

SA needs to prioritise STEM education

 By [Rob Lith](#)

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South Africa already faces well-known challenges in its education system, felt nowhere more strongly than in the areas of science, technology, engineering and mathematics (STEM). And while this is a major concern under any circumstance, the relentless penetration of technology into the way we live and work means that an even more severe skills shortage cannot be far away.



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In a sluggish economy, countless businesses are turning to digital solutions to cut costs and gain a competitive advantage. Many have already moved to the cloud, while most others plan to do so in the next few years.

Others are experimenting with Artificial Intelligence (AI), Augmented Reality (AR) and Virtual Reality (VR) in their efforts to stay ahead of the pack. But who will run these complex systems in a nation where the skills needed to develop these solutions are in short supply? And how can we educate South Africans to utilise digital tools for their benefit, rather than ultimately being to their detriment?



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How pertinent is digitisation in the local landscape?

According to *The Digital Landscape in South Africa 2017* report, there has been an impressive increase of 7% more locals making use of the internet in one way or another since January 2016.

That means that approximately 52% of South Africans regularly access the internet, with 15 million using it for social media, and 13 million using their mobile phones to access these platforms.

If these statistics are anything to go by, most South Africans have embraced, or are ready to embrace, digitisation with open arms.

From a workplace perspective, most organisations today employ a Google Cloud and Microsoft Email system, with many also utilising ERP software to aid the flow of internal business processes. No one can deny the powerful impact technology has had on improving the overall functionality and productivity of any business.

Is this a threat to human productivity?

With this exciting influx of new, automated technology – that helps us better our lives and work – comes global concerns about the possibility of digitisation dominating the workforce, as well as the possibility of leaving humans jobless.



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Fortunately, AI-driven technology, at its very core, remains dependent on human involvement.

Most systems that have been, or are currently being developed, have a point in their process where human intervention is needed to continue.

AI can only do so much when it comes to decision-making, as it is tuned for binary workings. And, as much as we can use the digital information extracted from machine learning to inform better choices, at the end of the day, the human factor is still an essential component of intelligent decision-making.

Digitisation: an enabler of education?

If anything, digitisation should be seen as an enabler of education and employment opportunities.

AI technology allows for more learners to become familiar with the fundamentals of coding to communicate with backend systems, offering them the building blocks to further develop and enhance digital tools.

On the employment side of things, automated technology enables people to create businesses which would be very difficult to manage without digital aid.

If we look at Uber, for example, the technology behind the app drives a large part of its workforce, because it has

streamlined and optimised the process of finding taxi clients. No more getting in a car and driving around aimlessly while you wait for someone to stick their thumb out for a lift.

Can digitisation create jobs?

In addition, digitisation can potentially create more jobs, because AI systems require human resources behind the scenes to handle tasks after the initial frontend work has been completed by machines.



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Take a call centre, for example, AI technology can handle more incoming content from callers initially, but agents are still required to take over when it comes to dealing with a caller on a personal, human level.

The importance of digitally-gear training and skills development

Moving forward, South Africa's education system needs to prioritise STEM courses to successfully accommodate the shift to digital implementation in both the workplace and at home.

At a fundamental level, students with engineering and maths skills are mandated to develop and employ new technologies that will expand our globe digitally. Companies also need to safeguard themselves by upskilling their staff to become more confident, competent users of digital tools.

There are currently other good incentives in place for South African organisations to invest in skills development, including a better empowerment rating.

The importance of STEM education

In conclusion, the importance of STEM education at a school and university level, as well as digital skills development within businesses, cannot be stressed enough.

Our youth can shape the future, and an awareness at an early age of how to use digital tools is imperative for the growth and digital expansion of our country's economy. All organisations are responsible for upskilling their staff to stay relevant and profitable in a fast-growing business sector.

Rather than fearing that automation and AI technology will rob us of our jobs, why not learn their inner workings and operate alongside them to dramatically improve the way we live and work?

Download the [The Digital Landscape in South Africa 2017 report](#) (1.39 MB | PDF File)

ABOUT ROB LITH

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