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Strengthening Young Africa's AI Skills

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Cover photo: Bethel, entrepreneur, Ethiopia
Photo by Adam Mengistu

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Executive summary

African youth are motivated to use AI but face several barriers. This report lays out how to overcome them, with a particular emphasis on supporting key AI skills.

Based on 332 interviews with youth, 20 expert interviews, and an extensive literature review, this study uncovered 12 key skills, from basic digital skills to context-specific applications, that define what inclusive, future-ready skilling means for African youth.

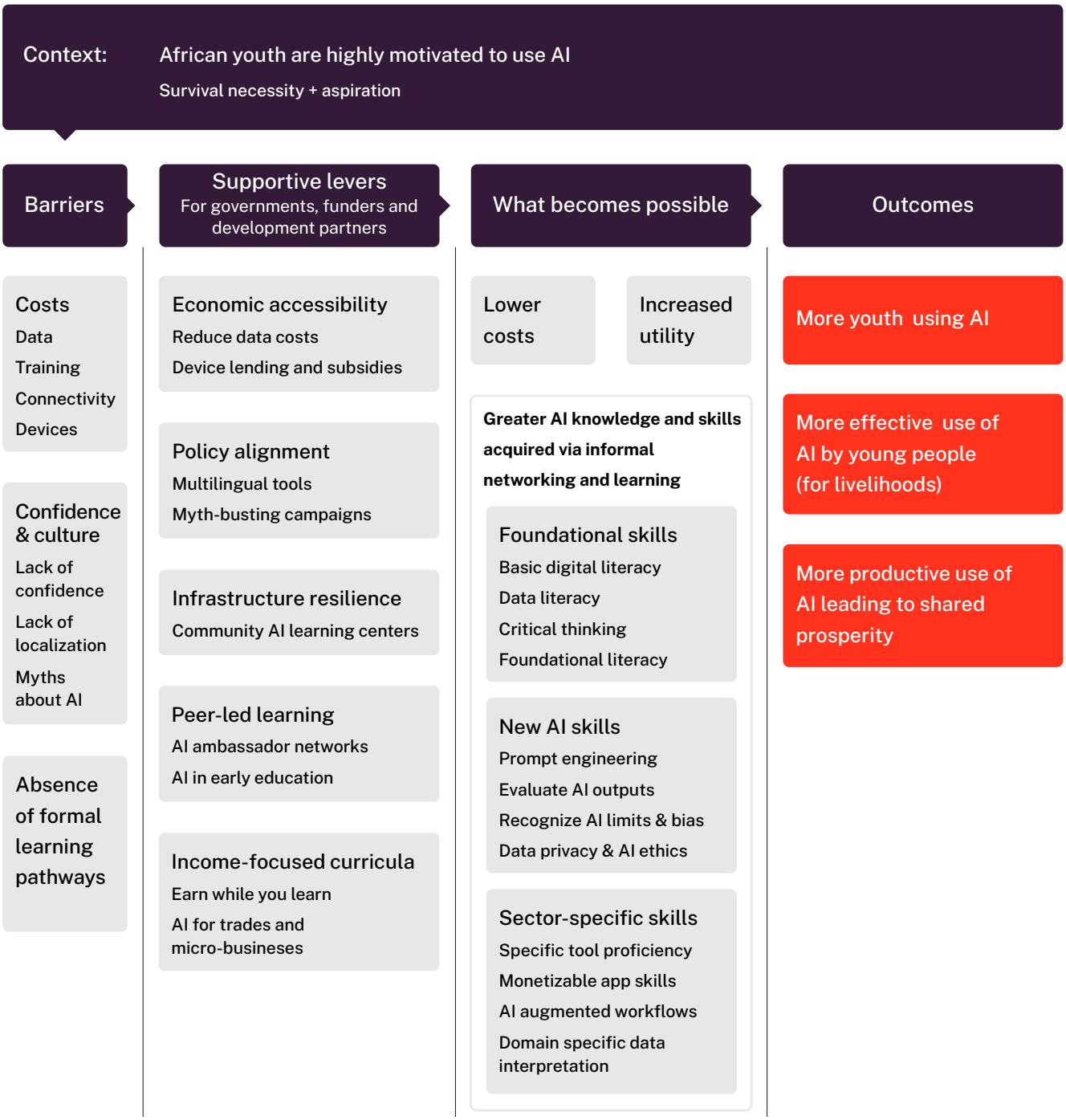
Foundational skills, like reading/writing, basic digital literacy, and critical thinking, are vital for engaging with AI. **AI-specific skills**, such as prompt creation, effective AI interaction, and understanding AI limitations, build on these foundations. **Sector-specific skills** (e.g., tool proficiency, managing AI-augmented workflows) are also necessary. The final meta-skill, **navigating informal learning pathways,** cuts across all skill groups.

But skills alone are not enough. Interviews underscore how cost and access present preexisting barriers to AI adoption. Drawing on the "effective use" framework,[1] the study proposes a theory of change that centers five key levers to support effective use of AI: economic accessibility, policy alignment, infrastructure resilience, peer-led learning, and income-focused curricula. These interventions can simultaneously overcome cost barriers and support the acquisition of skills that enable effective use of AI.

1 Warschauer, *Technology and Social Inclusion*; Gurstein, "Effective Use."

Change pathways for effective use of AI

FIGURE 1



Recommendations show how governmental, educational, development and private sector actors can support skills, address affordability, and improve effective use from a variety of angles.

Introduction

Artificial intelligence (AI) is reshaping work and learning across Africa.[2] The rapid spread and increasing uptake of AI across sectors, from agriculture and education to healthcare and micro-enterprises, presents an emerging AI skilling challenge in Africa.

Yet the global shift toward digital automation and AI adoption threatens to widen economic marginalization unless skills development keeps pace.[3] Without deliberate investment in human capacity, many workers and learners risk being left behind, unable to interpret or meaningfully apply the tools reshaping their sectors. Past skilling efforts have often concentrated on the technological elite, leaving many young Africans without relevant, context-specific pathways into the AI economy.[4] Intervention is therefore required to move beyond generic assumptions and to ground strategy in the lived experiences and authentic economic needs of youth.

2 Gikunda, "Empowering Africa: An In-Depth Exploration of the Adoption of Artificial Intelligence Across the Continent."

3 Ahmed et al., "How Significant Is Sub-Saharan Africa's Demographic Dividend for Its Future Growth and Poverty Reduction?"; ILO, *Changing Demand for Skills in Digital Economies and Societies*; Farahani and Ghasemi, "Artificial Intelligence and Inequality"; George, "Bracing for the Coming AI Tsunami."

4 Tamayo et al., "Reskilling in the Age of AI."

Anchored in the objectives of the Mastercard Foundation's Young Africa Works strategy, this study focuses on youth aged 15 to 35, those who stand to benefit most from inclusive, future-oriented skilling pathways that enhance both opportunity and resilience.[5] Two questions guided the study, aiming to translate insights from youth perspectives, expert knowledge, and published research into actionable, context-sensitive guidance for policymakers, donors, employers, and training providers:

Research questions

1. What skills do African youth need to pursue dignified and fulfilling livelihoods in the era of artificial intelligence?
2. How can policy and practice enable African youth to acquire those skills?

Rather than treating AI as a narrow technical tool, the study positions AI literacy as an "all-society" skill: a foundational capability that will influence everyday livelihoods, not only specialist careers. As such, the study concludes that **the future of AI in Africa will depend as much on skilled and empowered people as on technological infrastructure**.

> "Digital inclusion goes far beyond access to technology. It is about ensuring that the content is available in formats that are accessible to everyone, including people living with disabilities."
>
> **Tawfik Jelassi, UNESCO Assistant Director-General for Communication and Information[6]**

Pape, university student, Senegal
Photo by Carmen Yasmine Abd Ali

5 The Mastercard Foundation's Young Africa Works strategy seeks to enable 30 million young people across Africa to access dignified and fulfilling work by 2030, with a focus on young women, refugees and displaced persons, and people with disabilities.

6 G20, "UNESCO Offers Recommendations for Regulation and National Policies on AI."

Methods

The study combines three complementary evidence streams: a targeted literature review, key informant interviews with domain experts, and in-depth youth interviews that foreground firsthand narratives. Findings from these streams were triangulated to validate, nuance, or challenge prevailing assumptions about AI's labor impacts in African contexts.[7]

Youth interviews

Africa-based research partners AaretonBlue and Yazi supported fieldwork and participant recruitment. Their local networks, field teams, and language support were essential for reaching diverse youth cohorts and supporting culturally appropriate engagement.

The research partners conducted interviews with 332 young people (ages 15–35) across five sectors (education, healthcare, micro-enterprises, agriculture, and global business services) in seven countries (Ethiopia, Ghana, Kenya, Nigeria, Rwanda, Senegal, and Uganda).

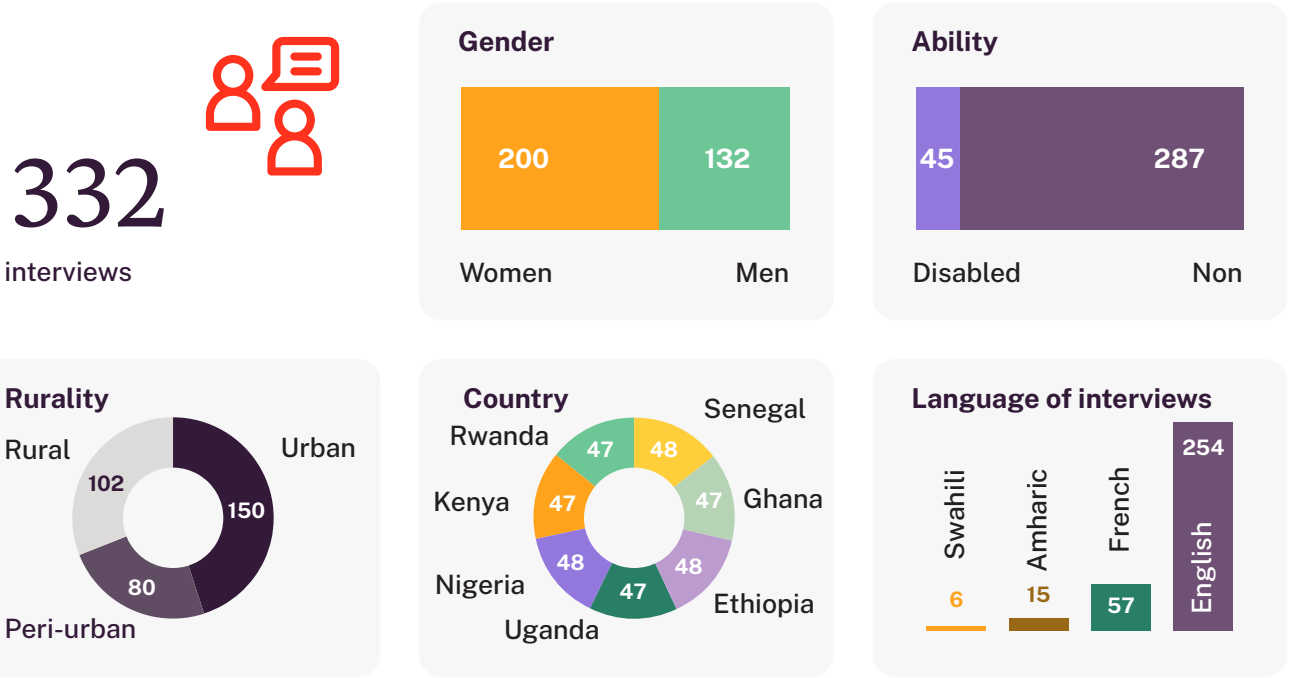
Purposive sampling methods prioritized gender diversity (targeting 60% women) and ensured the participation of marginalized groups, including those with disabilities and those living in rural and peri-urban areas. While the interview sample is diverse, it is not statistically representative of all young people, neither within the seven countries nor in Africa as a whole.

Interviews followed a semi-structured guide (45–60 minutes) covering background, work/learning context, digital/AI exposure, changing tasks, learning pathways, barriers, inclusion, and futures. Responses were transcribed, translated where necessary, and anonymized when appropriate.

7 Opperman, "Triangulation — A Methodological Discussion."

Participant demographics

FIGURE 2



Key informant interviews

Twenty experts, predominantly Africa-based and spanning government, private sector, civil society, and academia, provided programmatic and policy perspectives on how AI is changing skill demand, what delivery models are working, and what systemic enablers or barriers matter most. Interviews were semi-structured to surface pragmatic lessons and policy levers. See the appendix for detailed information on interviewees.

Literature review

A focused review (more than 100 sources across academic, policy, and practitioner literature) mapped global and African evidence on AI literacy frameworks, sectoral transformations, inclusion constraints, and learning pathways. The review informed interview instruments and framed cross-cutting and sector-specific themes for analysis.

Ethical considerations and data management

Informed consent (including consent to record) was obtained for all interviews. Transcripts were pseudonymized and stored securely; participants could opt for anonymity in published outputs. Special care was taken when reporting on vulnerable cohorts (women, persons with disabilities, rural youth) to avoid identifying details while preserving voice and nuance.

By centering youth voices, the study tests expert assumptions against reality, grounding recommendations in youth experience, especially from persons with disabilities and rural populations.

AI skills as foundational capabilities

The rapid development and deployment of AI technologies across sectors introduces both opportunities and challenges, and demonstrates the increasing importance of equipping young people with the necessary skills to thrive in an AI-driven future.

Artificial intelligence encompasses a variety of technologies, including machine learning and predictive models, and generative elements such as large language models, image generation, chatbot interfaces, natural language processing and translation, and agents. Impacts of AI are not limited to computer-related fields; they have spread to many other sectors, such as healthcare and education.[8] AI tools and systems are automating repetitive tasks, enhancing decision-making processes, and facilitating communication.

To effectively use even off-the-shelf generative AI tools, individuals need knowledge of such tools, the skills to utilize them, and the ability to translate their use into desired outcomes. Young people will need sufficient skills for basic interaction with AI technology. In other words, **AI literacy will become an "all-society" skill: a foundational capability that will influence everyday livelihoods, not only specialist careers**. This report uses the terms "skills," and "literacy" interchangeably, consistent with much of the literature. These terms can be distinguished in other contexts.

As AI technologies become more embedded in various aspects of life and work, AI literacy is thus becoming increasingly important. Consequently, a failure to acquire these skills could lead to significant societal and individual disadvantages, potentially exacerbating existing inequalities. Likewise, attention to the specific contexts of the African continent is vital when examining AI skilling, particularly as they are underrepresented in the literature theorizing AI skills and AI literacy.

8 Rashid and Kausik, "AI Revolutionizing Industries Worldwide."

High-level AI skills from literature review

FIGURE 3

DOMAIN	DEFINITION	SKILLS
Recognizing, understanding, and knowing[9]	• Comprehensive grasp of AI concepts, technologies, and implications	• Basic technical knowledge • Awareness of societal impacts • Recognizing AI use
Using and applying[10]	• Effective interaction with AI systems • Practical application of AI tools	• Identifying appropriate AI tools • Effectively applying AI tools • Translating use to desired outcomes
Monitoring and critically evaluating[11]	• Critical reflection on AI applications and assessment of their outputs	• Critical thinking • Questioning AI systems
Creating and innovating[12]	• Generating new knowledge using AI applications and tools	• Creativity and problem-solving • Agile thinking • Leveraging gen AI to enhance work • Career adaptability
Navigating ethically[13]	• Appreciating AI's ethical and societal implications • Adapting to AI impacts on work	• Ethical reasoning and judgement • Understanding societal consequences
Communicating and collaborating[14]	• Effectively communicating with AI systems and other users	• Interpersonal communication skills • Effective AI inputs

9 UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, *Understanding the Impact of Artificial Intelligence on Skills Development*; AI4D Africa, *Artificial Intelligence Capacity in Sub-Saharan Africa*; Ntsobi and Mwale, "Revolutionising Teaching and Learning Through AI: A Case Study of South Africa"; Milberg, "Why AI Literacy Is Now a Core Competency in Education."

10 UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, *Understanding the Impact of Artificial Intelligence on Skills Development*; OECD, *OECD Employment Outlook 2023*; Milberg, "Why AI Literacy Is Now a Core Competency in Education."

11 Huang, "Aims for Cultivating Students' Key Competencies Based on Artificial Intelligence Education in China"; OECD, *OECD Employment Outlook 2023*; Milberg, "Why AI Literacy Is Now a Core Competency in Education."

12 UNESCO, *AI and Education: A Guidance for Policymakers*; AI4D Africa, *Artificial Intelligence Capacity in Sub-Saharan Africa*; Abere, "The New World of Work: Emergence of New-Collar Skills in Africa."

13 Sey and Mudongo, "Case Studies on AI Skills Capacity Building and AI in Workforce Development in Africa"; AUDA-NEPAD, *AI for Africa: Artificial Intelligence for Africa's Socio-Economic Development*; OECD, *OECD Employment Outlook 2023*; Milberg, "Why AI Literacy Is Now a Core Competency in Education."

14 Huang, "Aims for Cultivating Students' Key Competencies Based on Artificial Intelligence Education in China"; Basheer, "Artificial Intelligence and Robotics Towards the Evolution of Sustainable Graduate Employability Ecosystem"; Chee et al., "A Competency Framework for AI Literacy"; Milberg, "Why AI Literacy Is Now a Core Competency in Education."

AI skills in Young Africa

New AI skills are emerging

Four AI-specific skills emerged from the triangulation. Youth identified the first two through direct experience. Experts and literature surfaced the latter two as critical gaps youth interviewees did not describe.

Interacting effectively with AI

Youth described learning how to get useful answers from AI tools: phrasing questions clearly, adding context, troubleshooting when outputs miss the mark, and crafting prompts that produce better results. Together these proficiencies fall under the broader skill of knowing how to interact with AI systems to get what you need.

In interviews, experts confirm this is foundational AI literacy, not an advanced skill. The ability to elicit reliable, task-relevant outputs from AI belongs in basic training.[15]To meet this skilling need, youth employ "trial and error," experimenting to determine "*how to input questions into AI and receive usable answers*."

15 UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, *Understanding the Impact of Artificial Intelligence on Skills Development*.

Generative AI tools, particularly OpenAI's ChatGPT, function as a gateway, serving as the primary entry point for AI exposure. The platform's success stems from its immediate utility, mobile-friendliness, and capacity to offer a successful free entry point, which is critical for youth facing financial constraints, that enables repeated "trial and error."

> "I use ChatGPT not just for quick answers, but as a sounding board to structure my writing, explore opposing arguments, or practice for interviews."
>
> **Sasha, job-seeking student, Rwanda**

Beyond generative tools, a practical catalog of daily AI use exists: personalized recommendation tools (YouTube, Netflix, Spotify) are used universally for entertainment and self-learning, and Google Translate is a staple for communication. However, there is a significant gap between youth's high awareness of general consumer-facing tools and low awareness of specialized, industry-specific applications, such as those used in agtech or healthcare diagnostics, indicating a critical skilling opportunity.

Geleta, farmer, Ethiopia
Photo by Adam Mengistu

Critically evaluating AI outputs

A second AI skill youth identified is knowing when not to trust AI recommendations. Users need to question outputs, check plausibility against local knowledge, and flag inconsistent results.

For example, Hello Tractor uses AI for agricultural advisory services. But, as CEO Jehiel Oliver explained, farmers don't directly interact with the AI because "*the accuracy is not high enough*." Instead, trained support teams review AI recommendations before passing advice to farmers, as developing a more accurate model is prohibitively expensive.

Inaccurate AI outputs carry high stakes in low-resource environments. A wrong fertilizer recommendation can ruin a harvest. Skilling should include how to use an AI tool *and* how to critically engage with its outputs and understand its limitations, how to spot signs of low accuracy or bias, and how to apply simple verification steps before acting on machine-generated guidance.

Understanding AI limitations and bias

AI models reflect their training data. If that data is not fair or representative, outputs can be systematically wrong for different communities. Many off-the-shelf tools are trained on Western datasets and may deliver unreliable or inappropriate recommendations in African settings.[16] Literature and expert interviews consistently emphasize data bias, privacy, ownership, and the need for governance strategies.

Yet many young people do not currently demand training on bias or data governance. Instead, interviewees expressed cultural anxieties about AI, describing it as "*demonic*" or worrying it makes them *"not good academically."*

The disconnect between experts' assessments and youths' perspectives show the need for myth-busting and awareness-raising before introducing technical bias concepts. Community-level education is essential. Users need locally tailored guidance on what AI can and cannot do, simple checks for spotting questionable outputs, and avenues for seeking human verification.

Skilling programs should combine accessible explanations of dataset limits, teachable checks for bias and plausibility, and modules on data rights so learners can protect themselves and hold providers accountable.

16 Mateen, "Can AI Improve Health Care Delivery in Africa?"; Dennison et al., "Designing Culturally Aligned AI Systems for Social Good in Non-Western Contexts"; African Union Development Agency, *AI and the Future of Work in Africa White Paper*.

Protecting data privacy and ethically using AI

Protecting personal privacy and exercising control over data are essential. Practical training should teach learners how to minimize data footprints, interpret consent forms, and make informed choices about what data to share and with whom. Data availability, security, and governance determine whether AI can be used safely and locally.

Data ownership matters equally. Learners should grasp who owns the inputs they produce, how aggregated data can be monetized or reused, and what rights communities have to retain control or demand redress.

Ethical reasoning appears across AI literacy frameworks, but it needs to be taught as a practical skill. Learners should be able to weigh trade-offs, identify privacy risks, and apply simple governance steps (disclosure, opt-outs, grievance channels) when using AI tools.

But new AI skills require foundational skills

AI skills are a qualitative leap[17] from traditional digital skills, requiring individuals to grapple with the implications of intelligent systems. But multiple experts indicated that the primary bottleneck for AI skilling is not the complexity of AI itself, but a lack of more basic skills, both digital and non-digital. Thus training initiatives should address fundamental and foundational skills before introducing more advanced AI skills.

Foundational literacy

Failing to address foundational skills and barriers to AI use will directly impede advanced AI skilling initiatives. The AI skilling challenge, at its core, a digital and basic literacy challenge.

Foundational literacy facilitates meaningful access to AI tools. Without language-appropriate interfaces and content, users cannot engage with or trust outputs. Even when devices and connectivity exist, tools trained and documented in dominant global languages exclude non-literate and non-English speakers.

17 As a “qualitative leap” AI literacy is a step-change from traditional digital skills. It requires new conceptual understandings, evaluative judgement, and supervisory abilities, not merely upgraded technical know-how.

> “I suggest creating country-specific AIs by building the capacity of Ethiopian citizens, developing Ethiopian coders, and working with highly experienced professionals in the area.”
>
> **Selam, commercial farmer, Ethiopia**

Practical responses include local-language user interfaces and voice interfaces, participatory development of localized datasets and examples, support for community content creators, and basic literacy programs (reading, writing, and digital navigation) integrated into AI-skilling pathways. These steps can expand access and improve the reliability and cultural relevance of AI outputs for decision-making.

Basic digital literacy

AI skills build upon and extend digital literacy, the ability to “identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others.”[18] Particularly significant for AI skilling, digital literacy merges technical skills with “an understanding of the role humans play in questioning, challenging and therefore shaping the techno-social system.”[19] Emphasizing this human-centric perspective is vital, as AI’s often opaque nature necessitates deep engagement.

> “Basic digital literacy, including how to use a browser and computer, is fundamental before building more AI-specific skills like prompt engineering and using different AI models.”
>
> **Habib Houndekindo, datocracy**

Many AI-enabled workflows remain out of reach for those who lack device familiarity, confidence, or stable connectivity. Numerous respondents could not access or practice with AI tools because they lacked basic digital skills: using a web browser, navigating the internet, managing files and applications, setting up email or online accounts, and performing simple searches or installations. All of these are prerequisites for engaging meaningfully with AI platforms.

18 Martin, “Digital Literacy and the ‘Digital Society.’”
19 Pangrazio, “Reconceptualising Critical Digital Literacy.”

Data literacy

Data literacy is a practical, outcome-oriented skill. For example, farmers must be able to read and interpret data visualizations, spot meaningful trends, and draw actionable conclusions from AI outputs. They don't need to become data scientists. But they do need the judgment to translate dashboards and charts into farm-management decisions: recognizing when a moisture map indicates a need for irrigation, or when yield projections warrant changing planting density.

> "For me to build a strong foundation in AI, I need to learn basic concepts that can help me to understand it and how it works, then I will understand its full potential."
>
> **Mirembe, teacher, Uganda**

Framing data literacy as "enabling data-driven decisions" can keep training focused and applied. Teachable heuristics, simple interpretation rules, and context-specific examples work better on the ground than abstract statistics. By embedding these skills alongside domain knowledge, AI outputs are more likely to augment rather than replace expertise.

Critical thinking and problem-solving

Critical thinking and problem-solving consistently appear on employer wish lists, and practitioners repeatedly emphasize these as foundational for productive AI use. In AI-augmented work, these skills matter because workers handle edge scenarios where models provide incomplete, ambiguous, or misleading outputs.

> "[There is] a hyperfocus on maths and science, but we're not really giving them the arts. We're not really letting them engage in creative expression because we're saying that they need to focus on math, science, and STEM."
>
> **Ronda Zelezny-Green, datocracy**

Workers must interpret model suggestions, identify contradictions with domain knowledge, reformulate tasks or prompts, and design fallback actions when automation fails. Training should foreground problem-based learning, scenario practice, and reflective troubleshooting as core strands alongside technical prompt and tool skills.

> "Critical skills for using AI for productivity—such as communication and critical thinking—are, in fact, non-digital."
>
> **Alex Twinomugisha, World Bank**

AI skills play out in context of sector-specific skills

Monetizable application skills

In interviews, young people frequently framed AI learning in explicitly economic terms. They want to know "*how to make money online*" in their chosen vocations and how to convert new skills directly into purchasing power.

> "There is often a misalignment between program reports and the actual feedback from young people who have participated in skilling programs. We need to be wary of over-promising job creation without consistent income delivery. You cannot say 'I'm going to create 100,000 jobs' and yet you've not been able to give 10 people a consistent source of income."
>
> **Frida Mwangi, Kenya Union of Gig Workers**

Skilling initiatives can address this concern through project-based, earn-while-you-learn pathways that teach applied, monetizable behaviors: building client-ready portfolios, running digital-marketing and content-creation campaigns, automating entrepreneurial workflows, and using AI for pricing and market research.

These practical skills create an entrepreneurial multiplier effect. By boosting efficiency, creativity, and client reach, AI tools can amplify existing trades rather than only creating specialist technical jobs. Training that foregrounds short, task-focused projects with immediate income opportunities aligns skilling with young people's emphasis on monetizable skills, making AI practice more likely to translate into sustained economic benefit.

> "Some of these tools are not known, or the relevance is not seen. Some are paid. So, unless you have seen a clear link to your career goal, you won't bother using it."
>
> **Ndoli, event entrepreneur, Rwanda**

Managing AI-augmented workflows

For many urban and service-sector workers, the next phase of employability lies in mastering AI-assisted workflows rather than competing with automation. Workers in these roles increasingly act as "humans in the loop," providing judgment, quality assurance, and contextual interpretation in systems that blend human oversight with machine efficiency.

In global business services (GBS) organizations, staff review and correct model outputs, manage conversational assistants, and handle complex or ambiguous edge cases where automation fails. Similarly, professionals in marketing, administration, and logistics now coordinate AI tools that generate drafts, insights, or recommendations. These tasks require critical verification and contextual adaptation.

Effective skilling means training youth to manage hybrid workflows: sequencing human and machine tasks, validating outputs, and maintaining accountability for final decisions.

Sector-specific tool proficiency and data interpretation

Without direct links to their specific sectors and vocations, youth are unlikely to pursue AI skilling. The desire for relevant skilling is closely connected to the survival necessity described by many interviewees.

> "AI is yet to become a practical part of my daily work. I struggle to see direct, everyday applications for AI in my DJ work."
>
> **Leon, DJ, Kenya**

> "I still have a gap in using the technology; I haven't acquired AI for farming yet ... I need to learn about farming-related AI applications so that I can be more productive."
>
> **Werku, rural farmer, Ethiopia**

Across sectors, workers increasingly need to interpret AI-generated data and translate it into domain-specific action. These skills bridge the gap between output and real-world practice. Rather than treating AI results as final answers, users must learn to contextualize, validate, and act on them through a combination of domain expertise and critical reasoning. Skilling programs should therefore pair technical training on data dashboards and visualization tools with sector-based scenarios that simulate real decision contexts.

Education

Teachers and trainers need to understand how to use AI for lesson planning, adaptive learning systems, assessment design, and administrative automation, while maintaining ethical oversight and promoting students' critical and creative engagement with AI tools.

AI is transforming education worldwide by enabling personalized instruction, automating tasks, and generating new learning experiences. AI-powered tools, from intelligent tutoring systems to automated assessment engines, are giving educators real-time data on student learning and creating adaptive curricula.[20] AI is putting powerful learning tools directly into students' hands, but also changing what they need to learn.

> "To me, AI is like a teacher, the teacher that is above the teacher."
>
> **Patience, rural teacher, Nigeria**

Young learners, even those in rural areas, can now access interactive AI tutors via mobile phones or tablets.[21] African students also benefit from global AI-powered resources. South Africa's Siyavula uses AI to generate math and science problems at the right level, reaching over 1.5 million students by 2024.[22] Global massive open online courses (MOOCs) like Coursera and edX use AI through recommendation algorithms to suggest relevant courses, and adaptive games and simulations teach coding, languages, and science in engaging ways.

Technologies like speech-to-text, automatic translation, and assistive AI are making content more accessible for students with disabilities and different language backgrounds. Even educational television and radio programs are becoming "smarter." For example, Tanzanian NGO Ubongo uses AI to analyze viewership data and optimize its educational media for maximal impact.

At the same time, students need to be taught how to use AI responsibly. Curricula worldwide are beginning to include AI literacy, building critical thinking about AI outputs, ethical reasoning about data use, and creativity in working with AI. In short, AI can make learners active participants in personalized education, but they should also develop the human skills (judgment, empathy, ethics) to navigate an AI-rich learning environment.

The education sector is slow in responding to AI-driven change. Formal curricula and accreditation processes take time to update. Teacher professional development rarely includes hands-on AI tool training.

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20 Rizvi, "Investigating AI-Powered Tutoring Systems that Adapt to Individual Student Needs, Providing Personalized Guidance and Assessments"; Murana, "Smart Curriculum Design: Using AI to Identify and Address Skill Gaps in Existing Curricula."

21 Wakiaga and Waweru-Mwangi, "Embracing AI in Education"; Zhang and Leong, "Transforming Rural and Underserved Schools with AI-Powered Education Solutions."

22 iAfrica, "Revolutionizing Education."

Procurement and data-governance policies discourage rapid classroom experimentation. Institutional incentives favor established textbook-and exam-based approaches over project-based, tech-enabled pedagogy. Schools and training providers struggle to translate emerging AI capabilities into classroom practice, leaving students without timely exposure to tool-based, skills-focused learning. Some young people's preference for platforms like YouTube and TikTok is directly linked to the critique experts made in interviews that university computer labs are often literal "*museums*" and that curricula are too slow to keep pace with innovation, rendering them "*irrelevant*."

Faster curriculum revision cycles, sustained in-service teacher development in AI-literate pedagogy, flexible procurement and sandboxing arrangements for edtech pilots, and assessment reforms that value demonstrable skills and project portfolios over summative exams. are approaches that could narrow this gap. Policymakers should focus on radical investment in foundational access (infrastructure, devices, reliable power) as a national development imperative, coupled with reform of curricula to integrate AI literacy across all disciplines. Despite advances, risks remain. Data privacy, algorithmic bias, and the digital divide pose real challenges, particularly in Africa's diverse contexts. Experts therefore call for new policies, ethical frameworks, and literacy initiatives so that AI is more likely to empower learners and teachers rather than exacerbate inequalities.[23]

Across all levels, educators emphasize that teaching AI skills should go hand in hand with human values. Instructors should model and instill empathy, ethics, and creativity as core skills. Emerging AI literacy frameworks stress creative collaboration with AI and social responsibility in design. Preparing learners for an AI world means blending technical fluency, with adaptability and moral agency so that African students can both use AI tools and shape their future in an inclusive way.[24]

Global business services

In GBS, workers will encounter AI-driven productivity augmentation, changing entry requirements, and redefinition of job responsibilities.

Industry projections foresee "transformative changes," as up to 50% of tasks are susceptible to automation in entry-level and GBS roles.[25] Anxieties about job displacement are real. GBS workers are already experiencing the effects of AI in daily tasks and in performance management.

23 UNESCO, *AI Competency Framework for Teachers*.

24 Cobo et al., *100 Student Voices on AI and Education*.

25 Caribou and Genesis Analytics, *Preparing for AI in the BPO and ITES Sector in Africa*.

> “Nobody is there to monitor your activities, [but] everything is being monitored. So it [AI] is something that provides supervision or surveillance.”
>
> **Victor, BPO worker, Nigeria**

Rather than displacing all workers in GBS, AI will likely augment many job responsibilities and may create additional human-in-the-loop roles. These new entry-level and mid-skill positions will increasingly require foundational AI literacy, proficiency with workflow and collaboration tools, critical thinking, and attention to quality control.

> “AI has had a minimal impact on the data annotation sector, as human input is still crucial for training AI models and handling ‘edge scenarios,’ despite disruptions in other sectors … as the primary role of BPO operators in this space involves training AI models rather than using AI directly in their day-to-day operations.”
>
> **Kelvin Njuguna, Impact Sourcing**

While they have the potential to provide employment in the face of the effects of AI, human-in-the-loop roles present their own challenges. Content moderation, an often-cited example of such roles, has had serious negative effects on workers.[26] In tandem with skilling, regulators should work to ensure the dignity and safety of these new roles.

To meet the shifting GBS environment, youth need workplace readiness programs that combine technical instruction with applied practice: simulated task environments, internships, and supervised on-the-job learning. Skills-based pathways that assess and certify specific skills demonstrated through real work outputs (rather than academic credentials) can bridge the gap between classroom learning and the practical demands of AI-augmented work environments.

In sectors like GBS, women are frequently concentrated in lower-skilled, routine service tasks, have greater care responsibilities, and face hiring biases. They risk being underrepresented in newly upskilled, higher-value roles unless programs proactively remove barriers to their participation: flexible training schedules, mentorship, targeted recruitment, and childcare or stipend supports. The AI transition offers a policy window for targeted upskilling and mentorship. Deliberate interventions can reduce unequal displacement and promote gender-equitable occupational mobility.

26 Gebrekidan, “Content Moderation.”

Agriculture

Agriculturalists need the ability to interpret AI-driven insights from soil sensors, weather forecasts, and pest-detection tools to guide planting schedules and input use.

The agricultural sector, traditionally characterized by manual labor and empirical knowledge, is undergoing a profound transformation driven by the rapid integration of AI.[27] For farmers and agricultural professionals to effectively apply advanced AI tools, they need drastically different core skills than those of "traditional" farming: they should become proficient in interpreting and acting upon complex data, managing sophisticated technologies, and making strategic decisions based on AI-generated insights.

While promising enhanced efficiency and sustainability, AI also introduces complex socio-technical challenges. Without appropriate frameworks, these technologies carry the risk of further isolating farmers instead of connecting them within broader digital ecosystems. Ethical concerns regarding data privacy, data ownership, and the potential for AI to widen the gap between farmers and technology companies also remain. Data bias, where unfair or non-diverse data used to train AI systems, can lead to inaccurate or detrimental outcomes, also requires proactive attention.

> "Learning AI is a matter of survival. For anything I want to do, I use my AI. I use it almost every day of my life now."
>
> **Aisha, smallholder farmer and food trader, Nigeria**

A truly future-ready agricultural workforce would possess technical proficiency along with ethical literacy to navigate these complexities, advocate for fair practices, and work toward AI as an empowering tool for all, rather than a source of dependency or exclusion. Comprehensive skilling initiatives should include both practical application and the capacity to critically evaluate, govern, and shape AI's responsible deployment within the agricultural context. Farmers need hands-on skills with AI-enabled drones, soil and weather sensors, precision-agriculture platforms and decision-support apps (for example, PlantVillage-style pest management systems). Rural farmers' hyper-practical needs (seeking help to "scare away crickets") demonstrate that AI solutions should be tailored to low-tech environments, support local languages, and address specific local educational contexts.

27 Elbasi et al., "Artificial Intelligence Technology in the Agricultural Sector."

Jehiel Oliver (CEO, Hello Tractor) observed that highly accurate AI advisory models remain costly to develop and operate at scale. Many deployments in low-resource agricultural settings rely on lower-accuracy models combined with human customer-support teams. This accuracy-cost trade-off creates ethical risks. Low accuracy or lack of human oversight can produce harmful or costly advice. Recommending the wrong input timing, inappropriate pesticide use, or mis-specified fertilizer rates can lead to crop loss or financial damage.

Responsibility for erroneous AI recommendations often shifts from technology providers and platform operators to end users, who are least equipped to verify or contest such errors. This accountability gap requires clear governance frameworks, transparent disclaimers, and user training that helps farmers understand the limits of algorithmic advice and know when to seek human verification. Integrating ethical reasoning throughout agricultural AI skilling reduces harm, clarifies accountability, and complements investments in model quality and deployment resources.

Healthcare

Workers should be able to read algorithmic diagnostic outputs and responsibly integrate them into patient care without overreliance on automation.

Public health initiatives are beginning to include basic AI education (e.g., community workshops on digital health) to promote benefits of telemedicine and AI-driven prevention programs. As the use of AI increases, equity and context remain important considerations. Many AI tools are trained on "Western, educated, industrialized, rich, and democratic" (WEIRD) data, so patients in African settings need community-level education on these tools' limitations.[28] If left unaddressed, reliance on models trained on WEIRD datasets can cause clinically significant errors — misdiagnoses, inappropriate or harmful treatment recommendations, and missed detection of locally prevalent conditions — thereby worsening patient outcomes and deepening health inequities; skilling is therefore essential so health workers can critically appraise, adapt, and safely integrate AI outputs into local care pathways.

> "These [AI diagnostic] tools are really helpful, especially when you have just entered into the health profession....when you face a condition that is really so hard to make a clinical applications, you put in the clinical presentation, signs, and symptoms, and then this app will give you possible diagnoses.
>
> **Dembe, healthcare worker, Uganda**

28 Mateen, "Can AI Improve Health Care Delivery in Africa?"

Globally, new "AI in healthcare" academic programs and certifications are emerging to build this workforce.[29] In Africa, experts call for an increase in data science capacity by, for example, funding bioinformatics and computational biology training and by creating industry internships.[30]

Training should follow a tiered model: foundational literacy for all, advanced courses for specialists. Programs should be highly contextualized, using local data and case studies to work toward AI tools that are safe, effective, and free of bias in African healthcare settings.

Micro-entrepreneurs

For entrepreneurs, understanding AI-generated business analytics (customer segmentation, pricing suggestions, sales forecasts) means knowing what AI outputs mean for day-to-day decision-making.

Micro-entrepreneurs (artisans, traders, informal service providers, creatives, and micro-business owners) face distinct, high-impact needs: applied AI for business growth (digital marketing, pricing, and inventory tools), low-data/offline workflows, short-form visual training, and targeted measures to lower subscription/data costs and time barriers so skilling translates into immediate income gains. Addressing these needs is central to broad, inclusive economic resilience.

> "I don't know AI well ... but if it helps me grow my business, I want to learn."
>
> **Khalil, rural entrepreneur, Senegal**

AI seems to be having a particularly strong impact on the entrepreneurial sector.[31] While AI offers immense potential for entrepreneurial progress, its benefits are not automatically distributed equitably. It may inadvertently deepen existing social and economic inequalities or create new ones. Benefits of AI tend to accrue to those who already possess advantages, such as access to advanced education, digital resources, and financial capital.[32] Proactive and strategic interventions are therefore essential to foster equitable development and access to AI's advantages.

Across all sectors, effective learning opportunities blend domain knowledge (agronomy, call-center operations, small-business management, clinical practice) with practical, tool-level training, plus ethical and data-literacy modules to augment, not replace, local expertise.

29 Maqbool et al., "Education and Training for Developing Responsible AI Solutions in Healthcare."
30 Owoyemi et al., "Artificial Intelligence for Healthcare in Africa."
31 Moșteanu, "Thriving in the Entrepreneurial Landscape of Sustainability and Intelligent Automation Era."
32 Khoza, "Empowering Female Entrepreneurs in Underprivileged Communities through AI."

Meta-skill: Navigating informal pathways

African youth have not waited for formal institutions to adapt to the AI skilling challenge. Instead, they have created successful, parallel learning ecosystems to meet their immediate, practical skill needs. Navigating these informal learning pathways is an important meta-skill that cuts across foundational skills, emerging AI skills, and sector-specific skills.

Participants were clear about where they had learned about AI. They described relying heavily on informal channels and peer networks to build and update their AI skills. Lacking affordable or locally relevant formal training, they turn to self-directed learning on platforms such as YouTube, TikTok, and open online communities, where tutorials, tool demonstrations, and peer discussions provide immediate, low-cost access to emerging techniques.

Sasha, job-seeking student, Rwanda
Photo by Alain Paul Uwimana

Learning pathways for young people are overwhelmingly informal and peer-led. This unstructured environment acts as a de facto AI education system, one driven by personal curiosity and immediate needs. Youth consistently cited friends and peers as their primary initial learning source or catalyst for adoption.

> “Some of my friends started using AI before me. They introduced me to these tools. After that, I installed the applications and continued using them. Now, I can even teach others how to use them, how to input questions into AI and receive answers. ... I believe that anyone can find a platform that can teach them about AI or digital technology online as long as they are interested. Alternatively, they can ask friends about AI, who can provide information, like what I did. After getting some information from friends, they can proceed to expand their knowledge by using search engines.”
>
> **Werku, rural farmer, Ethiopia**

Interviewees consistently preferred short video tutorials delivered via high-traffic platforms like YouTube and TikTok over lengthy, text-heavy courses. This preference is partly driven by the need to minimize data consumption, a necessity arising from cost barriers.

They face challenges in learning how to find, vet, and verify the quality of these resources, to distinguish credible content from misinformation. Peer networks can serve as informal quality-assurance systems, helping learners test ideas, troubleshoot tools, and share contextually relevant hacks. Peers function not only as trusted introducers but also as a crucial, accessible safeguard against scams and misinformation, providing a natural mechanism for quality assurance that formal institutions often lack.

Effective AI skilling initiatives should recognize and integrate these informal pathways: credentialing micro-learning achievements, supporting community mentors, and embedding digital curation and critical-evaluation modules within training programs.

SYNTHESIS

Skills for the AI era

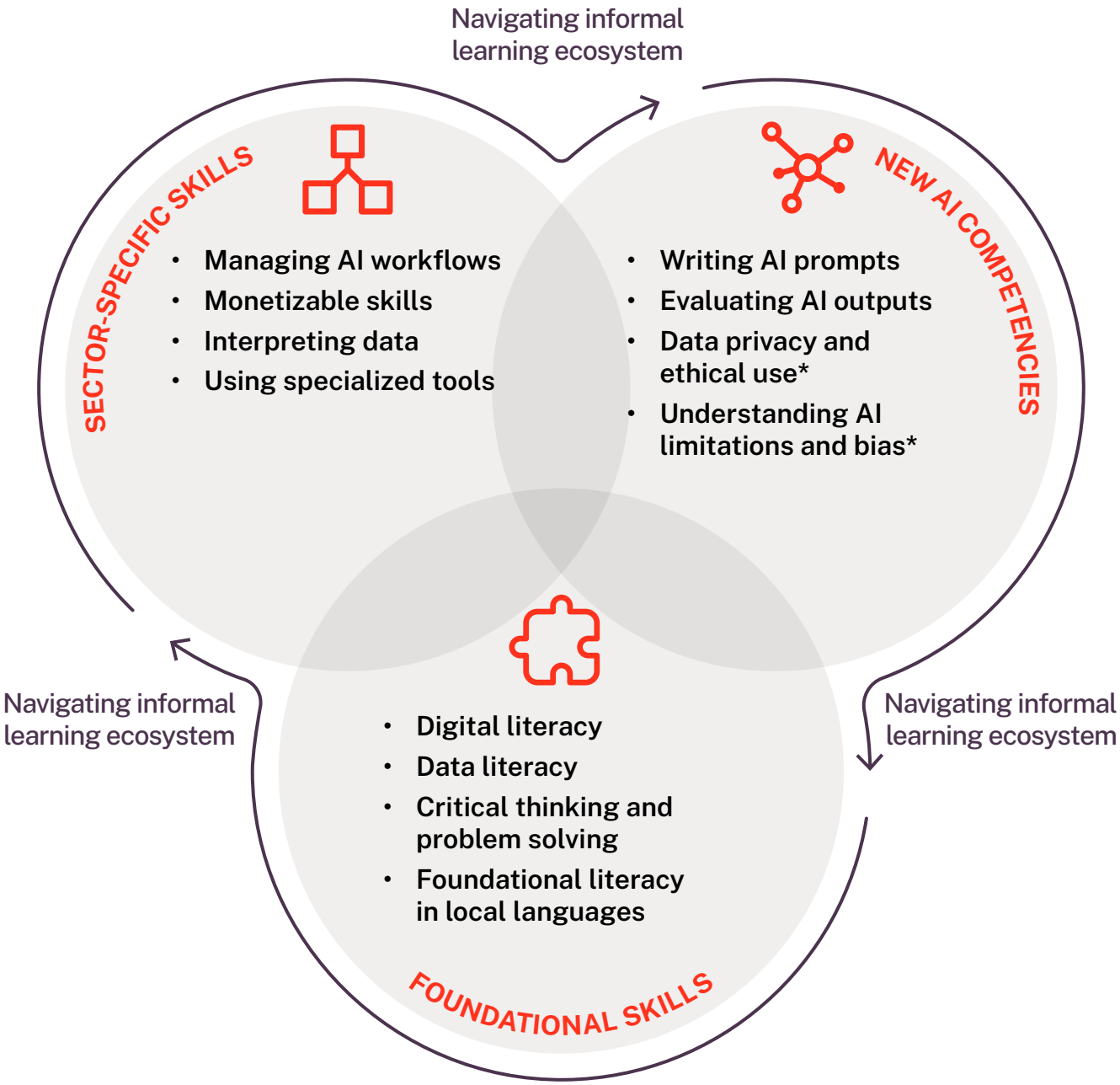
Youth, experts, and literature converge on one finding: AI adoption is economic survival, not a luxury. Young Africans will need AI skills to compete and thrive academically and professionally.

There is no single "AI skill." Young people need several new skills. But these skills depend on foundational digital and non-digital skills, on sector-specific experience, and on infrastructural support. Together, these 12 skills represent what young people need to use AI effectively.

Monalisa, entrepreneur, Nigeria
Photo by Taiwo Aina

Skills for the AI era

FIGURE 3



Young people are already motivated to pursue the skills they need to use AI effectively in their work and in their lives. Despite several barriers, youth are adopting AI tools organically. ChatGPT dominates as the entry point to AI because it's functional and mobile-friendly, and offers a free tier. Practicality matters more than abstract interest: **youth use what works**.

> "I use ChatGPT, each and every pleasant day of my life. I don't know what I can do without ChatGPT. Because of my line of work, I have to be constantly updated on what is going on in the duty space and also how I can improve. So, because of that, I'm always looking forward to learning new things and knowing what is going on so that I can be able to adjust to it."
>
> **Gifty, creative, Ghana**

Young people across sectors and digital familiarity expressed a desire for efficiency and simplification, rooted in the observation that AI "*eases effort and saves time*." They describe two powerful, distinct motivations for learning AI skills.

Survival necessity drives immediate adoption

High usage rates among interviewees confirm that survival necessity, the belief that they must learn to use AI or be "left behind," drives immediate adoption. Many young people view AI skills as essential to preserve or recover income and academic progress in the face of scarce opportunities, so they engage with whatever learning pathway yields the fastest economic return.

> "I fear that if I am not updated with AI and my line of work upgrades, I will be left behind."
>
> **Uwase, rural health worker, Rwanda**

Aspirational mobility drives sustained engagement

Many young people want upward social and professional mobility: better, higher-status jobs; entrepreneurship and business growth; recognized credentials and career pathways; and the ability to shape future opportunities for themselves and their communities. This aspiration explains why many learners pursue longer-term, portfolio-building activities and peer-led advanced learning even when immediate returns are uncertain.

Where formal institutions fail to provide laddered, affordable pathways, youth create informal alternatives (peer networks, online tutorials, and project portfolios).

Jjuuko, BPO worker, Uganda
Photo by Jjumba Martin

> “First of all, I want to build wealth. But I want to build it through something I love to do.”
>
> **Gifty, creative, Ghana**

Motivations for AI use are explicitly economic

Most participants prioritize monetization-focused learning, seeking skills that directly translate to “*how to make money online*” or increased “*purchasing power*.”

> “With regards to mastering the use of farming-specific AI, I mainly think about earning more money. I believe that using farming AI will help me increase my income, and I can use that money to support my parents and family.”
>
> **Werku, rural farmer, Ethiopia**

But the positive impacts of AI depend heavily on existing economic or educational standing. AI acts as an accelerator for those already engaged in formal work or higher education. Participants in lower-income brackets often reported “not yet” or “no” when asked if AI has changed their core economic activities. This pattern suggests that, **without policy specifically targeting foundational skills and infrastructural barriers, current AI usage may exacerbate existing systemic exclusion and inequality, rather than alleviating it.**

What is effective use?

As the preceding sections suggest, what is at stake here reaches well beyond adoption or skills. The pattern that emerges from the evidence is a familiar one to researchers of technology and inequality, who have long argued that access on its own rarely changes outcomes.[33] Whether framed as the second-level digital divide, as social inclusion, or as the gap between what a technology offers and what it actually amplifies, a consistent finding recurs: access yields benefit only when skills, resources, and social support come together to let people put technologies to work in ways that materially improve their position. Gurstein's account of "effective use" offers a sharp articulation of this idea, and it is the formulation we adopt here and carry through the rest of the paper.

Effective use means more than access. It requires and reflects sustained, productive engagement that generates livelihoods and supports economic resilience.

> "ICTs when used effectively provide significant resources/tools for transforming one's condition—economic, social, political, cultural—whether through obtaining the means for effective use of information and communications capabilities and tools; reaching new markets for small and micro-enterprises; providing the means to bring together dispersed linguistic communities; giving amplification and global voice to unheard minorities (or majorities); for facilitating informed participation in remotely managed political and other decisions; and, for obtaining the interactive services (if remotely) of skilled practitioners.
>
> The key element in all of this is not 'access' either to infrastructure or end user terminals (bridging the hardware 'divide'). Rather what is significant is having access and then with that access having the knowledge, skills, and supportive organizational and social structures to make effective use of that access and that e-technology to enable social and community objectives."
>
> **Michael Gurstein, "Effective Use: A Community Informatics Strategy beyond the Digital Divide"**

33 See, among others, Hargittai on the second-level divide; Warschauer on technology and social inclusion; van Dijk on differential access and appropriation; Tichenor and colleagues on the knowledge gap; and Toyama on technology as an amplifier of existing capacity; Hargittai, "Second-Level Digital Divide: Differences in People's Online Skills"; Tichenor et al., "Mass Media Flow and Differential Growth in Knowledge"; Toyama, *Geek Heresy*; van Dijk, *The Deepening Divide*; Warschauer, *Technology and Social Inclusion*.

Barriers to effective use of AI

For many African youth, AI is moving from a theoretical concept toward practical, daily reality, driven by an urgent need for economic advancement and efficiency. But barriers prevent them from translating motivation into sustained, effective use: infrastructural obstacles, cultural and accessibility barriers, and the absence of formal learning pathways.

Infrastructural barriers

Despite frequently high intrinsic motivation, deeper engagement and sustained mastery of AI skills are undermined by interconnected infrastructural constraints: cost, connectivity, and device limitations.

Triangulation across sources also reveals a critical divergence. While experts emphasize foundational skill gaps and outdated infrastructure, youth identify a different barrier: the recurring cost of mobile data. Even free training becomes unsustainable when learners can't afford to practice.

Financial constraints

Pervasive financial constraints are the most significant barrier across countries and sectors. This financial hurdle is multifaceted. The high costs of data remain an obstacle. Training courses are unaffordable (some Ghanaian courses cost GHS 12,800 to 30,000, roughly US$1,200 to 2,700). Subscription fees for advanced AI features limit sustained skill development.

Even if initial training programs are offered free of charge, recurring expenses of using AI, like data consumption and access to premium features required for professional work, renders sustained mastery economically unviable for those without financial resources. Cost barriers can also cause detrimental behavioral changes that may have negative effects and reduce the quality and continuity of learning.

> “Because the data packages are usually less expensive during the night, I usually do the research work at night. [I] try to use the midnight bundle.”
>
> **Maud, university student, Ghana**

Costs not directly associated with skilling (data, premium tools, devices) act as a passive filter, excluding the very marginalized groups that skilling interventions are designed to support. Resources spent on initial training programs become ineffective because recipients cannot afford the continuous practice required for mastery, undermining return on investment for public and donor skilling investments.

> “Regarding inclusive AI skilling in Africa, there is the need to adopt universal design principles for programming and provide full-throated support for people with differences, including specific programming targeting certain groups. There is also the need for better outreach to people not in the middle class in these countries, as current programs often disproportionately benefit those who are already relatively well off. The decline in international development funding has made helping marginalized groups less of a priority in relation to inclusive AI skilling. In this regard, targeted investments are crucial for historically excluded groups, as their participation is often questioned by those already established in the field.”
>
> **Ronda Zelezny-Green, datocracy**

Connectivity gaps

Poor or unstable internet connectivity disrupts online learning and reliable work, particularly in rural and peri-urban areas.

> “My farm doesn’t really have access to internet connection most of the time because the farm is at a very remote place.”
>
> **Winfred, farmer, Ghana**

Lack of devices

Many young people lack adequate devices, such as personal laptops or reliable smartphones. They describe frequently relying on shared devices, which limits reliable access for practice and sustained engagement with educational materials.

> “Using AI requires having digital devices, such as smartphones and computers. Moreover, you must also have a strong internet, otherwise it becomes challenging.”
>
> **Sano, micro-entrepreneur, Rwanda**

Rurality: A compounding factor

For rural youth, geographic isolation compounds all three cost barriers. Connectivity is poor in rural areas, driving up costs of limited data. High data costs prevent device ownership, which restricts practice and access to non-localized tools. This self-reinforcing cycle confirms that piecemeal approaches to upskilling funding (such as funding training alone, without device provision or subsidizing data costs) will fail to achieve inclusive outcomes.

> “The key learning barriers for me include weak internet, high device costs, and the lack of localized training.”
>
> **Dawit, commercial farmer, Ethiopia**

Cultural and accessibility barriers

Exclusion is not only material. It is also psychological and linguistic, requiring solutions that are culturally sensitive and socially aware.

Youth interviews revealed the important role peer support via digital platforms plays in providing psychological benefits for vulnerable groups, notably persons with disabilities. Accessibility, in the context of AI skilling, goes beyond material interventions (e.g., screen readers) to encompass mental well-being and confidence-building. Digital inclusion requires protecting non-discriminatory learning environments.

While AI tools have the potential to increase accessibility for those with disabilities, this potential will remain limited if skilling itself is not accessible.

> "With one hand, everything—from note-taking to device use—takes more time and effort. I need AI tools to meet me halfway: accessible, affordable, explained in simple terms."
>
> **Pape, university student, Senegal**

> "Provisions are not made to make these trainings accessible to persons with disabilities."
>
> **Gideon, BPO worker with visual disability, Ghana**

Localization is a critical structural consideration for accessibility. Many essential AI tools use foreign languages, predominantly English, rendering them practically inaccessible without translation. To be effective, AI skilling should center localization.

Interviewees also described mental and emotional barriers to AI use. In particular, economic anxiety and the fear of "*unemployment because AI can replace people*" echoed across sectors. Youth also related cultural anxieties, such as abstract fears that AI might become "*demonic*" or the misconception that using AI makes one "*not be good academically*."

Conceptualizations of AI vary widely among interviewees, with differences based on digital maturity and practical engagement. Those with low digital literacy view AI as an abstract technological force that "*makes things even easier*" or as a "*machine with a brain*." For youth

more familiar with digital tools, AI is a functional, tool-specific reality, a powerful "*platform that can provide answers to almost anything we input*."

This dual nature requires two distinct intervention tracks: one focused on economic assurance and tangible career transition pathways, and one focused on culturally sensitive, literacy-based myth-busting campaigns that explicitly reframe AI as a collaborator rather than a replacement.

Absence of formal learning pathways

African youth have not waited for formal institutions to adapt; they have created successful, parallel learning ecosystems to meet their immediate, practical skill needs.

Youth reliance on peer networks shows how the absence of formal learning pathways remains an obstacle to AI skills development. Institutions are failing to keep pace with technological changes due to AI. Youth demonstrate a strong desire to learn, coupled with a widespread feeling of being "left behind" by more technologically advanced peers.

In response, African youth are actively bypassing slow-moving formal structures. They prefer rapid, accessible learning formats, like short video tutorials delivered via high-traffic platforms like YouTube and TikTok. These preferences are driven by learning style preference and by the necessity to minimize data consumption due to costs.

> "I first encountered AI through TikTok reels showing some people's creative abilities. I now actively learn through online platforms like TikTok and farming groups on Facebook."
>
> **Peter, rural farmer, Kenya**

> “Given how closely people interact with technology, it would be beneficial for community role models to actively discuss AI and demonstrate its practical applications.”
>
> **Bethel, business owner, Ethiopia**

Without strong mentorship structures, youth face paralysis in the face of changes wrought by AI. A significant proportion cited “*not knowing where to start*” as a key barrier to engaging with AI. Youth do not lack motivation to learn. They face an absence of structured entry points.

Addressing these barriers to support AI skills development and, by extension, effective use of AI calls for the involvement of a variety of ecosystem actors. The following section presents five specific change levers within a theory of change to target these barriers, and provides recommendations for actors in government and policy, education, and the development sector.

Leon, DJ, Kenya
Photo by Joseph Collins Akula

A theory of change to support the effective use of AI

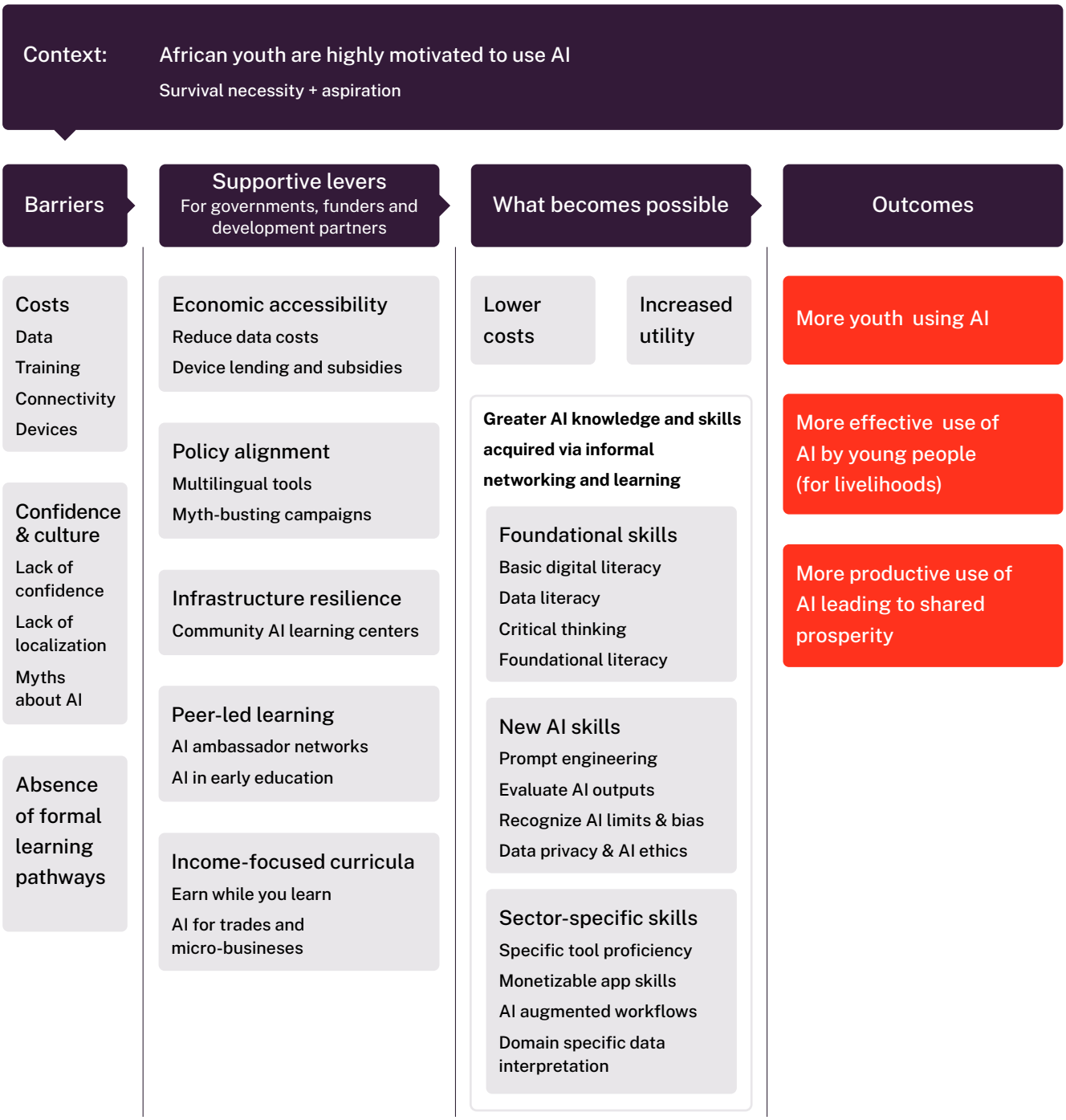
Governments, funders, and development partners can address barriers to effective use through five supportive levers. These interventions can lower costs and increase utility, enabling three key outcomes for Africa's youth: more *widespread* use of AI by young people, more *effective* use of AI by young people (for livelihoods), and more *productive* use of AI, leading to shared prosperity.

Change levers

Many barriers cut across sectors. Others present different obstacles for farmers, healthcare workers, entrepreneurs, educators, and GBS workers. These potential interventions for each sector illustrate the multiple possibilities for implementing this theory of change.

Change pathways for effective use of AI

FIGURE 4



LEVER 1

Economic accessibility

Recurring operational costs remain a core challenge for many of Africa's youth. Cost barriers make long-term AI mastery economically impossible for low-income users, creating the most immediate friction point for sustained use.

Education: Zero-rate learning platforms and educational AI content. Negotiate compute vouchers and student API tiers with providers for verified learners and community labs.

GBS: Support API education credits and compute sandboxes for BPO workers to practice AI-augmented workflow tools without bearing personal data costs.

Agriculture: Fund device lending and affordable purchase schemes for rural farmers. Explore institutional subscriptions for agricultural extension offices to provide subsidized compute access.

Healthcare: Fund institutional licenses for clinics and community health worker networks to access AI diagnostic platforms at subsidized rates.

MSEs: Reduce subscription and data costs through zero-rating of verified AI platforms. Provide compute vouchers so micro-entrepreneurs can access premium AI tools for pricing, inventory, and marketing.

LEVER 2

Infrastructure resilience

Mobile-first and offline-capable content design support learning under limited data conditions.

Education: Update school computer labs with current computing resources. Encourage edtech platforms implement low-bandwidth tools to support students in rural areas.

GBS: Modernize training infrastructure in BPO hubs with current computing equipment. Support offline and low-bandwidth fallback modes for AI workflow tools used in service delivery.

Agriculture: Community AI learning centers in rural areas with shared devices, reliable connectivity, and offline-capable tools would align to low-tech farming environments.

Healthcare: Explore offline-capable health AI tools and mobile-first design so CHWs in rural clinics can access diagnostic support and telehealth platforms despite unreliable connectivity.

MSEs: Expand mobile-first, offline-capable training content so micro-entrepreneurs can learn and practice AI tools during connectivity gaps common in peri-urban areas.

LEVER 3

Peer-led learning

Without effective formal mentorship, youth rely on informal networks. Programs can address this mentorship gap by building on existing peer learning patterns.

Education: Integrate AI exposure earlier in school curricula through peer-led learning models. Train teachers as AI literacy mentors so students learn critical engagement with AI tools from trusted educators.

GBS: Formalize on-the-job learning and supervised peer mentorship in BPO environments so workers can build AI-augmented workflow skills alongside experienced colleagues.

Agriculture: Build on the "champion farmer" model by training certified AI ambassador networks in agricultural communities.[34] Use existing communication channels (e.g., WhatsApp, Telegram) to share localized farming tips, pest-detection tool guidance, and AI advisory reviews.

Healthcare: Build peer learning cohorts among CHWs and nurses to share practical experience interpreting AI diagnostic outputs. Integrate AI literacy into in-service training through tiered, mentor-led models.

MSEs: Support peer mentor networks for micro-entrepreneurs, operating through high-traffic mobile platforms. Certify community mentors to guide artisans and traders through applied AI tool use.

LEVER 4

Income-focused curricula

Ministries of education responsible for vocational and technical education should redesign curricula to align with youth monetization focus and urgent demand for job-specific gains.

Education: Redesign vocational and technical curricula to align with monetizable AI skills. Adopt project-based, skill-first pathways that value portfolios rather than degree-completion.

GBS: Redesign BPO curricula around human-in-the-loop skills: output verification, edge-case judgment, and AI-assisted quality control. Certify skills through demonstrated work outputs, not academic credentials. Support work-based learning.[35]

34 Bikketi et al., *Championing Gender in Agricultural Services in Kenya*; ISSD Africa, "Exploring the 'Champion Farmer Business Model' for More Inclusive Seed Delivery."

35 Thapa, "Development of Employability Skills through Work-Based Learning."

Agriculture: Embed AI tools for inventory management, pricing optimization, and visual crop diagnostics directly into vocational agriculture training. Link learning to measurable yield and income improvements.

Healthcare: Design tiered health AI training with foundational literacy for all practitioners and advanced diagnostic courses for specialists. Anchor outcomes to clinical skills, not course completion. Increase data science capacity through industry internships.[36]

MSEs: Promote earn-while-you-learn programs teaching digital marketing, content creation, and business automation. Build client-ready portfolios that translate skills into immediate purchasing power.

LEVER 5

Policy alignment and localization

Systemic policy support can reduce language barriers and address pervasive anxieties about AI adoption.

Education: Reform assessment policy to value demonstrable AI skills and project portfolios. Accelerate curriculum revision cycles and create sandboxing arrangements for edtech pilots to keep pace with AI-driven change.

GBS: Establish national skilling alliances to align BPO industry training with AI workforce demand. Create policy frameworks that recognize skills-based credentials for AI-augmented roles and protect workers in new human-in-the-loop roles.

Agriculture: Expand localization of AI tools to include local langagues (e.g., Amharic, Swahili) and support local-language advisory platforms for farmers. Establish governance frameworks clarifying accountability for erroneous AI recommendations.

Healthcare: Develop nationally coordinated health AI governance frameworks. Integrate contextually appropriate training data and bias checks into AI diagnostic tools for African healthcare settings. Expand datasets to include local data.[37]

MSEs: Launch myth-busting campaigns using local role models to demystify AI for informal sector workers. Develop multilingual tools to overcome language access gaps for non-English-speaking traders and artisans.

36 Owoyemi et al., "Artificial Intelligence for Healthcare in Africa."

37 Dennison et al., "Designing Culturally Aligned AI Systems For Social Good in Non-Western Contexts"; Mihalcea et al., "Why AI Is WEIRD and Shouldn't Be This Way."

Effective use for women

Women face distinct obstacles to and effects of AI use. AI skilling, regardless of sector, should recognize and account for women's unique experiences in order to support effective use.

- As they are more likely to balance home responsibilities with work responsibilities, women describe using AI to save time and offload some tasks.

> "With educational AI, for example, we don't have to always go in person for lectures. We use this online. So I can be at home and join in a class session. And with generative AI, [I] use it a lot in my research and assignments. It's really helpful. And it makes work easier and faster actually; it saves me a lot of time."
>
> **Grace, healthcare worker, Ghana**

To meet this interest, skilling initiatives should frame AI in terms of workflow design, rather than abstract literacy.

- In interviews, women described pursuing AI skilling not because of interest in the technology but to support income resilience and diversification.

> "Artificial intelligence is the future. Especially for those of us who work with social networks. A certain mastery of these AIs is necessary to survive."
>
> **Aïda, entrepreneur, Senegal**

Skilling focusing on improving income and efficiency, or diversifying income streams, will resonate with these interests.

- Beyond access to AI tools, women expressed desire for mentorship and guided learning.

> "So maybe somebody could help and take me through. I don't know much about it [AI]. So I'm still learning. So I believe with the help of somebody who is an expert at it, I will be better."
>
> **Jael, entrepreneur, Ghana**

Alongside supporting informal learning channels, AI skilling that is scaffolded and supported by role-model mentors can support skills acquisition for women.

Effective use for persons with disabilities

To promote effective use of AI for persons with disabilities, access needs should be acknowledged and addressed.

- For PwDs, affordability and access constraints are *compounding*. If assistive tools are expensive and income opportunities are constrained, then practice becomes structurally difficult. Skilling investments need practice support (e.g., data/device subsidies, accessible tool licensing), not just training sessions.
- Without accessible training AI use remains limited for PwDs.

> "I have not really been able to use it to the fullest ability due to my eyesight constraint."
>
> **Gideon, BPO worker with visual disability, Ghana**

Inclusion must go beyond recruitment. AI skilling should be designed with accessibility in mind from the beginning, planning *who* will make training accessible (employers, training providers, government programs, donors), and *how* (standards, budgets, procurement requirements, accessible formats, accommodations).

- AI can increase independence and reduce reliance on human intermediaries, if systems and skilling are accessible.

> "AI has made work so much simpler for me because things or prompts that I used to ask people to read out to my hearing, I can have my recorders do just that for me. So I have become more self-sufficient."
>
> **Gideon, BPO worker with visual disability, Ghana**

Beyond employment and productivity, independence and self-sufficiency metrics should be considered in AI skilling initiatives.

Recommendations

The theory of change integrates youth motivations and barriers expressed in interviews into broad pathways from current realities to desired outcomes. Alongside these recommendations for ecosystem actors, this section includes case studies of existing AI skilling initiatives as models for implementing the change levers.

For policymakers and governmental actors

Given the rapid uptake of AI and its potential impacts, policymakers should take a proactive rather than reactive approach.[38] Relying solely on reactive skilling — training individuals only after job displacement or significant skill gaps have emerged — would prove insufficient given the systemic and long-term nature of the AI transformation. National AI strategies and similar frameworks can support this proactive stance.

38 Wong, "Artificial Intelligence and Job Automation"; Arias Ortiz et al., *AI and Education*.

Safeguarding rights

AI literacy extends beyond economic or educational policy; it is linked to democratic participation and the safeguarding of individual rights.[39] When national strategies advocate for providing basic AI education to all citizens, emphasizing critical and responsible thinking about choices, rights, and privileges in the context of AI's societal impact, they are addressing core tenets of democratic citizenship. Informing individuals on how to protect their privacy and control their own data and decisions directly supports personal autonomy and civic engagement. Consequently, national AI literacy initiatives are essential for preserving and enhancing democratic participation and human rights, elevating AI literacy to a civic necessity.

Prioritizing foundational access

Implement policies that recognize reliable power, affordable broadband, and up-to-date devices as a component of national development. Zero-rated learning platforms and content can reduce mobile-data costs for verified learning portals and local mirrors of course content.

A number of mechanisms could be used to expand access to compute, including: creating compute vouchers/API education credits; financing regional self-hosted LLMs; providing institutional subscriptions for universities, training centers, public libraries, and agricultural extension offices; and instituting "public compute" reserves to underwrite experimentation and learning at scale.

Developing robust regulatory environments and governance frameworks

Appropriate regulatory frameworks are essential for providing clear guidelines, such as oversight mechanisms, and addressing critical considerations like ethical concerns in AI application. Establishing clear legal and governance frameworks is key to safeguarding learners while simultaneously fostering the responsible adoption of AI in educational settings.

The governance challenge extends to proactive ecosystem stewardship: guiding development, setting standards, ensuring ethical use, driving data infrastructure development, fostering collaboration through public-private partnerships, and investing in national AI institutes.[40] Proactive stewardship is essential for maximizing AI's benefits while effectively mitigating its risks.

39 Berendt et al., "AI in Education."

40 Seleke and Teis, "Bridging the Digital Divide."

Establishing and coordinating national AI organizations

A strategic approach to facilitating AI skills and policy development, and coordinating a national AI innovation ecosystem, could involve strengthening or establishing national AI institutes. Such institutes serve as hubs for expertise, research, and policy guidance. A high-level, multi-stakeholder body can coordinate and align all AI skilling efforts across government, academia, and industry, thereby addressing the observed lack of coordination and duplication of efforts.

CASE STUDY

Centre for Artificial Intelligence Research

South Africa LEVER 5 • POLICY ALIGNMENT AND LOCALIZATION

The Centre for Artificial Intelligence Research (CAIR) is a national research network conducting foundational, directed, and applied research across various AI domains, including AI for Cybersecurity and AI for Development. CAIR employs a "hub-and-spoke" model, with a central research group at the University of Cape Town and other teams distributed across several other institutions. Funded by the national Department of Science and Education, CAIR has an explicit mandate to support societal interactions with AI and expand access to AI tools across the country.

Exploring innovative mechanisms

To address global skill gaps, particularly to enable African workers to fill these gaps, national strategies could explore innovative mechanisms such as the creation of a "global skills market," analogous to the global energy market, to facilitate international mobility, demand-driven skilling, and dignified global export work.

Reframing international labor mobility in this way suggests a more structured, reciprocal, and potentially beneficial exchange than traditional notions of "brain drain." Like an energy market, a skills market involves a dynamic interplay of supply and demand, potentially leading to increased remittances, valuable knowledge transfer back to home countries, and specialized training that benefits the originating nation in the long run through "brain circulation."

Promoting data availability, security, and responsible management

AI solutions, particularly those focused on analytics, rely heavily on the availability of data.[41] However, in many low- and middle-income countries (LMICs), this data is often not consistently collected or readily available for secure, anonymous use.[42] Developing technical capacity for the management and storage of data, both for training AI programs and for the data generated by AI applications, is critical. In light of AI, data is a foundational resource[43] and a strategic national asset.

Information security management is equally crucial, especially given that optimal AI models often operate in the cloud, necessitating the transmission of information outside national borders. Clear standards for data sharing should be established to facilitate safe and secure use. As AI raises significant concerns regarding student data security, algorithmic bias, and transparency, thus ethical considerations and data privacy should be prioritized.

Consequently, national AI strategies, particularly in LMICs, should prioritize comprehensive data governance and infrastructure development. This includes investing in robust data collection systems, ensuring data quality, establishing clear privacy and security protocols, and developing technical capacity for data management. Without addressing this data deficit, even well-intentioned AI skilling programs may struggle to translate into educational and societal benefits.

41 Yusuf, "Trends, Opportunities, and Challenges of Artificial Intelligence in Elementary Education."

42 Abdul-Rahman et al., "Inaccessibility and Low Maintenance of Medical Data Archive in Low-Middle Income Countries."

43 Aamodt and Nygård, "Different Roles and Mutual Dependencies of Data, Information, and Knowledge."

CASE STUDY

Africa Declaration on Artificial Intelligence

African Union

LEVER 1 • ECONOMIC ACCESSIBILITY

LEVER 2 • INFRASTRUCTURE RESILIENCE

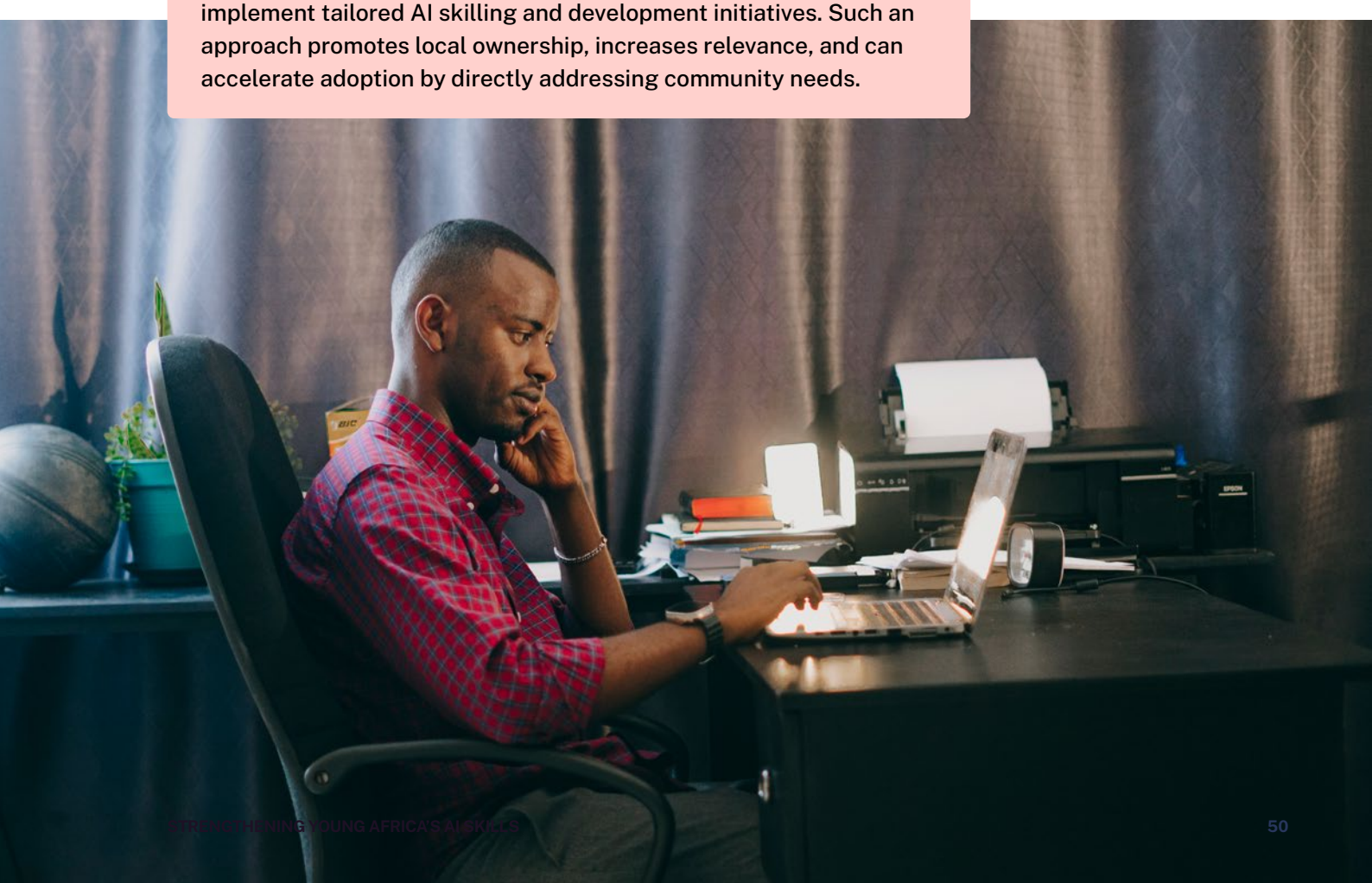
LEVER 5 • POLICY ALIGNMENT AND LOCALIZATION

The Africa Declaration on Artificial Intelligence aims to achieve a 15% AI literacy target by 2026, which translates to equipping 200 million youth with foundational AI skills. This continent-wide strategy is anchored in decentralized collaboration, cultural relevance, and systemic equity, acknowledging the continent's diverse stages of development, literacy rates, and language disparities.

Regional AI innovation hubs will co-design localized curricula with governments, startups, and universities, while public-private partnerships will reduce data costs and direct funds toward local procurement and training African engineers. The plan tailors AI literacy to grassroots realities, particularly by emphasizing linguistic localization, and amplifies regional strengths.

In this model, national governments can act as facilitators and coordinators, providing overarching frameworks and resources, while empowering regional and local entities to co-design and implement tailored AI skilling and development initiatives. Such an approach promotes local ownership, increases relevance, and can accelerate adoption by directly addressing community needs.

Ndoli, event entrepreneur, Rwanda
Photo by Alain Paul Uwimana



For development actors

Donor organizations and foundations, with their capacity for strategic funding, technical assistance, and convening power, play an indispensable role in catalyzing initiatives, bridging critical funding gaps, and fostering collaborative ecosystems.[44] Their engagement is crucial for developing robust frameworks for training programs, supporting essential infrastructure, and influencing policy to create an enabling environment for skill acquisition and employment.

Targeting funding for infrastructure and access

Some investment should continue to be directed towards initiatives that directly address the foundational barriers of internet access, reliable power, and personal computing devices. Supporting community-based digital hubs, establishing solar-powered learning centers, implementing programs for affordable device distribution, and advocating for national broadband expansion all aim to address infrastructural barriers. Such foundational support is critical for enabling widespread digital skill acquisition.

CASE STUDY

Qhala Digital Economy County Centers of Excellence

Kenya

LEVER 1 • ECONOMIC ACCESSIBILITY

LEVER 2 • INFRASTRUCTURE RESILIENCE

Digital innovation company Qhala, in partnership with county governments and other organizations, adopts a holistic approach to AI skilling through its centers of excellence. These “one-stop shops” offer comprehensive training in data science, software engineering, AI, and AWS Cloud Practitioner certification.

Beyond instruction, they provide essential infrastructure, including internet-connected computers and co-working spaces, and crucial job placement services. These centers are designed to prepare the next generation of professionals for an AI-integrated future, offering vital insights for policymakers, the private sector, and development partners by directly addressing profound changes in job structures and skill requirements.

44 McDonough and Rodríguez, “How Donors Support Civil Society as Government Accountability Advocates.”

Supporting research to fill knowledge gaps

Skills acquisition in Africa is still "very much unexplored territory," with a significant need for further research in this area.[45] This general lack of comprehensive understanding extends to effective methodologies, contextual factors, and scalable models for skill development across the continent. Additionally, while research on AI as it relates to skilling is increasing, significant questions remain unexplored.[46] Without a precise understanding of what AI skills encompass and what their actual impact is, it is difficult to design effective training programs, measure success, or convince actors (governments, corporations, and youth) of their inherent value.

This knowledge gap can lead to misdirected investments and a lack of coherent strategy in skill development, creating an environment of uncertainty that hinders progress. Therefore, any interventions should consider not only the delivery of training but also the fundamental work of defining and validating the concept of AI skills through rigorous research and pilot programs. This foundational work is critical for achieving long-term strategic impact.

Fostering ecosystemic collaboration

Actively facilitating and funding multi-stakeholder platforms and initiatives that bring together government, the private sector, academia, and civil society is crucial for co-creating solutions for AI skilling. This involves supporting innovation challenges, hackathons, and regular forums for dialogue and strategic alignment, supporting coordinated efforts that maximize benefits across the entire ecosystem.

Supporting curriculum development and educator training

Donors should fund programs that enable African universities and vocational training institutions to update their curricula to align with current and future market demands for AI skills. This involves providing grants for curriculum redesign, offering comprehensive training for educators in emerging technologies and modern pedagogies, and fostering strong industry-academia partnerships for curriculum co-creation.

45 Abere, "The New World of Work: Emergence of New-Collar Skills in Africa"; Obeki and Diamond, "Entrepreneurship and Skills Acquisition Disparities in Emerging and Established Continents."

46 OECD, *OECD Employment Outlook 2023*.

Incubating apprenticeship and internship programs

Providing seed funding and technical assistance can encourage multinational corporations and local enterprises to establish or expand apprenticeship and internship programs. This can include co-funding stipends, developing standardized program frameworks, and facilitating matchmaking between companies and skilled youth, thereby directly bridging the education-to-employability gap and providing practical experience.

Advocating for supportive government policies and digital transformation

Donors should actively engage with African governments to advocate for policies that create an enabling environment for digital transformation and AI skills acquisition. This includes supporting regulatory reforms that facilitate ease of doing business in the tech sector, advocating for increased investment in national digital infrastructure, and assisting in the development of comprehensive national digital agendas that prioritize skills development.

Supporting interest and motivation in skill acquisition, beyond traditional STEM pathways

Skilling initiatives should be designed and funded to prioritize intrinsic interest and motivation over strict academic prerequisites, recognizing that while a STEM background can be an advantage, it is not always a requirement. This involves supporting accessible, project-based learning models, workshops, and mentorship programs that can ignite passion and demonstrate the practical application of AI skills to a broader demographic, including those from non-STEM backgrounds.

Updating monitoring and evaluation practices

Young people's explicit drive for economic empowerment aligns with experts' recommendation to prioritize longer-term outcomes, such as consistent income and sustained paid engagement, rather than narrow process metrics like certificate counts. Monitoring and evaluation practices can support AI skills acquisition by taking a longer-frame view in selecting evaluation metrics.

For educational institutions and organizations

AI has initiated a transformation of global labor markets, and thus a reevaluation of educational and skilling paradigms. Across various regions, skilling systems and traditional educational institutions are struggling to match the accelerated rate of change in labor market demands, underscoring the urgent need for dynamic reskilling and upskilling initiatives.

African universities are beginning to offer AI programs and research (e.g., AI-driven innovation hubs in Kenya and Nigeria). Some Technical and Vocational Education and Training (TVET) institutions have integrated flexible learning pathways and AI into their programs, but many have yet to formulate meaningful or robust responses to the changes occurring in the AI era.[47] It is imperative for these institutions, regardless of their specific context, to comprehend the current and future importance of AI and to begin incorporating AI into their development and planning processes. Proactive and, where possible, preemptive action will position learners to thrive in the AI era.

Leveraging informal learning networks

Young people in Africa are already learning about AI in informal, peer-led, mobile-first ways and are intensely focused on monetizable outcomes. The rise of new learning pathways, such as short visual content on high-traffic platforms, peer mentoring, and earn-while-you-learn behaviors, is practical architecture educational actors should draw on, not replace.

Emphasizing foundational skills

Higher education institutions should also emphasize fundamental skills (e.g., strong math, statistics, critical thinking) so that graduates can design, manage, or collaborate with AI systems. Beyond specific AI courses, training curricula across all job families should be adapted to emphasize skills that are resilient to disruption, such as critical thinking, creativity, and emotional intelligence, which remain in high demand across various sectors.

47 UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, *Understanding the Impact of Artificial Intelligence on Skills Development*; Olabiyi and Chinedu, "The Convergence of Technology and Vocational Pedagogy and Artificial Intelligence for Driving Transformation and Creating a Sustainable Workforce."

Integrating AI skills for learners of all stages

Integrate AI literacy across curricula from K-12 through higher education and lifelong learning, emphasizing both fundamental technical understanding and the critical socio-ethical implications of AI.

- For **primary and secondary students**, this analysis shows how AI skills are relevant across subjects. Curricula might introduce foundational concepts (simple algorithms, data bias) alongside digital citizenship. integrated into all subjects. Younger students should learn to recognize AI in everyday tools (e.g., search engines, translation, personalization algorithms) and to critically evaluate AI outputs.[48]
- **Students in universities and colleges** can build advanced AI skills through interdisciplinary study (e.g., AI in healthcare, agriculture, policy). Higher education institutions should also emphasize fundamental skills so that graduates can design, manage, or collaborate with AI systems.
- Because a large share of future workforce skills will change rapidly, **adult education, professional training, and lifelong learning** are also vital for AI skilling. Micro-credentials and stackable certifications are promising; educators worldwide suggest redesigning credentialing so short courses in AI skills can be "stacked" into degrees or diplomas. Continuous upskilling with flexible programs and recognition of new credentials will be essential for societies to keep pace with AI-driven change.

CASE STUDY

Moringa School

Kenya **LEVER 4 • INCOME-FOCUSED CURRICULA**

Moringa School has offered tech training and boot camps in a variety of topics since 2014. Training is available for recent high school graduates, university students, and professionals. Along with data science and software engineering basics, Moringa offers training in generative AI and AI-based workflow automation. The school focuses on project-based learning and offers careers services for students.

48 UNDP, *A Matter of Choice: People and Possibilities in the Age of AI*.

Updating curricula and programs

Effective AI skilling requires developing "AI-native" curricula that embed AI concepts, tools, and ethical considerations across educational levels and disciplines, fostering a holistic understanding and application of AI.[49] Regular curriculum review and design processes should incorporate sourcing and integrating AI tools into both administrative functions and classroom practice. Such efforts should be accompanied by the recruitment of new staff and significant investments in educators' professional development.

Empowering teachers and educators

Continuous professional development for educators should equip them with the digital and pedagogical skills to use AI tools, critically question their outputs, and foster critical AI literacy in their students. With this support, teachers can effectively guide the next generation in an AI-driven world.

Fostering industry partnerships

Partnerships with industry can align curricula with workplace needs[50] and meet young people's desire for concrete connections between skilling programs and their careers. Collaborative models include internships, apprenticeships, business incubators, and integrated learning pathways that involve TVET institutions, higher education, and industry partners.[51] Strategic approaches also encompass investments in AI industry representation within educational governance structures, such as department and institutional boards and advisory boards. The joint appointment of AI professionals can further mitigate the challenges associated with attracting top talent to academic institutions. Globally, numerous organizations, including Google, Microsoft, and IBM, are actively collaborating with universities in various African countries to enhance youth skills.

Supporting work-based learning and skills-first pathways

Work-based learning and experiential programs are vital for practical AI skill development. These models, particularly apprenticeships and internships, are crucial for bridging the gap between academic knowledge and industry demands, as they provide participants with opportunities to practice learned skills.[52] Such programs provide practical experience that enhances employability and supports skills that are directly applicable to the AI-driven labor market. Creating opportunities for "doing" also meets youth's expressed desire for concrete connections between education and their chosen livelihoods.

49 Ejjami, "The Future of Learning: AI-Based Curriculum Development."
50 Reuben, "Training and Skills Alignment for the AI Generation."
51 JustJobs Network, *Final Technical Report: Gender Technology and Skills*.
52 ILO, *Towards Lifelong Learning and Skills for the Future of Work*.

CONCLUSION

AI skills as a driver of an inclusive digital future for Young Africa

Drawing on 332 youth interviews across seven African countries, expert consultations across sectors, and an extensive literature review, this research documents both significant motivation for and substantial structural barriers to the use of AI. Youth in agriculture, healthcare, education, global business services and micro-entrepreneurship demonstrated strong drive to engage with AI tools, motivated by economic necessity and genuine aspiration for advancement.

This research identifies eleven core skills, and one critical meta-skill, for effective AI engagement:

- Four foundational skills: Foundational literacy, basic digital literacy, data literacy, critical thinking
- Four AI-specific skills: Effective prompting, critical evaluation, understanding bias and limitations, data privacy and ethical use
- Three sector-variable skills: tool and data proficiency, monetization, workflow management
- Meta-skill: Navigating informal learning pathways

Skills alone are never sufficient. They require enabling conditions like access, electricity, and community support. But few things are as powerful and transformative as young people equipped with skills to take charge of their futures and shape their world in the process.

AI integration across economies can create unprecedented opportunity for those who can engage effectively with these tools. Youth across this study expressed willingness to invest scarce resources in learning tools that translate directly into income. This motivation represents enormous potential. However, the choices made now about access affordability, infrastructure investment, and skills pathway design will determine whether AI reproduces existing patterns of exclusion or enables broader participation.

The structural barriers documented across countries and sectors (operational costs, connectivity gaps, absent mentorship, disconnection from income generation) currently filter out marginalized youth before they reach mastery. A multi-sector coordinative effort is best positioned to influence these terms of engagement through strategic partnerships that enable coordinated ecosystem action.

This coordination can support a more inclusive digital future. Young Africans can engage with AI not as passive recipients of external technologies, but as active contributors who shape tools to serve African contexts, languages, and development priorities. The demographic dividend becomes a digital dividend when structural barriers no longer determine who can participate effectively in technology-enabled economies.

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APPENDIX

Overview of expert interviewees

NAME	ORGANIZATION
Ikeme Agatha	Independent edtech specialist
James Angoye	Research Coordinator, inABLE
Ayo Arowolo	Instructional Designer, Synthology
Joshua Baru	Researcher, Qhala
Paul Breloff	Co-founder and CEO, Shortlist
Borhene Chakroun	Director, Division of Policies and Lifelong Learning Systems, UNESCO
Ehud Gachugu	Director, Youth and Jobs Ajira Digital
Rebecca Harrison	Co-founder and CEO, African Management Institute
Robert Hawkins	Global Lead, Technology and Innovation in Education, World Bank Group
Habib Houndekindo	Director of Francophone Operations, datocracy
Winnie Karanu	AI National Skills Director, Microsoft
Paul Macharia	Researcher, School of Computing and Engineering Sciences, Strathmore University
Frida Mwangi	Deputy Secretary General, Kenya Union of Gig Workers
Njeri Ngaruiya Ng'ang'a	ICT4D Researcher and Consultant, Strathmore University
Kelvin Njuguna	Co-founder and Customer Success Manager, Impact Outsourcing
Jehiel Oliver	Chief Executive Officer, Hello Tractor
Finn Richardson	Independent researcher
Alex Twinomugisha	Senior Education Technology Specialist, World Bank
Ronda Zelezny-Green	Chief Executive Officer, datocracy

Caribou

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