

The future of work is greatly influencing the future of tertiary education

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The way in which we work, and the future of work, is facing significant disruption that is being shaped by technology and the innovative growth of artificial intelligence.



According to a report by the World Economic Forum (WEF), the rapid adoption of these technologies, in everything from manufacturing to healthcare, is opening up new opportunities for workers with the skills needed to thrive in the digital economy. In the US, for example, online job postings for digital roles increased by 24% between 2018 and 2021, led by a 116% increase in the number of listings seeking data engineers. Postings for computer scientists rose by 72%, followed by increases of 70% in adverts for chief investment officers and directors of IT, 63% for data scientists and 55% for marketing specialists.

Moving closer to home, the advance of technologies such as machine learning, artificial intelligence, and advanced robotics will have a far-reaching impact on South Africa's workplaces. Although digitisation will be disruptive, it has the potential to raise productivity and operational efficiency in businesses across sectors, to deliver better outcomes for both customers and citizens, and to create millions of high-quality jobs. A McKinsey report points out that digitisation could create as many as 1.2 million jobs by 2030.

"This poses two significant challenges to higher education institutions," says Professor Zaheer Hamid, director of the Mancosa School of Education, "How do higher education institutions prepare courses that are future focused, and how do these institutions prepare their students for the hyper competitive and ever-changing job market?"

Transferable skills

The WEF report points out that continuous change means continuous investments in the digitisation of the labour market

should be a priority.

Identifying the occupations that will thrive as the market evolves — and the skills needed to perform these roles — will allow policymakers and employers to focus education and training on the skills and tools that workers need to succeed.

“So, what are these skills? Not only are companies entering into a new business world, but employees are also expected to be adaptable and have transferable skills that can be used in many different parts of the organisation. Examples of this are people management, change management and diversity management. Employers are no longer placing employees in specific boxes limiting them to a specific role in the organisation,” says Hamid.

Other transferable skills that students are being taught at Mancosa include working with big data, robotic skills, coding skills and working with technology.

“One of the biggest challenges that Mancosa has to deal with when it comes to first year students is that many students from the rural areas enter into university life with very little computer skills. Not only will most of your tertiary learning be done through accessing technology, most jobs require basic tech skills,” says Hamid.

The changing landscape

The WEF report points out that, because technology is having such a big influence on the future of work, unique jobs will exist in the future that did not exist 10 years ago.

- Online job postings for data scientists in Canada, the UK and the US increased more than 40 times between 2012 and 2021
- Demand for cybersecurity professionals has boomed in recent years as more firms gather data to inform decision-making
- Demand for IT professionals and technicians to manage IT infrastructures is rising across all countries, partly due to the increase in connectivity of all types of businesses and activities
- Software developers and engineers are more in demand thanks to the rise of e-commerce, online sales and the use of apps.

Because of this, the WEF report points out that there is a dramatic increased demand for specific skills.

- The knowledge of machine learning, data science and data visualisation is spreading extremely quickly across roles and sectors. In the US, demand for advanced data analysis skills spread more than 15 times faster than demand for the average skill between 2012 and 2021
- A rapidly rising number of businesses are looking for people with social media management skills. In the UK and the US, the demand for social media skills spread up to 14 times faster than the demand for average skills between 2012 and 2021
- Digital jobs require a mix of technical and high-level cognitive skills.

Again, moving closer to home, the McKinsey report points out that the new technology-enabled jobs in South Africa will require higher skills levels than most of the jobs that will be displaced by digitisation. Digitisation could result in demand for an additional 1.7 million employees with higher education by 2030. Unless a higher percentage of South Africa's graduates take technology-related jobs, much of that demand will go unmet – resulting in a serious skill shortfall across the economy.

“How do tertiary education institutions respond to this? First, we need to know our students in terms of where they come from and the context that brought them to where they are. We then need to know what they need to succeed. The last piece of this puzzle is having a deep understanding of what the future job market is going to be like, the jobs that will be available in the future and the skills that employees will need to be successful in these jobs. Once tertiary institutions know this, we can design innovative cutting-edge courses and schools that will adequately prepare students for life after university,” says Hamid.

Important decisions

At this time of year, many learners in high school will be required to make subject choices based on what they believe will be the best career for them when they enter into the labour market. Some learners will change their minds about their career choice and will thus have to pivot in their chosen high school subjects. Hamid has some key advice for these students.

“Core subjects such as language and numeracy skills will be a key component for any job. Learners need to sit down with guidance counsellors and possibly people who have already entered the job market and find out what skills are needed to be successful. Make subject choices and choices about university courses based on this information rather than choosing subjects and courses that look good on paper. Another key driver of this information will be the future demand for these jobs,” says Hamid.

He adds that Mancosa takes a lot of time and care to ensure that the university offers the best courses for students. “Our School of Education, School of Healthcare and School of Innovation and Digital Technology are cutting edge and are designed to give students a competitive advantage once they enter into the job market. We focus on producing well rounded graduates with transferable skills that will not only make them successful in their careers but will allow them to make a difference to the communities that they serve and the country as a whole,” concludes Hamid.

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