HOW AI COULD TRANSFORM DEVELOPING COUNTRIES

Artificial intelligence evokes both excitement and fear. **Kamal Bhattacharya** is confident that the opportunities for developing countries outweigh the threats.
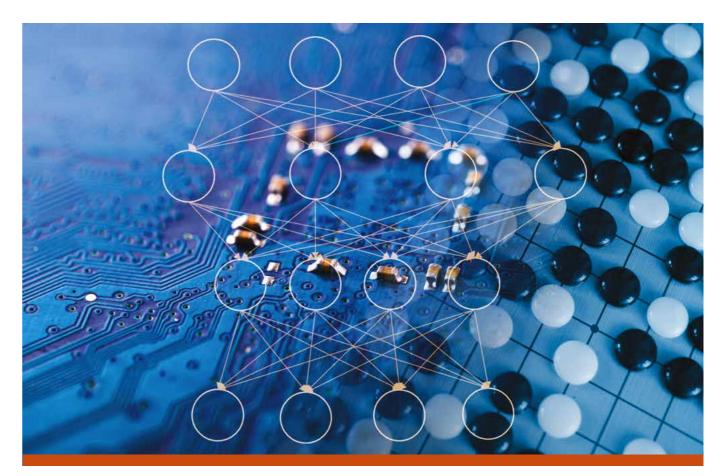
"IF EMERGING ECONOMIES WERE TO ADOPT AN AI-FIRST APPROACH, PERHAPS THEY COULD ADDRESS CRITICAL DEVELOPMENT CHALLENGES."

Artificial Intelligence (AI) has captured the imagination in a way not seen since the development of the internet nearly three decades ago. The web instantly opened up a whole new world of possibilities and the public was easily able to engage with it. Setting up a website was never really hard, as long as the infrastructure was accessible. Building your own AI application, on the other hand, is much harder. But the many large companies that have staked their future on AI have deep enough pockets to invest over the long term. Thanks to their investment, we are increasingly seeing examples of what AI could potentially do.

We have seen IBM's Watson beating humans in Jeopardy and Google's AlphaGo system learning video games by itself and beating players at Go. We have seen AI systems translating speech simultaneously, making reservations and even engaging in live debates. We have seen evidence for how AI could disrupt industries. But what are the implications of the rise of AI for developing economies?

The current discussion on AI is often focused on its implications for the future of work. In mature economies, AI is automating tasks traditionally executed by humans. In developing economies, however, the rise of the gig economy means that the nature of work is rather different. A lot of the jobs that AI might displace do not exist in abundance in emerging markets in the first place.

If emerging economies were to adopt an AI-first approach, perhaps they could address critical development challenges. Emerging economies often suffer from inefficient delivery of basic services, such as finance, education or health. Imagine if we could redefine how the infrastructure of these economies could work without necessarily mimicking mature economies. How would we go about it?

In education, AI systems could be designed to support teachers in delivering content better. Like all humans, no teacher is perfect, and with AI we do not need to assume a teacher should be. We can de-task the work of a teacher into parts that are perfectly suitable to AI technologies even today and train teachers to focus more on building up students' emotional intelligence. An educational AI system could not only teach educational content but also measure engagement of students with the material, assess how far ahead or behind a student is, support teachers with additional contextual information and deliver individual support for parents and students outside of school.

AI could transform healthcare in developing economies. Emerging markets are traditionally short of doctors and will remain so for the time being. AI could assist doctors to make better decisions, but also assist less qualified but trained medical personnel to take decisions that are traditionally left to doctors. AI can also help with training medical personnel and in many situations can mitigate the risk of medics' gaps in knowledge. This AI system is harder to create than the educational AI described above, but it would be valuable. Primary care in particular involves many routine procedural tasks, which makes up a significant part of the work of doctors. Even if we start here, it could be a huge win for developing countries.

AI is already solving some of the challenges facing the financial sector in emerging economies. People in emerging markets traditionally lack access to credit. There are systems that support payment transactions via mobile phones and provide salient information about spending and saving behaviour to an AI application. The AI then supports human loan assessors to make decisions on an applicant's creditworthiness or decides instantaneously without human involvement. But these mobile network operator-led mobile money systems require investment in infrastructure, such as internet connectivity and regulation of mobile money providers.

So AI has transformative potential, but there are challenges we must confront if AI is to fulfil its potential to help emerging economies. Firstly, implementing strategies to augment human intelligence requires us as humans to appreciate our shortcomings. We need to believe that using AI will fundamentally make us better at what we are passionate about. The AI will not always be right – factors such as human bias creep into programming algorithms, and agreeing on a code of ethics for machine decision-making will be difficult. But humans are not always right either. I believe that embracing AI is a cultural shift that needs to be managed conscientiously.

Secondly, most AI technologies are developed in wealthy mature markets rather than emerging markets. There are many reasons for this – the systems require billions of dollars of investment and highly specialised skills that are more often found in the US or Europe. But it means that AI systems are not yet general-purpose machines that can easily be deployed across the world. The need for AI to focus more on developing economies is particularly evident in healthcare AI. Developing economies carry the majority of the global disease burden, but the top killers in Africa are not of deep concern to the US or Europe.

International development organisations are also not embracing AI to the extent required to reallocate resources that would help developing economies to embrace its potential. There is a lack of systematic approaches and the entire thought-leadership around the impact of AI in developing markets is left to the private sector. AI is based on the ingestion and processing of data, and the data for emerging economies is not yet on the radar of the creators of today's AI.

It should be a priority of companies, countries and international bodies to increase their focus on developing AI systems that are suited to driving systemic transformation in emerging economies. Our current approach needs to change. If it does, the societal and commercial impact could potentially be beyond our imagination. ●

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