How Africa can develop a home-grown tech sector

July 19 2016, by Gareth Tyson

Developers at Kenya's Ushahidi. Credit: afromusing/flickr, CC BY-SA

Africa is coming online rapidly. Internet penetration in the continent is growing faster than in any other region in the world, giving millions more people access to better communication, information and business opportunities. Although only around 20% of people in Africa have internet access (compared to a global average of 40%), this has increased from less than 5% ten years ago.

What's missing, however, is a significant amount of locally created, owned and hosted online services. For example, there are just 12 secure web servers for every million people in Africa, compared to 1,171 in North America. Instead of using home-grown services, many countries favour globally popular brands based in other parts of the world, such as Google and Facebook. This lack of local African online presence is putting the continent at a serious disadvantage, denying people the chance to take full advantage of the net's potential. The difficult question is what to do about it.

You could argue that Africa's appetite for international online brands is a good thing as it shows how the internet is seamlessly connecting emerging regions to the global market. But it comes at a cost. Flooding emerging regions with highly developed competition runs the risk of stifling new local alternatives, a problem that economists and politicians have worried about for hundreds of years.

How, for example, can a fledgling, locally created, online service compete against the likes of Google? It's possible this obstacle could limit the economic benefits for African countries and prevents them from helping to further enrich and diversify the web away from a few big players.

In my own recent research, I found that Africa's internet problems are not only to do with creation and ownership of websites. Even services that are locally designed in Africa (such as news websites) are often hosted and operated outside of the continent, often in the US and Europe. The main reason for this is the cheaper and more reliable hosting services available abroad. A recent report from the Internet

Society found that Rwandan content providers could save $111 per year by hosting their content overseas.

Slower, more expensive

But this is a double-edged sword. It might be cheaper for the websites, but it's much more expensive for the local internet service providers or ISPs (the companies that connect users to the internet), who have to fetch the data from across the world. In the example of Rwanda, local ISPs who deliver the content to internet users had to pay $13,500 a year more than if they had been able to connect to Africa-based servers, pushing up the costs for everybody.

The problems don't stop there. Having to connect to foreign-based websites also produces far slower download times. This can be mind-numbingly frustrating for users, which then discourages them from using the sites that perform poorly.

However, the example of China shows that it doesn't have to be this way. The country's strict censorship regime has limited the import of foreign websites. This has actually helped produce a number of alternative, locally created and hosted websites. In turn, this has helped the country develop a rapidly growing web-tech industry with giants such as search engine Baidu, online shopping site Taobao, and video site Youku creating a huge capacity for innovation, as well as the related economic benefits.

On moral grounds it is hard to justify encouraging such censorship in Africa. Denying people access to videos on YouTube or the global reach of Facebook seems fundamentally wrong. It would also undermine the idea of net neutrality – that ISPs should provide access to all internet content equally – which many see as a core principle of the internet.

And while many countries throughout history have used trade protectionism to protect their so-called infant industries, the internet is a different beast. Its global nature and the way it can underpin other industries means that limiting foreign websites, even for a few years, may have too many negative effects. Imagine an online business suddenly losing access to eBay.

Positive solutions

Instead of banning foreign sites, we should look for more positive solutions. Proper regulation, infrastructural investment and, most importantly, training are key ways to encourage local innovation. A good starting point would be to look for the types of services that desperately need the local touch. Many of the needs of African users mirror those of other global users. So devising a unique selling point that can break through the competition of the big international players is tricky. Taking the local approach and focusing on the types of services that are not met by the global elite would be an effective way to sidestep this issue.

Luckily, countless examples have begun to emerge, such as Ushahidi, which was designed to map reports of violence in Kenya after the 2008 elections. Services in other emerging economies can also provide inspiration, such as the Indian rickshaw-booking service Autowale. These fantastic examples show innovation at its best: finding solutions to real problems on the doorstep. And from the small seeds of a local start-up, maybe the next global tech giant will grow. By expanding this local expertise and capacity, a foundation is being built for the future. It is only a matter of time before we see an African website among the bookmarks of internet users all over the world.

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