[123] Department of Science and Technology. (2024). Launch of BharatGen: First Government-Supported Multimodal Large Language Model Initiative. Retrieved from https://dst.gov.in/launch-bharatgen-first-government-supported-multimodal-large-language-model-initiative.
[124] See: https://lelapa.ai/.
[125] UNCTAD. (2025). World Investment Report 2025.

approval processes, for example. As referenced in the World Investment Report, not only can FDI increase the amount of capital available in the economy for AI development and adoption, it can also produce positive spillover effects on local capacities if the enabling conditions are in place (for instance infrastructure, digital capabilities and regulatory framework), including talent attraction, knowledge transfer, business linkages, skills development, and cross-pollination to other sectors.[126] Leveraging public-private partnerships with multinational enterprises can also be critical, as these companies are key contributors to infrastructure financing in developing countries and can also play a significant role in upgrading value chains.

International and regional cooperation can further reinforce these efforts. In this regard, the Global Digital Compact calls for the creation of an investment and financing mechanism to support the development of public goods and infrastructure, with a particular focus on developing countries.[127]

Governments have a range of tools at their disposal to help close the financial inclusion gap faced by MSMEs and start-ups, especially in developing countries. They can expand access to angel investment, venture capital, and private equity as well as support the growth of non-traditional financial markets by encouraging digital financial innovation through financial technology (fintech) and strengthening financial literacy and matchmaking between entrepreneurs, investors, and intermediaries. Promoting impact investing and offering direct support through public finance and business development services can further accelerate AI adoption.

Mobilizing finance for inclusive AI adoption

In addition to addressing the challenge of insufficient investment in digital infrastructure, developing countries can support MSMEs and start-ups to access finance for AI adoption by promoting and developing a variety of funding sources, as outlined in Table 3. The appropriate type of financing, and the balance between public funding and private investment, will depend on the specific characteristics of the business, ranging from micro-enterprises to highly innovative, technology-driven start-ups, as well as the intended use cases for AI.

Generally speaking, MSMEs may be more likely to adopt ready-to-use AI tools, while innovative tech start-ups to develop in-house industry specific AI applications, what will likely require choosing a different financing mix.

For many developing countries, activating domestic savings for productive investment in AI may be as important as tapping into foreign capital sources, since the latter are currently being attracted mainly by the more advanced emerging economies, particularly in Asia.[128]

[126] UNCTAD. (2025). World Investment Report 2025.
[127] United Nations. (2024). Global Digital Compact, A/79/L.2, United Nations: New York.
[128] UNCTAD. (2025). World Investment Report 2025.

Table 3
Sources of funding for AI adoption (non-exhaustive)

Source	Description
Direct and indirect subsidies	Public grants, matching schemes, AI vouchers, blended finance, tax incentives
Equity	Angel investment, venture capital, private equity
Debt	Commercial and concessional, supply chain financing, invoice financing
Alternative sources and instruments powered by fintech	Impact investment, crowdfunding, crowdlending, micro finance, AI-based credit scoring, non-traditional guarantees for debt, among others

Subsidies - Given the transformative potential of AI and the challenges in accessing financing, governments and development agencies are designing financial support packages to support AI adoption by smaller enterprises, such as targeted grants, matching funds and AI vouchers. These subsidies can help many MSMEs lower the cost of AI software, licensing fees, or training. For instance, Malaysia Digital Economy Corporation runs the MDAG-AI grant programme that provides about 70 per cent of project costs to support SMEs that are building or scaling AI solutions in financial services, healthcare, manufacturing, and others.[129] In Chile, through its Technological Programs for the use and adoption of AI in the Chilean industry', Corfo cofinanced up to 60 per cent of AI adoption costs for small businesses in selected sectors, aiming to foster innovation and digital transformation among SMEs.[130]

De-risking instruments are also introduced by governments to attract private finance into AI-driven development by start-ups. These include public credit guarantees, first-loss tranches, and targeted tax incentives. Such tools[131] help absorb potential losses in debt structures, making commercial borrowing more viable and expanding the overall funding landscape.[132] In Germany, the government, together with its national development bank launched a promotional grant and loan scheme focused on digitalization and innovation. This programme[133] combines grant funding with low-interest loans, enabling SMEs to experiment with AI and other advanced technologies.[134] For businesses that often face challenges in securing financing, this kind of support can be the difference between stagnation and investing in the tools needed to remain competitive. The Colombian *Fondo Nacional de Garantías*, in alliance with various commercial banks, offers digital guarantees digital productive digital credits to micro-entrepreneurs via mobile apps. Although not exclusively targeted at AI adoption, this type of guarantee and digital credit facilitate access to credit for entrepreneurs who are digitally and technologically ready.[135]

New nation-wide public-private partnerships like "Stargate",[136] the largest AI infrastructure project in history designed to scale AI capability in the United States,[137] highlight the potential of collaborative funding models to advance frontier research and large-scale innovation. It is a recent example

[129] Malaysia Digital Economy Corporation (MDEC). (2024). Malaysia digital acceleration grant – AI.
[130] See: https://corfo.cl/sites/cpp/convocatoria/programa_tecnologico_inteligencia_artificial_industria_chilena/
[131] European Commission. *About the InvestEU Fund*.
[132] Ibid.
[133] KfW. (2024). New promotional loans for digitalisation and innovation.
[134] Ibid.
[135] See: https://www.bancamia.com.co/2025/05/09/credito-productivo-digital-garantia-fng/#:~:text=El%20FNG%20y%20Bancam%C3%ADa%20fortalecen,superiores%20a%20los%20$16.500%20millones.
[136] See: https://openai.com/index/announcing-the-stargate-project/
[137] BBC (2025). *Tech giants re putting $500 bn into 'Stargate' to build up AI in US*.

of non-traditional de-risking whereby the government fulfills a facilitative role by streamlining regulations and fast-track approvals, among others, and the private sector provides funding. While the scale may be unique to advanced economies, the model offers an interesting blueprint: by pooling public and private capital, countries can lower the cost of AI adoption, share the financial load, and build common infrastructure that businesses can use to test and deploy AI.

Blended finance approaches are proving effective at SMEs and start-ups level. Kenya's AI Innovation Fund combines public guarantees with private capital, to support local AI start-ups and applications.[138] At a regional level, the European Commission created the EU InvestAI Fund, an initiative aimed at speeding up AI development across Europe.[139] These efforts demonstrate how inclusive financing mechanisms can enable the adoption of AI, particularly among underserved populations of MSMEs and start-ups in developing countries where UNCTAD estimates $2.6 trillion in MSME financing will be needed by 2030.[140]

Equity - while purchasing off-the-shelf AI solutions can be a more cost-effective and lower-risk option, particularly suitable for MSMEs with limited resources, developing in-house AI capabilities, though more expensive, can offer strategic advantages. It enables tailored applications that may lead to significant competitive gains and long-term operational efficiencies. For start-ups, access to equity financing is essential to support and sustain their growth journey.

Angel investment, venture capital, and private equity are key sources of early-stage funding for innovation, especially in the digital economy. They often provide the main initial financing for entrepreneurs and start-ups.[141] However, they tend to focus on tech start-up mature ecosystems, overlooking many small businesses with market and profitability potential in developing markets and lesser-known entrepreneurial ecosystems. Strengthening risk capital markets (attracting both domestic and foreign investors) in these regions can help MSMEs and start-ups absorb the costs of AI adoption and development - critical for their growth and competitiveness. Gobi Partners, a leading Asia-focused venture capital firm has backed several AI-oriented start-ups and launched funds like Gobi SuperSeed II Fund in Malaysia that explicitly target early-stage businesses operating in AI, Big Data cloud technology and others.[142] Similarly, in Latin America and the Caribbean, the Inter-American Development Bank Group's innovation and venture capital arm (IDB Lab) has invested $2 million in 500 LatAm Seed Fund 500 IV to support around 40 early-stage start-ups across emerging ecosystems in Peru, Ecuador and Guatemala.[143]

Debt - debt financing offers a viable route for entrepreneurs to invest in AI. Commercial debt, provided at market rates by banks and financial institutions, suits businesses with strong credit profiles and can fund AI-related investments such as software, infrastructure, and training. Concessional debt, offered by public or development finance institutions, lowers financial barriers through reducing interest rates, offering longer repayment terms, and grace periods, making it especially relevant for MSMEs and start-ups in developing countries. By leveraging both forms, businesses can build the digital capabilities needed to adopt AI, boost productivity, and remain competitive in a fast-evolving economy. The Brazilian Development Bank's (BNDES) programme 'Mais Innovação' offers credit to SME

By pooling public and private capital, countries can lower the cost of AI adoption, share the financial load, and build common infrastructure that businesses can use to test and deploy AI.

[138] See: https://www.corfo.gob.cl/sites/cpp/.
[139] European Commission. 2024. EU launches InvestAI initiative to mobilize €200 billion of investment in artificial intelligence.
[140] UNCTAD. (2024). The costs of achieving the SDGs: Resources.
[141] UNCTAD. (2025). World Investment Report 2025.
[142] Gobi Partners. (2022). Allianz Malaysia joins Gobi Partners' Malaysia-focused SuperSeed II fund.
[143] IDB Lab. (2024). IDB Lab Invests $2 Million in 500 LatAm Seed Fund IV to Empower Startups in Latin America and the Caribbean.

investments in innovation and digitalization. This includes acquisition of equipment and software, as well as consultancy and training. This finance offers lower interest rates and varying grace periods.[144]

Fintech - Securing traditional financing for AI adoption remains a daunting task for many MSMEs and start-ups. This challenge has paved the way for fintech start-ups and non-banking financial institutions to step in and fill the void.[145] Over the past decade, there has been an increase in non-traditional financial products and channels, including equity crowdfunding, angel investors and VC platforms (ownership-based) and peer-to-peer lending, digital microfinance, mobile credit, invoice financing and supply-chain financing (borrowing-based). One strong example is Nigeria's fintech Flutterwave,[146] which offers fast, collateral-free loans to businesses that use its payment platform, making it possible for entrepreneurs to access funding in less than a day and repay via a share of daily sales.[147] This kind of financing gives enterprises breathing room to invest in digital tools, cloud infrastructure and even AI models without being held back by traditional bank requirements. These alternative sources, powered by digital innovation in the fintech sector, have shown their potential to render financial solutions not only more accessible to entrepreneurs in underserved financial ecosystems but also better tailored to meet their unique needs - hereby supporting broader AI adoption.[148]

Developing countries can support the growth of non-traditional financial sources by facilitating digital financial innovation, setting up regulatory sandboxes for fintech experimentation,[149] promoting alternative credit scoring system based, for example, on AI intellectual property, mobile payment histories instead of traditional bank records, and analyzing real-time business data,[150] in addition to building the capacity of the traditional financial sector to better serve SMEs and start-ups in their needs to adopt AI with tailored financial products.

Small scale finance support can also make a difference in promoting AI adoption. Micro finance can help cover the cost of AI-training or software licensing fees can help many small enterprises take the first step.

AI powering funding

SMEs and start-ups often struggle to get funding, one of the reasons being that investors do not have enough data to assess their value. AI can help close this gap by pulling information from many sources – government filings, websites, news, investor updates and even employee reviews, and turn these into real-time insights.[151] This makes it easier for investors to understand the true potential of businesses that might otherwise be overlooked. An example of this is Crunchbase, an AI-powered analytical data platform, which helps the investment community spot opportunities that traditional methods might miss.[152]

Another innovative application of AI is its use by venture capital and private equity firms, where AI agents[153] assist in making

[144] See: https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/programa-bndes-mais-inovacao
[145] World Bank. (2023). *Expanding Access to Finance for Small and Medium Enterprises through Fintech: A Review of the Emerging Evidence*.
[146] See: https://flutterwave.com/us/.
[147] Flutterwave. (2022). Dream it. Do it. With Flutterwave Capital.
[148] Non-traditional finance is able to offer financial products that are better tailored to the needs of small businesses and early-stage start-ups due among others to a more targeted approach, reduced cost and faster processing compared with the traditional banking sector.
[149] See example of Saudi Arabia's regulatory sandbox *Fintech Lab* on page 8.
[150] World Economic Forum. (2025). Digital economy and small businesses.
[151] Crunchbase. (2025). Crunchbase Declares Historical Data Dead – Relaunches as an AI-Powered Predictions Engine with up to 95% Accuracy.
[152] Crunchbase. (2025). 28 Best AI Tools to Use In 2025.
[153] AI agents are autonomous software systems that can analyze data, make recommendations and perform tasks without a constant human input. In finance they are increasingly being applied to scan companies, assess risks and support investment decisions.

investment decisions.[154] These AI agents can scan thousands of companies, evaluate founders, and assess growth potential much more quickly than before. Firms such as Tribe Capital[155] and SignalFire[156] are among the leaders of this quiet evolution, offering new opportunities for entrepreneurs that may have been overlooked. The 'Agentic VC' model can help reduce selection bias in investment decisions caused by lack of awareness or information and identify the potential of start-ups where traditional data is insufficient.[157] Blending human insight with machine intelligence can make venture capital more data-driven, inclusive, and dynamic.[158]

As investors increasingly turn to AI tools for investment opportunities and analysis, entrepreneurs are also seizing AI-driven applications in their quest for funding. For entrepreneurs who lack good presentation skills, generative AI can become a critical asset, particularly as AI-driven tools enhance the clarity and effectiveness of project presentations. Founders can now make use of tools like ChatGPT to craft compelling narratives or Perfect Pitch AI[159] to simulate investor Q&A sessions.

An additional novelty is AI-powered match-making platforms that enhance connections between entrepreneurs and investors based on sector, funding stage, and past investment behavior, cutting search time and boosting success rates.[160] Tools like FasterCapital use in-house developed AI systems to link social innovators with funders in different industries, such as fintech and healthcare.[161] In Saudi Arabia, Daleel, a collaborative AI platform, supports match-making in logistics and manufacturing industries,[162] while Rasmal simplifies equity management and investor outreach, helping early-stage start-ups stand out and secure funding faster.[163] In Africa, Zido helps founders find impact-driven investors[164] and in the United States Grantable[165] helps identify non-dilutive funding opportunities.

AI literacy and skills: empowering tomorrow

Education and skills development for entrepreneurs are key to ensuring that they can meaningfully participate in the digital economy and harness the benefits of AI. Yet, in many developing countries, basic digital literacy is low, and formal education systems and skills development programmes often lack the capacity to deliver relevant, up-to-date training. Entrepreneurs, especially in least developed countries, face additional barriers, including limited access to locally adapted learning materials, and insufficient institutional support.[166] In discussions held with UNCTAD, AI business strategists and experts emphasize the need for critical thinking and the ability to adapt in an AI-driven world.[167] [168]

[154] V7 Labs. (n.d.). *AI for private equity & venture capital*.
[155] See: https://tribecap.co/.
[156] See: https://www.signalfire.com/.
[157] Ressi, A. (2024). *I have been watching AI agents enter venture capital...* [LinkedIn post]. LinkedIn.
[158] Laney, D. (2025). The AI-driven VC: A new era in investing. *Forbes*.
[159] See: https://perfectpitchai.com/.
[160] Crunchbase. (2024). 2024 Global Investment Trends Report. San Francisco: Crunchbase.
[161] See: https://fastercapital.com/.
[162] See: https://daleel.gov.sa/.
[163] See: https://www.rasmal.io/.
[164] World Economic Forum. Schwab Foundation for social entrepreneurship in collaboration with EY and Microsoft. (2024). AI for Impact: Strengthening AI Ecosystems for Social Innovation, p 27
[165] See: https://www.grantable.co/.
[166] United Nations Industrial Development Organization. (2021). Propelling LDCs in the Digital Age: A 4IR Perspective for Sustainable Development.
[167] Interview with Andrea Iorio, AI business strategist and columnist. (October 2024).
[168] UNCTAD. (2024). *Report of the Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-building and Sustainable Development on its eleventh session* (TD/B/C.II/MEM.4/32).

Building AI literacy

Understanding the value of AI is the first step toward adoption, which is made possible through AI literacy. It helps MSMEs and start-ups see how AI can solve real business problems, improve efficiency, and generate measurable returns. However, without targeted education and capacity-building initiatives, AI adoption remains out of reach for many. Investing in inclusive, context-sensitive digital education is essential to bridge the knowledge gap, empower local innovation, and ensure that AI contributes to sustainable and equitable development.

Through a multistakeholder approach, several initiatives in developing countries are emerging to invest in AI education programmes that emphasize conceptual understanding, supporting informed adoption and inclusive innovation.[169] Other recent initiatives showcase the incorporation of AI literacy training for both entrepreneurs and investors,[170] addressing the knowledge gaps that once hindered funding for AI-driven ventures. These gaps primarily involve difficulties assessing AI's business applications, evaluating technical feasibility, and identifying implementation risks; misunderstandings that can lead to excessive skepticism on the one hand or, on the other, misplaced enthusiasm. Identifying and addressing these knowledge gaps serves to further facilitate AI implementation and productivity.

Having the right skillset at hand

For MSMEs and start-ups, realizing AI's strategic potential often requires a mindset shift at the management level. Soft skills such as leadership that determine scale, and other skills like problem-solving, creativity, emotional intelligence and communication that enable teams to execute are important.[171] Informed leaders can integrate AI into long-term plans, making it easier to allocate resources, attract investment, and foster a culture of digital transformation. Making AI work in practice means rethinking roles and skills, not just deploying the technology. Without top-down commitment, AI adoption risks being fragmented and unsustainable.

Starting with basic AI literacy and providing hands-on training with accessible tools builds confidence and encourages innovation. Such an approach helps entrepreneurs create or adopt AI solutions tailored to local challenges, avoiding limited return on investment, stalled projects, or ineffective tools. When paired with entrepreneurship training, off-the-shelf AI applications can further demystify the technology and provide business owners with the skills and confidence needed for effective adoption.[172] A case study is provided in box 4.

[169] Examples are multistakeholder programmes *From Commitment to Action: Advancing the use of AI in education in Africa* and *Bridging Global AI Literacy Gap and Empower Developing Communities*. AI Singapore and UNDP Join Forces to Bridge Global AI Literacy Gap and Empower Developing Communities

[170] Founder Institute, a global accelerator, provides AI literacy and training for both entrepreneurs and investors. Its AI Bootcamps help founders apply AI to product development and operations, while its VC Lab accelerator trains new venture capital managers, including on evaluating AI-driven ventures.

[171] Ibid.

[172] See: https://unctad.org/topic/enterprise-development/Empretec.

Box 4
Case Study: Microsoft's framework for responsible AI diffusion

In an interview with Natasha Crampton,[a] Microsoft's Chief Responsible AI Officer, she outlines the company's comprehensive strategy for inclusive AI adoption. Its approach is built around three interdependent pillars:

1. localized capacity-building programmes (such as the AI Business School),
2. open-source infrastructure (through platforms like Azure AI Studio), and
3. ethical governance (via its Responsible AI Framework).

Together, these elements combine access to skills-development, technology and trust-building to achieve meaningful adoption.

Crampton emphasizes that Microsoft's initiatives are specifically designed to lower barriers for developing-economy entrepreneurs, noting that "true AI adoption" requires more than technology. "*It demands supportive ecosystems where entrepreneurs can learn, experiment, and grow together.*" Microsoft strongly advocates for a phased implementation and encourages businesses to start with ready-to-use tools like Copilot before moving to customizable open-source solutions. This provides a replicable blueprint for developing countries building their AI capabilities. She explains that this approach has shown measurable impact, demonstrating 63 per cent faster prototyping speeds and 40 per cent higher customization rates among emerging-market users.

Microsoft also supports peer-to-peer learning networks, which now connect over 8,000 SMEs globally. These communities enable the practical knowledge-sharing that Crampton identifies as critical for overcoming initial adoption hurdles: "*The fastest way to understand AI's value is not through abstract discussion, but by using the technology to solve real business challenges.*" The case underscores how blended technological and social infrastructure can accelerate AI's productive adoption across diverse economic contexts.

[a] Interview with Natasha Crampton, Chief Responsible AI Officer, Microsoft, December 2024.

To fully leverage the potential of AI in development, it is essential to address capacity gaps at all levels of the workforce. While senior managers may focus on strategic direction, employees require technical skills to work effectively with AI tools. Research highlights that many developing countries face significant challenges in building technical capacity, including a lack of resources to train AI specialists, hindering AI adoption and innovation.[173] Tackling the shortage of in-house expertise is crucial. Inclusive and targeted skills training programmes, designed with gender and age equity in mind, are essential to building familiarity with AI technologies and empowering local enterprises to innovate and adapt. Strategic investment in human capital will ensure that AI contributes meaningfully to sustainable development.

A lack of managerial understanding and ability to adapt, as well as technical talent can delay AI implementation for months or even years.[174] For senior management and employees alike, the adoption of AI requires dual interventions in the form of both upskilling and reskilling. The first one involves equipping them with the capabilities to integrate AI tools into existing business

A lack of managerial understanding and ability to adapt, as well as technical talent can delay AI implementation for months or even years.

[173] Interview with Ayantola Ayalande, Researcher at the global Center for AI Governance. 2024.
[174] McKinsey & Company. (2024). "The State of AI in Early 2024: Gen AI Adoption Spikes and Starts to Generate Value".

operations while the second intervention on reskilling prepares entrepreneurs and employees for a career transition to take advantage of completely new opportunities created by AI. Malaysia offers two examples of AI in action. Micro-entrepreneurs are boosting productivity by using off-the-shelf AI tools like Canva to sharpen their digital marketing, thanks to guided training by business development service providers and hands-on practice, all without changing their core business model. Meanwhile, batik artisans are embracing AI-powered design tools to create fabric patterns in minutes, attracting younger buyers and expanding online sales. They picked up these skills through short online courses delivered by University Malaysia Kelantan.[175] In India, major companies roll out AI training across entire workforces, not only technology teams. Some employees get introduced to the foundational concept of generative AI and others receive practical training to build real-life solutions. They also undergo function-specific training tailored to areas such as project management, business analysis or engineering, which ensures that AI capabilities are embedded across different business departments.[176] This dual approach helps businesses remain productive while adopting AI and navigating workforce transitions, especially in sectors being reshaped by AI.[177]

Some governments are offering financial incentives to encourage enterprises to invest in their employees' digital skills. Singapore's SkillsFuture Enterprise Credit reimburses small businesses for training expenses, including AI and data analytics,[178] while Rwanda's Digital Talent Policy builds local AI capacity through national and international partnerships.[179] Similarly, coding bootcamps and digital innovation hubs are emerging across developing countries, offering subsidized skills development to ease the financial burden on small businesses.[180]

In parallel, some governments are addressing talent shortages and resource gaps by establishing sectoral centers of excellence. These specialized hubs unite AI and business development experts, start-ups, and established businesses to share AI infrastructure, training resources, and mentorship. For instance, Singapore provides facilities where local firms can access AI testing environments, automate proof-of-concept trials, and collaborate with multinational technology partners.[181] This approach can help retain local talent and reduce brain drain,[182] further fostering homegrown innovation and shifting countries from being passive consumers of imported technologies to active innovation ecosystems. Centers of excellence facilitate industry-specific AI adoption by tailoring programmes to real-world applications. This targeted approach encourages entrepreneurs to start with small, manageable projects, proving AI's value and paving the way for broader rollouts as capital and expertise expand. Similar to the options for AI integration presented in table 2, these hubs guide entrepreneurs to start small, build confidence, and then scale up to high-impact AI solutions that address local priorities.

[175] Ardhianto, P., Susanto, F. R., & Mulyanto, V. A. (n.d.). *Integrating generative artificial intelligence into Bakaran Batik: Effects on design and workflow efficiency*. Department of Visual Communication Design, Seogijapranata Catholic University, Semarang, Indonesia.

[176] Indian corporations are implementing inclusive AI education programs for all employees, with phased rollout across Vedanta, Schneider Electric, Accenture India, SAP Labs India, Indian Energy Exchange, Sterlite Electric, Resonia, and Serentica Renewables. See: https://economictimes.indiatimes.com/news/company/corporate-trends/ai-schools-in-session-india-inc-says-everyone-must-learn-as-machines-get-smarter/articleshow/121170222.cms?from=mdr.

[177] World Economic Forum. (2025)."How Leaders Can Drive Business Transformation."

[178] See: https://www.skillsfuture.gov.sg/sfec.

[179] See: https://rwandatrade.rw/media/2016%20MINICT%20Digital%20Talent%20Policy.pdf

[180] UNCTAD. (2021). Technology and Innovation Report, p. 63–64

[181] Infocomm Media Development Authority. (2025). "AI Singapore and Industry Collaboration Initiatives," Government of Singapore.

[182] UNCTAD. (2025). Technology and Innovation Report.

Box 5
Case Study: Empretec centres fostering AI skills

In Malaysia, an increasing number of small retail stores are launching online instead of through costly physical stores. Many of these small-scale entrepreneurs who often operate with limited resources are now learning to harness AI tools to grow their customer base and improve their operations through the Empretec centre. With the help of Empretec certified trainers, the centre has started to use AI-powered social media algorithms to target the right customers and generate leads more effectively.[a] It also leverages free AI tools to create websites, analyze sales, and design promotional content, reducing overhead costs and reaching a wider audience.

In Ethiopia, many small businesses operate informally, among others due to complex and time-consuming registration procedures. To address this, the Empretec centre has decided to deploy an AI-powered in-house software on business registration services to help informal entrepreneurs formalize their enterprises faster.[b] Complementing this effort, the centre sets up new bootcamps that equip them with both practical business skills, such as how to register a business and access funding alongside essential business planning with basic AI knowledge. These initiatives align with Ethiopia's national effort to strengthen the AI ecosystem through improved data infrastructure, fostering innovation and scalability.

The Empretec centre in Argentina has stepped up to meet the growing interest in AI with targeted webinars and live sessions focused on practical AI applications like marketing, business model development, design thinking and crafting elevator pitches.[c] A popular session on generative AI attracted over a thousand participants. For many, AI is not a buzzword anymore, it is now seen as a hands-on-tool to boost creativity, strengthen branding and enhance communication, among others.

Off-line and online crash courses are also delivered to entrepreneurs in Saudi Arabia equipping start-ups with new digital capabilities.[d] The Empretec centre has integrated sessions on AI adoption in pre-accelerator workshops for start-up founders and together with UN Trade and Development holds Empretec Square for Global Goals[e] events highlighting different aspects of AI for entrepreneurs that are part of the centre's ecosystem, including among others strategic planning, AI tools and fundraising.[f g]

In South Africa, the Empretec centre is actively assisting MSMEs with their digital transformation.[h] This support includes mentoring and digital courses to help them prepare their pitch and clearly present the AI value their business offers to investors. It also trains entrepreneurs to use available AI tools to enhance their fundraising and pitching efforts.[i] Importantly, the centre is not just promoting the use of AI in everyday operations; it is applying it internally as well. For instance, during pitch competitions that are part of training courses, the in-house AI system is used to filter and select participants more efficiently.

[a] Interview with Empretec centre Malaysia's Director Sandra Anne Ghouse, 2025.

[b] Interview with Empretec centre Ethiopia's Director Boru Shana, 2025.

[c] Interview with Empretec centre Argentina's Director at the moment of the interview, Carla Goglia, 2025.

[d] UNCTAD. (2024). *Report of the Multi-year Expert Meeting on Investment, Innovation and Entrepreneurship for Productive Capacity-building and Sustainable Development on its eleventh session* (TD/B/C.II/MEM.4/32).

[e] The Square for Global Goals is a scaling and learning platform, connecting start-up founders from emerging economies with peers, mentors, and experts through a network of 40+ Empretec centres. See: https://unctad.org/topic/enterprise-development/Empretec/square-for-global-goals.

[f] Interview with Empretec centre Saudi Arabia's Director Ghada Alharbi, 2025.

[g] See: https://unctad.org/meeting/ai-x-start-ups-conversation-aws.

[h] Interview with Empretec centre South Africa's Director Louis Nhlapo, 2025.

[i] UNCTAD interview with Empretec Center South Africa/Small Enterprise Development and Finance Agency, 2025.

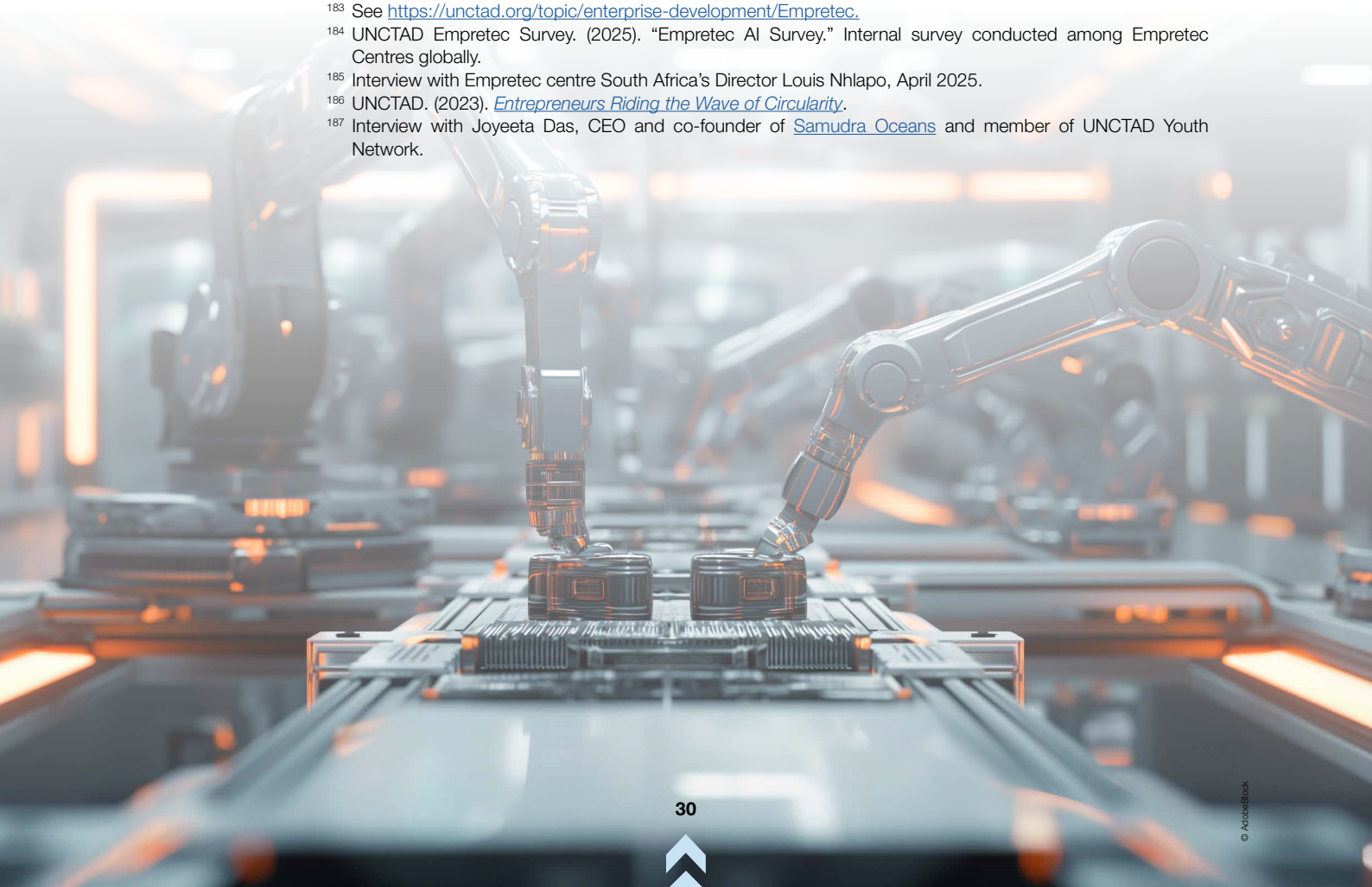
Also, business development service providers can act as centres of excellence, like the global Empretec network, and amplify capacity building efforts by providing localized support, bridging policy and practice through free or low-cost tools and addressing specific regional needs as can be seen in box 5.[183] [184]

The adoption of AI and other advanced technologies can also be promoted through business linkages within global supply chains. Many large corporations recognize the importance of investing in their suppliers' capabilities to enhance overall quality and efficiency through skills development, training resources, and best practices. For example in the mining sector in South Africa, training is provided by large corporations to the benefit of local, small, technology-driven partners to boost productivity.[185] Combining these solutions with in-person training and ongoing mentor support helps address technical and cultural barriers, strengthening the supplier ecosystem and creating a more resilient, competitive value chain.

On a smaller scale, entrepreneurs are also actively contributing to AI skills development within their communities. For instance, deep tech start-up Samudra Oceans built an AI-powered system with sensors that track ocean conditions like temperature, salinity, and wave patterns.[186] [187] The data go straight to farmers' phones, helping them make real-time decisions about crop health and farm management without the need of high-tech labs. But Samudra Ocean's mission goes beyond technology. It is committed to training farmers how to use these tools and interpret the data, strengthening digital literacy and boosting confidence in innovation. As a result, coastal entrepreneurs are not just end-users, they are co-creators, actively shaping, operating, and sustaining the AI systems that support their livelihoods.

As AI becomes essential to business success, there is a growing need to expand support programmes and initiatives, starting with foundational AI literacy to practical digital readiness capacity-building.

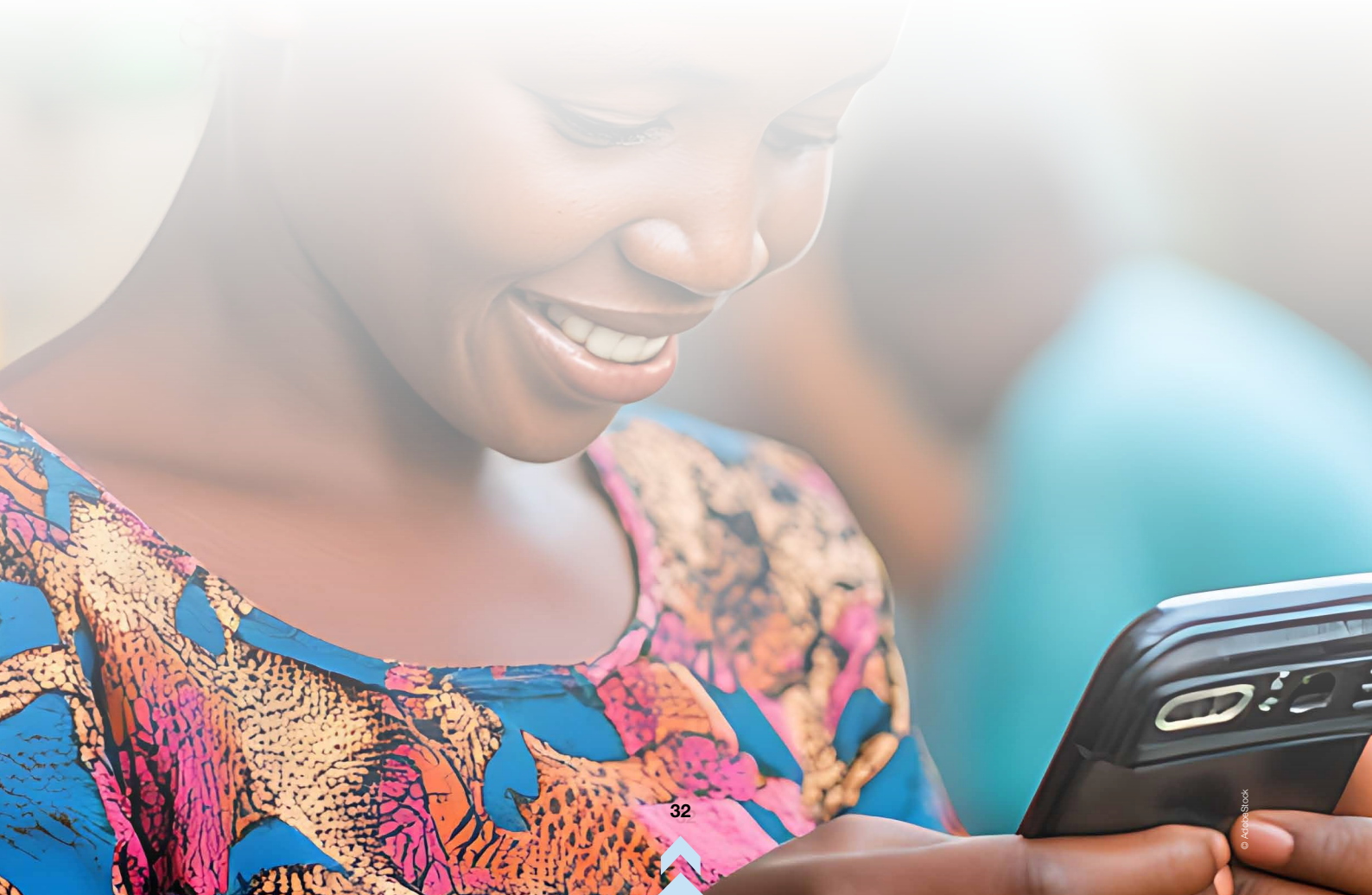
[183] See https://unctad.org/topic/enterprise-development/Empretec.
[184] UNCTAD Empretec Survey. (2025). "Empretec AI Survey." Internal survey conducted among Empretec Centres globally.
[185] Interview with Empretec centre South Africa's Director Louis Nhlapo, April 2025.
[186] UNCTAD. (2023). *Entrepreneurs Riding the Wave of Circularity*.
[187] Interview with Joyeeta Das, CEO and co-founder of Samudra Oceans and member of UNCTAD Youth Network.



A policy framework for AI adoption in developing countries

The overview below presents policy options for the consideration of governments to foster an entrepreneurial ecosystem that supports the responsible adoption of AI among MSMEs and start-ups in developing countries. Based on UNCTAD's Entrepreneurship Policy Framework,[188] it highlights five key pillars with corresponding policy objectives and options to drive AI adoption, innovation, and data growth. While acknowledging that some options may be more feasible in advanced developing economies, this non-exhaustive outline offers a strategic menu for policymakers to kickstart AI adoption in entrepreneurship.

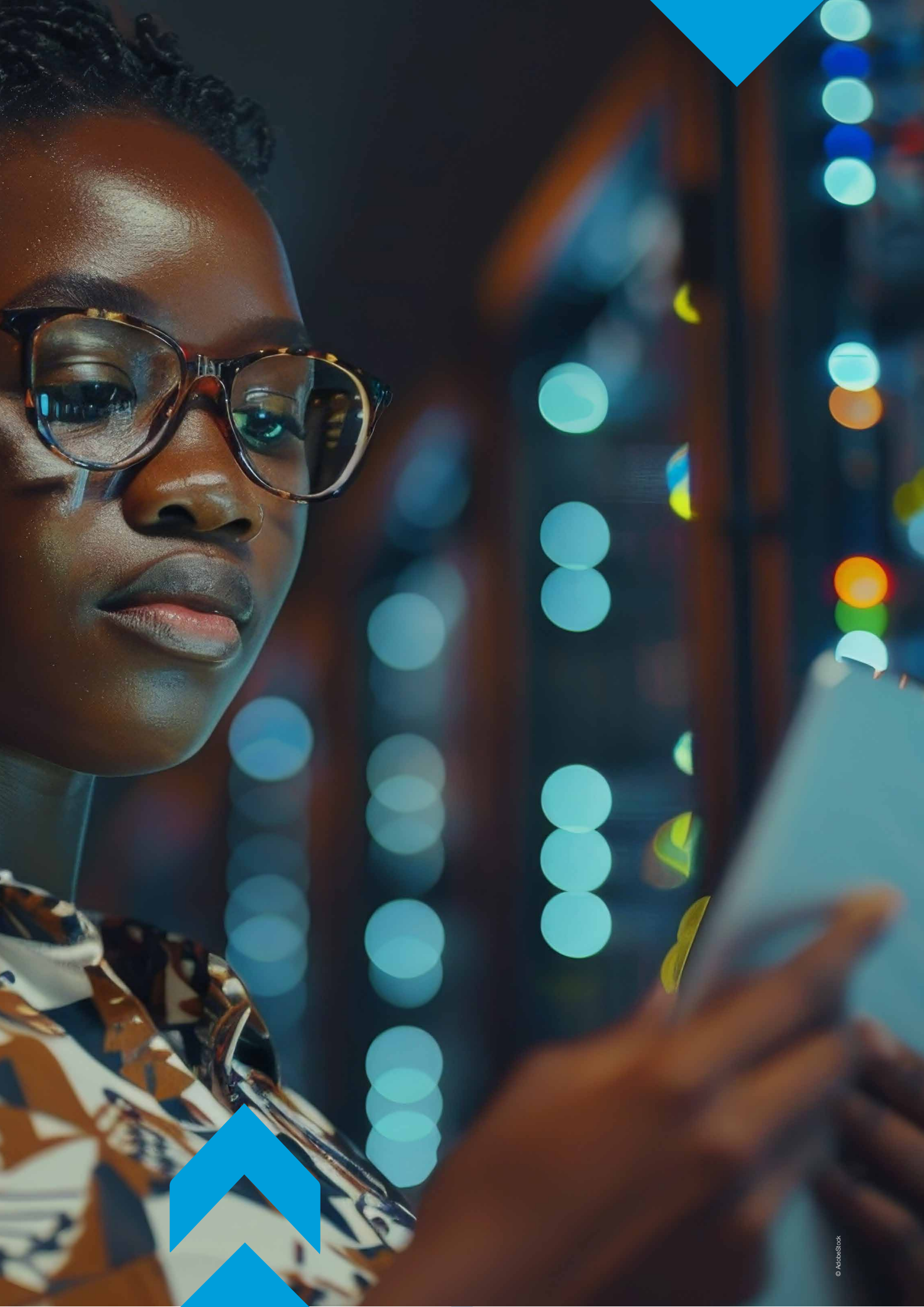
[188] See: https://unctad.org/topic/enterprise-development/entrepreneurship-policy-hub.



Pillar	Policy objective	Policy options
Adapting the regulatory environment in support of AI adoption	Establish clear AI standards and safeguards to guide business adoption across sectors.	» Promote standardization of AI practices to ensure consistency, inclusiveness, safety security, privacy and ease of adoption for businesses (e.g. develop technical standards and guidelines to help MSMEs and start-ups integrate and use AI, standardized reporting tools). » Set up legislation and regulation for AI that ensure human progress, equality and safety (e.g. rules on data and privacy, audits, safety testing for AI in sensitive applications, consumer protection, cyberattack measures). » Apply proportionate regulation (e.g. lighter rules for low-risk uses like promotion - stronger rules for sensitive sectors like healthcare or finance). » Introduce ethical norms and values in AI to build trust (e.g. transparency labels, coherence with culture, requirements to explain how AI decisions are made, anti- bias and discriminatory checks).
	Clarify accountability and responsibility in AI systems.	» Establish clear rules to determine responsibility when AI systems fail or perform incorrectly (e.g. liability frameworks distinguished between AI developers who build models and businesses who deploy them, or a combination thereof). » Promote transparency and accountability in AI decision-making processes. (e.g. labels to show when AI is used, integration of human oversight in decision-making).
	Promote collaborative, and inclusive AI regulation.	» Develop clear AI regulations for MSMEs and start-ups, ensuring rules' accessibility and ease of understanding, to encourage AI adoption without overwhelming entrepreneurs with complex requirements (e.g. address gaps in regulations related to AI, agility so as to be in sync with AI development, apply proportionality on interests, provide guidance documents and certificate mechanisms on models and applications etc. for compliance, easily understandable forms for private sector use). » Encourage consultations at national and international level between governments, private sector, academia and non-profit organizations to align on the direction of AI development and governance (e.g. collaborative and cross-sector knowledge sharing in developing and implementing regulations and impact assessments). » Develop sector-specific AI inclusion transformation plans with a no one-size-fits-all approach, particularly for sectors critical to national development (e.g. regulation that reflects local and sector-specific needs). » Set up regulatory sandboxes that allow entrepreneurs to test AI-driven solutions, and integrate the insights back into national regulations to create or adapt existing frameworks (e.g. for wider deployment) » Provide continuous training for regulators and policymakers on AI advancements (e.g. regulation to be in sync with technology developments through training, collaboration and sharing of best practices). » Promote creation and access to data (e.g. creation of national data and data availability).
Enhancing AI education and skill development	Promote collaborative, and inclusive AI regulation.	» Provide training for entrepreneurs on the development of a clear vision for AI integration in businesses (e.g. tailored workshops on AI business models, how AI can cut costs through automation open new market opportunities).
	Enhance digital literacy.	» For policymakers (e.g. to understand AI and its advancement for regulation to be 'fit for purpose' and in sync with technologies). » Invest in computer, data and algorithm knowledge (e.g. short courses on coding basics, understanding how algorithms work, and safe data handling for MSMEs and start-ups). » Include modules on AI in universities' curricula (e.g. courses on AI ethics, and practical applications like chatbots and predictive analytics in business).
	Boost AI capabilities and knowledge of MSMEs and start-ups.	» Establish educational and training programmes to upskill and reskill entrepreneurs and the workforce – including vulnerable groups, in AI technologies, applications, and data management (e.g. up-to-date training materials, hands-on training on AI use in marketing, fundraising, inclusion of transparency and human decision-making in AI processes). » Organize training programmes where entrepreneurs can learn directly from public sector AI projects. (e.g. show how governments use AI in business development services and how these approaches can inspire business use). » Train entrepreneurs on the synergies of integrating data management, digital skills and AI for decision making (e.g. teach MSMEs and start-ups how to combine sales data with AI tools to predict forecasts more accurately). » Launch or sponsor online platforms that offer free or low-cost AI training (e.g. open-access courses on cloud-based AI tools, or AI for small business growth). » Establish mentorship programmes where experienced AI professionals guide entrepreneurs (e.g. pair local start-ups with AI engineers to adapt models).

Facilitating the diffusion of technologies and innovation for AI-driven entrepreneurship	Demonstrate the value of AI through government-led initiatives.	» Lead by example and implement AI-driven solutions in government business support services to simplify procedures, reduce costs, and promote the innovative mindset among entrepreneurs and consumers (e.g. provide clear guidelines including on ethics, norms, intellectual property rights, data privacy, consumer protection, bias and discrimination checks, impact assessment, transparency, human oversight). » Launch business development services that support the integration of AI into businesses (e.g. decentralize services to business development centres and identify local needs).
	Enhance the accessibility and adoption of AI technologies among MSMEs and start-ups.	» Promote open-source AI platforms to enable entrepreneurs to adapt, customize, and deploy AI solutions cost-effectively (e.g. using open models for languages, or open-source vision tools). » Launch targeted programmes that provide entrepreneurs with practical training to effectively integrate and leverage AI technologies in their business operations (e.g. workshops on AI for sales forecasting, fraud detection or inventory management, provision of technical standards, including on culture, data privacy, human oversight and traceability to origins). » Set up regional or local AI innovation hubs that provide entrepreneurs with access to AI resources, mentoring, and networking opportunities (e.g. co-working spaces with GPU access, AI mentors and demo labs). » Collaborate with universities, tech parks, and industry leaders to equip hubs with AI technologies and expertise (e.g. cloud credits from big tech, partnerships with research labs). » Invest in and support the creation and management of AI infrastructure, such as affordable and reliable high-speed internet, energy access, data centres and technology hubs (e.g. regional cloud servers that can be used at low-cost). » Invest in infrastructure that supports AI adoption in rural and underserved areas (e.g. community digital hubs where for instance farmers can access AI crop monitoring tools).
	Strengthen collaboration between large corporations on the one hand and MSMEs and start-ups on the other.	» Encourage business linkages between large corporations and start-ups and MSMEs to integrate AI technologies across value chains (e.g. large retailers sharing anonymized sales data with smaller players to build AI-driven inventory tools).
	Foster a collaborative ecosystem for AI-driven creativity and innovation.	» Facilitate partnerships between entrepreneurs, universities and research institutions to drive creativity and innovation, providing access to research, resources, talent, and funding (e.g. joint labs where start-ups can test AI prototypes). » Promote platforms or systems where data are freely available and easy to use, helping developers create and improve AI technologies with good quality information (e.g. open government datasets for transport or agriculture that MSMEs can use to build AI tools). » Develop sector-specific AI clusters that bring together entrepreneurs, researchers, and investors to contribute to innovation (e.g. fintech clusters for digital payments, healthcare on data privacy). » Provide support to collaborative AI research projects or cross-sector joint ventures that can lead to new entrepreneurial opportunities and breakthroughs (e.g. MSMEs teaming up with logistics start-ups to develop AI for route optimization). » Organize study tours to innovative ecosystems and AI hubs to inspire entrepreneurs, promote creativity and showcase best practices (e.g. visits to advanced AI innovation labs to learn from real-world case studies).
	Support incubators and accelerators for AI-driven start-ups.	» Promote AI-focused incubators and accelerators to nurture innovative start-ups (e.g. programmes that provide GPU access, AI mentorship, or cloud credits, among others). » Foster networks and provide technical support to start-ups developing AI solutions in key national industries (e.g. connecting health-technology start-ups with hospitals to pilot AI diagnostic tools)..
	Promote research and development in AI technologies	» Increase public and private investment in AI R&D, particularly in areas in line with national development plans. » Offer financial incentives and subsidies for businesses and research institutions engaged in AI-related R&D (e.g. tax breaks for building large language models in local languages). » Encourage the adoption and development of a wide range of AI technologies, rather than focusing on just a few (e.g. supporting robotics, computer vision or speech recognition instead of only focusing on chatbots).

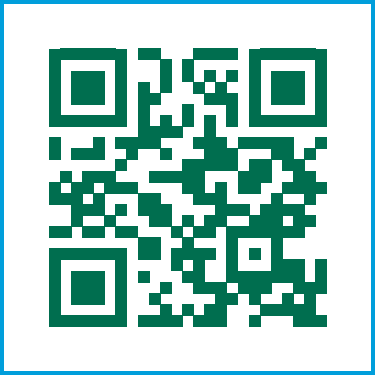
		» Promote technologies with low-cost and energy use for sustainability (e.g. lightweight AI models that run on smartphones for rural MSMEs).
	Promote open-source AI development and collaboration.	» Support the creation and maintenance of open-source AI platforms and tools to encourage widespread collaboration and innovation (e.g. promoting local large language models, open datasets for agriculture or other industries, or shared code libraries that MSMEs and start-ups can adapt for their own solutions).
Improving access to finance for AI adoption and usage for entrepreneurs	Provide and support investment in AI projects.	» Establish government-backed funding programmes to provide needed capital for start-ups at both early and growth stages (e.g. in sectors of relevance to the country, seed-funding to cover the high up-front costs of training AI models). » Create incentives to attract foreign investment in local AI-driven businesses to boost competitiveness (e.g. tax breaks for global venture capital firms that want to invest in local AI-driven businesses). » Provide funding and resources for open-source AI projects, ensuring they are accessible to developers, researchers, and businesses (e.g. supporting community-driven datasets, funding open AI models MSMEs and start-ups can adapt). » Encourage angel investors and venture capital to contribute to these funds through tax incentives (e.g. deductions for investors backing early-stage start-ups in renewable energy or education). » Offer financial incentives such as grants and subsidies for AI research and development activities (e.g. innovation grants for MSMEs developing AI-powered supply-chain tools). » Establish risk-sharing mechanisms (e.g. public-private partnerships) to reduce the financial risk for private investors funding AI ventures (e.g. government-backed guarantees for banks financing AI adoption in small enterprises).
	Facilitate funding for AI products, education and skill-development among all entrepreneurs.	» Provide subsidies or micro-loans at low interest rates to entrepreneurs or small businesses to cover a portion of the costs for AI training programmes or software/tooling support and access (e.g. loans to pay for cloud credits or AI training courses). » Offer financial incentives to entrepreneurs who invest in their own or their employees' AI education (e.g. co-financing short courses in digital marketing with AI, or coding bootcamps for MSMEs).
Promoting awareness and networking on AI	Increase awareness about AI value among entrepreneurs and consumers.	» Launch awareness campaigns to educate the public and business community, including vulnerable groups (e.g. clarification of regulations, hackathons, media campaigns showing how AI cuts cost and increases efficiency for small businesses). » Promote the use of AI and its benefits in government-led services and procurement (e.g. using AI in e-procurement platforms or digital customs clearance, publicizing results to build trust). » Offer business development services to help companies build customer trust by promoting ethical AI practices and clear communication (e.g. guidelines for MSMEs and start-ups explaining where AI is used in customer interactions, like chatbots or loan approvals, support in service agreements, intellectual property rights protection, fundraising, marketing etc.). » Launch public awareness and education campaigns to increase consumer understanding of AI technologies and their impact (e.g. explainer videos on how AI is used in services, or community workshops on digital safety).
	Strengthen networks among entrepreneurs.	» Create a peer-to-peer networking platform for AI entrepreneurs, enabling them to share insights, collaborate on projects, and learn from each other's experiences (e.g. (online) hubs in group settings where entrepreneurs share case studies or lessons learned).
	Showcase outstanding projects.	» Showcase successful AI businesses or use cases to spotlight practical and responsible applications of AI (e.g. exhibitions of MSMEs using AI (i.e. for crop monitoring, digital payments or smart logistics)). » Partner with AI firms to demonstrate the real-world impact of AI solutions on businesses and communities (e.g. pilot projects for cloud providers showcasing AI's role in health diagnostics).



Moving forward

AI is no longer a distant frontier, but a present force reshaping how businesses operate and grow. For entrepreneurs, MSMEs, and start-ups in developing countries, AI holds significant potential to not just catch up, but to leap ahead. It can enhance productivity, broaden access to finance and markets, and enable the creation of new business models. At the same time, realizing these opportunities requires a thoughtful and measured approach. National strategies and policies that are adaptive and context-specific play an important part, as they can create the conditions for a meaningful AI that aligns with national priorities, supports innovation and addresses risks in a balanced way. To ensure AI adoption is both inclusive and effective, this publication identifies four key priorities that pave the way forward:

1. **Targeted policy, tailored for impact** – In most cases, effective AI integration requires sector-specific regulations aligned with national development goals. A uniform approach can fall short, as each industry faces distinct challenges and opportunities, and enterprises of varying sizes have distinct needs. Adaptive regulation is essential to ensure AI fosters inclusive growth and drives innovation.
2. **Open platforms, open possibilities** - Open-source platforms along with collaborative initiatives can localize innovation by lowering barriers to AI adoption. They can enable entrepreneurs to develop AI solutions tailored to their specific contexts, particularly in resource-constrained environments. These ecosystems play a vital role in promoting inclusive AI adoption.
3. **Empower with skills, not just access** – For entrepreneurs, MSMEs, and start-ups, it is key that they are equipped with the capabilities to meaningfully participate in the digital economy and harness the benefits of AI. Tailored training initiatives can help bridge the gap between conceptual understanding and practical application, enabling these actors to unlock real value from AI technologies. This encompasses both strategic foresight and technical proficiency. Achieving this will require close collaboration among public institutions, training providers, academic institutions, the private sector, and entrepreneurs themselves to co-create and implement forward-looking AI education and skills development programmes.
4. **Funding that fuels innovation and competitiveness** - To help small businesses and start-ups embrace AI, it is important to improve access to financing while minimizing associated risks. This could include for instance small grants, guarantees, and targeted subsidies that help ease the financial burden of adopting new technologies. Providing financial support for AI-related training and essential tools can also play a critical role in enabling early adoption. In parallel, AI-driven platforms that connect start-ups with aligned investors can help accelerate fundraising and expand opportunities, particularly in underserved markets. Collectively, these measures can contribute to a more inclusive and widespread adoption of AI.



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