

JCSE ICT skills survey reveals SA's critical skills gap

Yesterday, Wits University's Joburg Centre for Software Engineering (JCSE) launched its sixth consecutive skills trends survey, outlining how the state of the South African economy is depressing the demand for ICT skills.



The objective of the 2014 JCSE ICT Skills Survey is to identify the most pressing ICT skills needs from South African corporates, obtain a balanced view of current skills capacities of practitioners, and identify future intentions for skills development.

Adrian Schofield, the JCSE's manager of Applied Research and author of the report, says that it is clear that South Africa is falling behind its peers in Africa as countries like Kenya, Nigeria and Egypt place greater emphasis on the contribution that technology plays in economic growth: "There remains a significant lack of improvement in South Africa's basic education as well as exposure to and familiarity with ICT. Learners need a better understanding of the ICT sector to equip them to adapt to the modern tools used in everyday lives."

He says that trends in technology adoption place an emphasis on cloud, big data, mobile, security and the Internet of Things and the ranking of the top five priorities remain unchanged from last year's report: software as a service; network infrastructure, information security, application development and business intelligence (which now includes knowledge management, big data and analytics).

In the report the JCSE says that 2014 can easily be characterised as a year of mixed signals in the ICT skills environment: "On one hand the size of the global IT market will reach almost \$4 trillion in 2015, which is an impressive four-fold increase in the last 15 years, but global giant Microsoft is reducing its workforce by 18,000 (20%).

Schofield says that trends such as the Internet of Things have fast become a reality: "While these new and emerging

technologies create strong demand for certain skill sets, they reshape others and it often results in many employees becoming redundant."

He says that while Africa is perceived as an emerging economy where opportunities for growth exist, South Africa has fallen behind due to several contributing factors ranging from limited numbers of matriculants and graduates in the STEM disciplines, through to delayed or failed implementations of technology projects by government.

Professor Barry Dwolatzky, Director of the JCSE says that the problem is huge and should not be underestimated: "There are two-and-a-half times more youth unemployed than adults in South Africa, and 60% in total on the continent. We are at risk of losing an entire generation if vital steps are not taken."

He says that to fulfil its destiny, Africa needs to become a leading developer and innovator of digital technology over the next few decades: "Digital technology provides a good route to absorb some of the youth unemployment. There are several ways in which this can be done throughout schools, universities and internships."

He says that simply, if Africa's youth are skilled via a pipeline of these kinds of initiatives, things will change. "It is essential that South Africa makes up for lost time as quickly as possible. The goal of the National Development Plan cannot be achieved without the contribution of a fully effective ICT sector. We have to achieve a paradigm shift to overcome the appalling fact that approximately 10% of students who enter the basic education process in South Africa achieve a pass in math or science subjects even with the low 30% pass mark hurdle."

The JCSE in collaboration with the IITPSA (Institute of Information Technology Professionals South Africa), the Information Technology Association (ITA) and Eduflex, suggest the 2014 JCSE ICT Skills Survey reflects the "State of the Nation" in South Africa. There are mixed messages and mixed feelings, with very little doubt that the depressed state of the economy is lowering the expectations of employers in terms of short to medium term growth.

This is exacerbated by the lack of leadership from the South African government in some key areas relevant to the potential growth in the ICT sector - including systems development and implementation by the State IT Agency and in key departments, delayed rollout of DTTV and reallocation of spectrum, poor access to broadband and lack of an integrated National ICT Policy.

Many of the "traditional" skills in the ICT sector continue to be in demand, due to the pervasive nature of the technologies, together with some new (or increasingly important) ones associated with cloud computing, big data and information security. However, the scale of the "shortage" seems to be dwindling, particularly against the backdrop of downsizing by some of the larger employers in the sector.

"There is a vital need for improvements in the basic education system, from improved teacher skills to embedding technology across all schools, if we are to create future generations of "tech savvy" young people who can use, adapt and improve on the technology of the day," says Professor Dwolatzky. "Without that talent pool, South Africa will always be dependent on the products and services developed outside our borders. With that talent pool, we will be able to foster innovation and entrepreneurship to fuel an improved economic and social outlook."

The 2014 JCSE ICT Skills Survey is available online. For more information contact Adrian Schofield, Manager, Applied Research Unit at the JCSE on 011 717 6390 or adrian@jcse.org.za.