

The South African government has passed legislation to ensure that companies behave as responsible corporate citizens. Codes of Practice require all entities operating in the South African economy to contribute to the objectives of Broad-based Black Economic Empowerment (B-BBEE).

Since multinationals may have global practices preventing them from complying with the ownership element of B-BBEE through the traditional sale of shares to Black South Africans, the Codes of Practice have made provision for the recognition of Equity Equivalent contributions, as an alternative contribution to the economy.

When IBM decided to set up a research lab in South Africa in 2016, it negotiated an agreement with the government under which IBM pledged to set up an Equity Equivalent Investment Programme.

A focus on social priorities in the host country

Dr Tapiwa Chiwewe from IBM Research in South Africa described the ways in which IBM was fulfilling its commitment to social responsibility in South Africa, at a session on capacity-building in basic and applied research organized in Morocco on 13 December 2018 as part of UNESCO's Forum on AI for Africa.

He explained that IBM was focusing its research in South Africa on health care, education, agriculture and financial services. 'For instance, there is a four-year lag in reporting cancer statistics in South Africa', he said. 'AI can

correct this by automating the process of studying pathology reports, meaning that this analysis can now be done in near-real time. In the financial sector, access to credit is a problem. An AI application can create a credit score that will reduce the default rate on repaying loans.'

The first industrial research facility on the African continent, IBM Research–Africa is present in both Kenya and South Africa. The lab in Nairobi is helping farmers in Nigeria to predict crop yields better, manage utilization and maintenance of tractors and obtain financing for the tractors. In Sierra Leone, during the Ebola crisis in 2014, IBM partnered with mobile network operators and the Open Government Initiative to develop a system that enabled citizens to report Ebola-related issues and concerns via texts or voice calls.

The IBM research lab in South Africa is located in the Tshimologong Digital Innovation Precinct, an innovation hub close to Wits University of international repute. In parallel, IBM has set up an academic programme offering internships and scholarships to South African students.

In Dr Chiwewe's view, the best place to train people is the university campus. However, Dr Chiwewe has concluded from his tour of computer science departments across South Africa that few are doing research on AI. This suggests a need for curricular reform.

A number of companies and banks have sponsored university chairs in South Africa. This is a two-way street, since businesses can then recruit qualified students.

Mentorship for young inventors

IBM has an enterprise development programme that provides mentorship for young inventors. 'Today's start-ups have the advantage of being able to access equipment via the cloud from companies such as IBM', says Chiwewe, 'where they can even open free accounts. There is a freer flow of information and knowledge nowadays, which gives start-ups an advantage over their forebears.'

Jumo is one example of a South African start-up that has become a viable business. It has launched an AI-powered platform to assess lending risk and tailor financial products to those living in developing countries where credit information is scarce; it has received an investment of US\$ 52 million from several investors, including Goldman Sachs.

Chiwewe told the UNESCO workshop that 'IBM believes in the open source movement and donates some of its patents to open source initiatives. Anyone can log onto IBM's Digital Nation Africa platform to learn about technologies such as AI and obtain a certificate. For more advanced technologies like quantum computing, people can access a 16-qubit quantum computer via the cloud through IBM's Q Experience.'

Source: UNESCO (2019)