



TELECOMS

Why #DataMustFall

Research has shown that employment rates in an area rise when the population can access the internet cheaply.

Both the Independent Communications Authority of South Africa (Icasa) and the Competition Commission are concerned about South Africa's high data costs. And it is about time.

Of the 48 African countries ranked by ResearchICTAfrica.net for the first quarter of 2017, SA was the 22nd most expensive in which to buy 1GB data. All of SA's main competitors on the continent, including Egypt (first), Ghana (fourth), Nigeria (eighth) and Kenya (15th) ranked higher. Our poorest neighbour – Mozambique – ranked second, with \$2.27 for 1GB in contrast to our cost of \$7.49.

Consumers have known this for some time. Last year, radio personality **Thabo "Tbo Touch" Molefe** started a Twitter campaign – #DataMustFall – that went viral. He was subsequently invited to address the parliamentary portfolio committee on telecommunications and postal services about the high cost of broadband in SA. Said Molefe at the time: "The power of data gives access to education, mentorship, skills training, financial assistance, job searching and recruiters."

Molefe is correct. **There is now ample evidence globally to show that internet access at affordable prices is correlated to better job market opportunities.** This is especially true in SA, where the employment rate is seven percentage points higher in areas connected to the internet than those with no connection. The problem is that economists have struggled to show that this relationship is causal: areas with internet connectivity usually have all the other amenities that are associated with better job market prospects. It then becomes an empirical question of how to separate the effect of internet connectivity from things like education, infrastructure and wealth that also affect job market prospects.

A new NBER working paper by **Jonas Hjort** of Columbia University and **Jonas Poulsen** of Harvard University offers an answer. The two authors exploit the gradual arrival of 10 submarine internet cables from Europe in cities on Africa's coast in the late 2000s and early 2010s to identify whether the higher speeds and cheaper data costs created new jobs.

First, they show that the arrival of the cables did, in fact, increase average internet speeds and the expansion of the network. They then compare the changes in employment patterns in cities and towns with a bigger versus a smaller increase in access to fast internet. "In each of three different datasets that together cover 12 African countries with a combined population of roughly half a billion people, we find a significant relative increase – of 4.2% to 10% – in the employment rate in connected areas when fast internet becomes available."



Tbo Touch
Radio personality



Jonas Hjort
Assistant professor of economics at Columbia Business School



Jonas Poulsen
Economics lecturer at Harvard University

Just as Molefe said: faster and cheaper internet creates jobs!

As with any economic change, there are both winners and losers. Hjort and Poulsen show that the faster, cheaper internet reduces employment in unskilled jobs, but "enables a bigger increase in employment in higher-skill occupations". In other words, just as automation does in the developed world, faster internet in Africa results in a change in the types of skills required. One might expect the consequence to be deeper levels of inequality. Not true, say the authors, especially in SA. Faster, cheaper internet enables South African workers of low and intermediate educational attainment "to shift into higher-skill jobs to a greater extent than highly educated workers". The net effect is that fast internet lowers employment inequality across the educational attainment range in SA.

So what types of jobs were created by the arrival of the submarine cables? The authors find that "new and new types" of jobs were created via the "extensive margin" (meaning: new users) and "intensive margin" (meaning: different use of the internet by existing users).

Using detailed firm level data, they show that, in SA, new firms are established, notably in sectors that benefit from information and communication technology (ICT). In Ethiopia, existing firms improve their productivity. In other African countries like Ghana, Kenya and Nigeria, firms with access to the faster, cheaper internet export much more, perhaps, the authors suggest, because "website communication with clients become easier".

Technology is not just a threat to job creation – it is also an opportunity. But as the #DataMustFall movement has shown, fast internet access remains a mirage for most South Africans. That is hopefully changing. Non-profits, like Project Isizwe, want to facilitate the roll-out of free WiFi in public spaces in low-income communities, as it is already doing in Tshwane. Similar initiatives are following in SA's other metros. Both Google and Facebook are designing new technologies that could revolutionise connectivity in rural areas.

Consumers are rightfully angry about the high cost of data in the country. Yet it is local entrepreneurs and their employees who should be most upset. As Hjort and Poulsen show, cheap data will create more firms and more, better-paying jobs. "Employment responses of the magnitude we document indicate that building fast internet infrastructure may be among the currently feasible policy options with the greatest employment-creating potential in Africa."

Fast and cheap internet is probably the simplest way to alleviate SA's high unemployment conundrum. Policymakers should take note. ■

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