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## 24 January 2017

# UCT research emphasises need for African ICT production to reap long-term benefits of global market

A PhD thesis from the University of Cape Town explores some of the factors that prevent developing African countries from realizing the social and economic benefits of information and communication technologies (ICTs) compared to the gains being made in the global north.

Dr Tibuhinda Tibenderana Ngonzi graduated with a doctoral degree in Information Systems from the Faculty of Commerce at UCT in 2016. His thesis develops and refines a theory that shows how ICTs have the potential to influence social transformation to an "all-inclusive information society" and how they can be used to solve developmental problems in "digitally divided" communities of the world.

According to Ngonzi, a digital divide exists globally between, on the one hand, those who use or consume the products of ICTs and, on the other, those with the ability to produce and augment ICTs – processes which can directly contribute to the Gross Domestic Product (GDP) of developing economies. However, initiatives using ICTs for development purposes (also known as ICT4D, or Information and Communication Technology for Development) tend to focus on creating access to externally produced ICTs rather than designing initiatives to promote the local production of such technologies. This is a major problem because such initiatives often fail to bring about long-term socioeconomic change and can further entrench an unequal global technological order.

Ngonzi said: "For countries without basic technology, this is what I term as a technological trap, where they would like to participate but are not able to do so, forced by that circumstance to remain persistent importers of technology. This bears economically long-term detrimental consequences to developing countries, if the same do not act now to avoid that trap."

Such countries are often forced to pay for new technologies that do not directly contribute to their economic growth or support livelihoods on the ground. Since, according to Ngonzi's findings, Egypt and South Africa combined receive about 73% of the total

analyzed ICT4D initiatives in Africa, this is an issue that affects South Africa's economy directly.

Ngonzi suggests that there is a great need for locally produced technologies that are able to respond and be tailored to African needs and to distribute the benefits of ICTs to people at the grassroots level.

"I recommended to the leadership in African countries to adopt approaches that would push ICTs into the production processes of their economies," he said. "My hope is that this will achieve the continent a technological status of fair player in the production and use of ICTs and not merely a gross user status. ICTs are high-value goods capable of fetching good prices on the global market, which is good for GDPs in the long-run; the African society will have used technology to its own transformation and high economic performance.

Ngonzi added: "The outcome is that the people improve their livelihoods directly by participating at various stages of technology diffusion, or indirectly through derived benefits such as an improved economy that is capable of delivering health care, transport infrastructure and other social amenities."

Ultimately, Ngonzi's research envisions a global information society that is all-inclusive, in which the opportunity to innovate technologically is available to all, where an unequal distribution of ICT training and resources does not inhibit peoples' ability to participate in production or distribution of new technology, and one that allows Africans to benefit from a globalized ICT industry.

Ngonzi has a Bachelor of Arts from the University of Dar es Salaam, a postgraduate diploma from Goa University, and a Master of Business Administration from Uganda Martyrs University.

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### Issued by: UCT Communication and Marketing Department

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