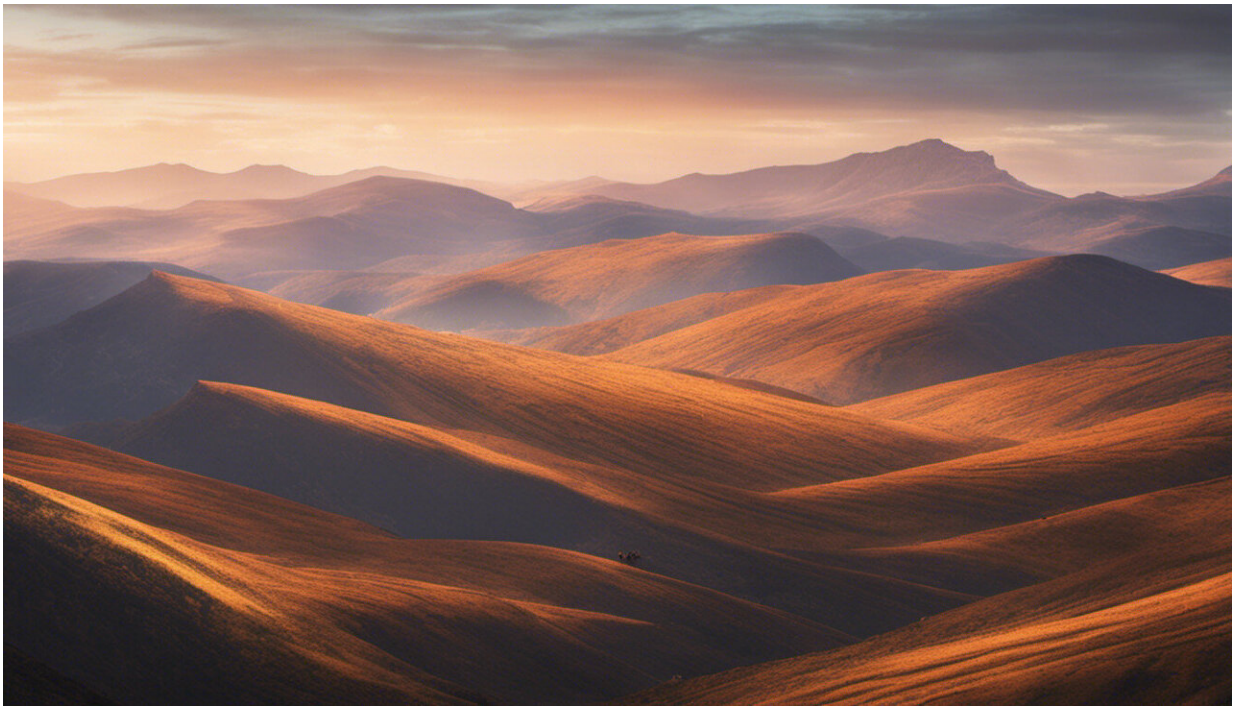
Capitalism and the internet: It's time we understood the digital economy

January 24 2020, by Brian Armstrong



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The digital economy has been getting a lot of attention, with increasingly strong headlines offering apocalyptic as well as breathtakingly exciting scenarios. Some warn of job losses due to automation, some wonder at the things digital technology can do. And then there's real skepticism about whether this will translate into delivering to people who need it

most.

With all of this discussion, however, there is seldom an explanation of what the digital economy actually is. What makes it different from the traditional economy? Why we should care about it?

The digital economy is a term that captures the impact of digital technology on patterns of production and consumption. This includes how goods and services are marketed, traded and paid for.

The term evolved from the 1990s, when the focus was on the impact of the internet on the economy. This was extended to include the emergence of new types of digitally-oriented firms and the production of new technologies.

Today the term encompasses a dizzying array of technologies and their application. This includes artificial intelligence, the internet of things, augmented and virtual reality, cloud computing, blockchain, robotics and autonomous vehicles.

The digital economy is now recognised to include all parts of the economy that exploit technological change that leads to markets, business models and day-to-day operations being transformed. So it covers everything from traditional technology, media and telecoms sectors through to new digital sectors. These include e-commerce, digital banking, and even "traditional" sectors like agriculture or mining or manufacturing that are being affected by the application of emerging technologies.

Understanding these dynamics has become non-negotiable. The digital economy will, soon, become the ordinary economy as the uptake—and application—of digital technologies in every sector in the world grows.

I have been part of a team of researchers looking at what this means for a society like South Africa. In particular, we have been focused on looking at what the proliferation of the digital economy means for inclusion—making sure that everyone can access it—and economic opportunities.

But the first step was to get absolutely clarity on what this multifaceted phenomenon is.

The digital core

At the center of the digital economy is a "digital core." This includes the providers of physical technologies like semiconductors and processors, the devices they enable like computers and smartphones, the software and algorithms which run on them, and the enabling infrastructure these devices use like the internet and telecoms networks.

This is followed by "digital providers." These are the parties that use these technologies to provide digital products and services like mobile payments, e-commerce platforms or machine learning solutions.

Lastly, there are the "digital applications." This covers organizations that use the products and services of digital providers to transform the way they go about their business. Examples include virtual banks, digital media, and e-government services.

A concrete example helps paint the pictures. Consider a typical agriculture value chain: a smallholder farmer needs inputs (like financing) to produce and then sell crops to, say, processors or directly to consumers. Today smallholders can obtain financing through their mobile phones from digital financial services providers rather than physically visiting a bank. These digital financial services are able to assess the risk of lending to the farmer by building a profile using AI

algorithms in conjunction with alternative data sets, such as mobile phone usage or satellite farm imagery.

Then there are the mobile applications that can help farmers produce better crops. They can provide advice on the best time for planting, soil quality and dealing with pests. It means that a farmer no longer has to rely on face-to-face advice from friends or agro-dealers.

Another example in the agriculture arena is the ability of farmers to rent tractors. Known as asset-sharing platforms, these enable farmers to gain access to a tractor they wouldn't ordinarily be able to afford.

Digital versus traditional

So what makes the digital economy different to the traditional economy?

Firstly, digital technologies allow firms to do their business differently as well as more efficiently and cost-effectively. They also open up a host of new possibilities. Take navigation apps. No team of people would ever be able to provide real time, traffic-aware navigation in the way that smartphone apps do.

This means that products and services can be offered to more consumers, particularly those who couldn't be served before.

Secondly, these effects are giving rise to entirely new market structures that remove, among other things, transaction costs in traditional markets. The best example of this is the rise of digital platforms such as Amazon, Uber and Airbnb. These companies connect market participants together in a virtual world. They reveal optimal prices and generate trust between strangers in new ways.

Lastly, the digital economy is fueled by—and generates—enormous

amounts of data. Traditionally when we made purchases in a brick-and-mortar store using cash, no-one was keeping an account of our personal consumption or financial transactions on a large scale. Now, ordering online and paying electronically means that many of our consumption and financial transactions generate electronic data which is recorded and held by someone.

The collation and analysis of this data provides enormous opportunities—and risks—to transform how a range of economic activities are performed.

The digital economy is with us. Yet the boundaries between digital and traditional are blurring as technological change permeates every facet of of modern life. We all need to understand the nature of this change to be able to respond at every level: society, corporate and personal.

The South Africa in the Digital Age initiative has been convened by Genesis Analytics in partnership with the Gordon Institute of Business Science and the Pathways for Prosperity Commission at Oxford University. A multi-stakeholder initiative, it has developed a forward-looking digital economy strategy for the country.

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