Africa is not a data desert

By Ben Leo
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The data age has opened up a world of renewed understanding in the ways we live and work, providing insights that hold the potential to improve lives for billions around the globe.

Image source: www.pexels.com

The ability to collect and process vast numbers of data points, and to discover both deeply sought after and wholly unexpected insights as a result, is currently the best way for the public and private sectors to understand people. Regardless of the sector, an understanding of the target market is an essential contributor to business success.

This applies both at the granular, individual level, and at the aggregate level. Such insights play a valuable role in delivering services and products to the communities with the most demand – and Africa is a prime example.

Africa's rapidly expanding digital footprint demonstrates one way in which data is becoming available, with an estimated 557-million mobile internet users, and a smartphone market that is expected to triple in size over the next five years. Over and above the rich potential insights from mobile technology and data from household surveys, satellite imagery, machine learning and emerging analytic approaches also provide more accurate insights about people. Both conventional and unconventional sources can offer governments and companies the information they need, to ensure access to reliable, sustainable and affordable services and to help businesses grow.

But Africa is large and diverse. Gathering actionable data through traditional means is difficult – but far from impossible.

Here are just three ways enterprising data scientists are finding creative ways to close the gap.

Making sense of unstructured data

Africa thrives on its informal economies, which contribute considerable amounts to each nation's GDP (less than 30% in South Africa, but as much as 60% in Nigeria, Tanzania and Zimbabwe). Informal borrowing and trading is big business, but with it comes a frustrating lack of formal record-keeping, consumer data and transaction histories that could, in the right hands, open a world of opportunity to Africa's corporate organisations, as well as SMEs and micro-businesses. All of these off-the-record transactions, as well as rising amounts of unstructured text and social data generated by Africa's mobile users, means that it doesn't fit neatly into databases organised by fixed categories like name, address, or identification number.

Fortunately, the storage and processing capabilities of the region are rapidly improving, and government bodies are working more closely with corporate innovators to harvest, manage, store and protect these data points, as a first step to eventually mining them for useful insights. As skills and resources on the continent improve, this data will be put to better and better use, as it reveals population insights that can't be found in more conventional data types.

A steady increase in computing power

Roughly 2.5-billion gigabytes of data are created worldwide per day, presenting an exponentially growing problem, even for nations and businesses with the means and expertise to store and interpret it effectively.

But Africa's private sector is surging ahead, with larger firms showing ever-more aggressive interest in how data can augment their bottom line. In Nigeria and Kenya, both considered beacons of African digitisation, at least 40% of large businesses are in the planning stages of their own data projects, with the global average at 51%. Partnerships between well-resourced corporates and forward-thinking governments are already bearing fruit, and will only become more impactful as the digital disruption continues to shake up both the private and public sectors.

Innovative techniques and data sources are also being used to better understand the nuances of the African consumer. The ability to understand how a consumer in Johannesburg thinks and buys, in comparison to a consumer in Durban, is often more useful than thinking about consumer behaviour at a national, aggregate level. For far too long, corporations and investors have considered the African consumer as a monolith. But it is possible to use existing data and new techniques, like geospatial analysis, to drill down and understand consumer interests and consumer purchasing power at a more granular level than ever before and across non-traditional geographies.

Closing the skills gap

According to the African Data Forum, the continent's growing demand for predictive analytics has exposed a data skills shortage that leaves Africa sorely under-equipped for the data demands of tomorrow. Even as access to software and hardware continue to improve, there is little substitute for the skill and experience that data scientists can bring to the table. The skill and experience brought to the continent by expatriate consultants has had a positive effect on data science in Africa, but the continent's vast human resources will need to be developed with greater urgency, if we are truly to realise the potential of data to improve lives and to drive Africa's digital awakening to new heights.

Thankfully, data science is becoming a prominent feature in Africa's schools and universities, and the proliferation of technology training hubs springing up throughout the continent promise a data-rich future. Even in comparatively advanced South Africa, the country's first dedicated data science training academy was opened only a couple of months ago. There is also a great trend toward businesses and organisations taking the upskilling mandate seriously in the workplace, with programmes designed to improve in-house data science skills already proving effective.

Through such skills development, new and cutting-edge methods of data collection, from geospatial satellite imaging to artificial intelligence, are added to existing resources of mobile data, surveys and other more traditional statistical methods, to create a more holistic and insightful picture of the continent and its inhabitants than ever before. Those who label Africa a "data desert" and give up on using data for their needs are missing a great opportunity – there is no lack of consumer data on the ground, only a perceived lack of methods for managing and making use of it. Huge amounts of data are generated every day, and with a little creative application and plenty of computing power, the sky is the limit in terms of the insights that can be gleaned.

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