Three Ways Technology is Transforming Access in Africa

By Amrote Abdella, Regional Director for Microsoft's 4Afrika Initiative

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As the Regional Director of Microsoft's 4Afrika Initiative, Amrote Abdella spearheads Microsoft's investments in Africa across 54 countries. She works closely with the internal teams in the Middle East and Africa and globally to enable and accelerate digital transformation opportunities across the continent.

Before becoming Regional Director, Amrote was 4Afrika's Director for VC & Startups, where she worked closely with startups supporting the innovation ecosystem in Africa.

Prior to joining Microsoft, Amrote worked with the World Economic Forum in Geneva, as an Associate Director for Africa. She also served as a Financial Analyst at the World Bank in Washington, and worked in micro-finance with the Global Hunger Project, an NGO based out of New York. Here, she oversaw projects across eight countries in Africa and worked with African women farmers, driving financial inclusion.

In 2017, Amrote was named as one of Africa's Top 100 Young Business Leaders, ranking 12th out of 100 leaders under 40, who are playing a major role in driving the continent's economic development.

Amrote constantly strives to learn new skills and believes in the values of passion, ambition and hard work. She also encourages all young women to have a grounding in STEM subjects.

Amrote holds a Masters degree in International Economic Development from the Heller School at Brandeis University in Massachusetts, and a Bachelor of Arts from Davidson College in North Carolina.

How does technology promote access and inclusion? In Africa, the promotion of access is a hydra – a multifaceted challenge with overlapping and distinct factors. But technology is also multifaceted, and can help us promote access on many levels.

In sub-Saharan Africa, for example, only 34% of adults have a bank account. Due to continent-wide infrastructure gaps and patchy access to services, organisations such as MoVAS have had to find new and creative ways of reaching the public. This Kenyan start-up functions at the point of confluence between technology and financial services – using big data analytics to assess behavior and credit risk in order to extend credit to the "unbanked" and bring them into the formal economic fold. And they do this by engaging users on the platform they already use – mobile phones.

Technology is transforming the way we traditionally do things

MoVAS is supported in this by Microsoft4Afrika. Together we have migrated their services to Azure, in order to scale up and crunch larger data quicker. This created a 300%

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increase in their lending activity – and allowing them to grow to 12 million users. The next steps are integrating machine learning and artificial intelligence into their credit scoring algorithms. This will give them critical insight to undercut risk – and help them speed up new client onboarding.

In these ways and more, technology and the internet are playing a pivotal role in bridging the gaps. Because of their ability to provide services remotely, these tools are replacing traditional operations with more innovative and efficient approaches that foster inclusive growth.

When Microsoft 4Afrika launched its first TV white spaces pilot in Nanyuki, Kenya, in 2014, we knew the potential that access to the internet had to promote economic development, entrepreneurship and employment. And we have been amazed by the revolutionary new business models that have emerged as a result of being connected.

1: Transforming Energy
Technology is making access to electricity more accessible, affordable, cleaner and personalised.

In Africa, an estimated one of three people has access to electricity. Those who do have access are often burdened by frequent outages are high costs. Start-ups such as Strauss Energy, M-KOPA Solar and CHIFCO are all changing this.

Strauss Energy have developed an energy-generating roof tile technology, which allows them to sell electricity to consumers at 75% cheaper than the national grid. M-KOPA Solar have combined their solar technology with the power of mobile and cloud, allowing users to purchase electricity on a pay-as-you-go basis via mobile money, meaning users can manage their spend and develop a credit rating. At the same time, M-KOPA are able to generate powerful data insights around consumption behavior, device life and weather patterns, empowering them to continually improve their business operations.

While M-KOPA allows users to manage their spend, CHIFCO leverages the Internet of Things to allow users to manage their consumption, in real-time, and rewards them for using energy wisely. When demand on the grid is high, connected users receive an alert asking them to shut down whatever device of theirs is using the most power. After doing so, the system rewards them with points, which can later be redeemed for tablets, phones, internet and electricity equal to their energy savings.

2: Transforming Maternal Care
Internet connectivity is also transforming maternal care in Africa, not only in times of illness, but for general monitoring and prevention as well. Annually, there are an estimated 200,000 maternal deaths worldwide, with 60% of these in sub-Saharan Africa.

In Lobatse, Botswana, we are working with Vista Life Sciences to provide an internet-based telemedicine service targeted at female patients. Because Lobatse is a small town about 70 kilometres away from the nearest hospital, having internet connectivity means patients can be diagnosed and treated remotely. Cervical scans and tests can be shared wirelessly with medical professionals, who can then consult with the patient using video conferencing services.

Similarly, WinSenga is a start-up that has built a portable smartphone-based tool, which allows midwives to monitor baby growth and labour more quickly, easily and at a fraction of the cost of traditional ultrasounds. The tool connects with the cloud to collect, store and analyse results in real-time.

3: Transforming Conservation
In Africa, rhino poaching is an ongoing challenge. Since 2008, poachers have killed an estimated 5,940 African rhinos. In the past, these animals have been tracked using radio collars and satellite uplinks. However, connecting these animals to the internet is proving to be more effective, especially when using TV white spaces technology, which can reach far enough to keep up with the animals' wide-ranging roaming habits.

In Ol Pejeta, one of the largest conservancies in East Africa, we are working with the organisation Flora and Fauna to combine small TV white spaces transmitters with cloud technology and machine learning. This allows us to track endangered species in real-time and better understand their natural behaviours.

Unlocking human potential
As you can see, innovation in Africa is very much alive – and continues to flourish. As affordable access to the internet and digital skills improve, this innovation will only grow. Technology is unlocking human potential around the world – transforming industries, improving livelihoods and empowering everyone to do more.