

Innovation is key to our global competitiveness

 By [Albert van Jaarsveld](#)

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On 3 September, the World Economic Forums released its 2014-2015 Global Competitiveness Report. The report ranks 144 countries on the basis of their global competitiveness derived by aggregating performance in 12 areas (pillars). Unfortunately, South Africa's over-all ranking has dropped by three points from 53 to 56. This rating is the worst showing by South Africa since 2010 and comes after a ranking of 50 in 2011.

The 2014-2015 drop has largely been caused by South Africa's four points slide in each of the following pillars: efficient market for goods and services (28 to 32); financial market development (3 to 7); Technological readiness (62 to 66); Innovation (39 to 43).

Arresting the overall slide to just three points has been a significant improvement of six points in the country's infrastructure ranking, and three points improvement in higher education & training, labour market efficiency.

South Africa's overall ranking has dropped, so why should we care?

The first reason lies in the World Economic Forum's definition of competitiveness as *"the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy"*. This means our competitiveness as a country speaks to our ability to address our challenges of poverty, unemployment and inequality. Therefore, trends derived from such indices could be leading indicators of our growing ability or, in this instance, our inability to resolve our most important challenges. The second reason is that such assessments offer a fairly objective indication of areas South Africa needs to improve in.

One area which the 2014-2015 ranking indicates as needing attention is innovation, specifically technological innovation. This area is very important as, globally, knowledge creation and the application of that knowledge in the creation of new products and services, is becoming a significant contributor to countries' economic performance. This indicator is also significant in the context of South Africa having adopted, as a strategic intent, the move towards a knowledge economy.

The National Development Plan makes the point that *"South Africa's prospects for improved competitiveness and economic growth rely, to a great degree, on science and technology [and that] ... Innovation derived from science and technology and knowledge creation is the primary driver of technological growth and driver of higher living standards"*.

Improvement of research institutions

Despite the overall drop in innovation, the report notes improvement in the quality of South Africa's research institutions.

This is borne out by the 2013 National Advisory Council on Innovation's report on South African Science and Technology which shows South Africa performing better than all of the other BRICS countries, as well as Japan, the United Kingdom and the United States, in terms of research publications per 100 researchers on Full-Time Equivalent (FTE) basis.

Where South Africa's drop in innovation can be traced to is in the slides in companies' spending on R&D; University-Industry Collaboration in R&D; and Patent Cooperation Treaty (PCT) patents applications.

This highlights areas where work has begun, particularly in creating instruments to foster and facilitate university and industry collaboration. Greater effort still has to be made in encouraging South African corporates to invest in research and development in this country.

What else needs to be done?

First, greater effort has to be put into getting South African society to embrace a vision of a prosperous society that derives enduring and equitable benefits from science, technology and innovation (STI). This means as a country and society we must not see STI as something for other countries and societies to pursue. When thinking about Brand South Africa, one of the key pillars of our brand identity should be excellence in science, technology and innovation. This will help in ensuring that more people pursuing and taking up studies and careers in science and technology becomes the rule.

Secondly, we need to invest in the development of high end skills, particularly in STI. This means encouraging and supporting more South Africans to pursue PhDs. Why a PhD? Because it is internationally recognised as the most appropriate qualification to prepare an individual for a high-end research role, focused on the production of new knowledge and inventions.

Thirdly, as a society we need to support the development of ideas and position the economy to foster them from cradle to commercialisation. This means not only providing finance for research and development, but also for filing of patents and business mentorship. This also means creating the institutional backbone that allows, nurtures and encourages "disruptive innovation" that infuses new ideas and approaches into the economy on a continuous and regular basis.

Bureaucratic and state institutions are typically very poor at fostering "disruptive innovations" and are too cumbersome to respond to emerging market opportunities. The South African economy must therefore shift gears from a heavy state dominated enterprise, with high state employment to a more vigorous private sector and SMME driven environment, and more emphasis on innovative entrepreneurial activity across emerging private sector initiatives.

As important as technological innovation is to our global competitiveness and in addressing some of our challenges, we also need to encourage nontechnical innovation, social and economic innovation, especially through disruptive innovations that turn a sector on its head and forge new economic opportunities.

Finding effective and sustainable solutions that address societal issues or benefit society is equally important and necessary in achieving our vision of a globally competitive South Africa. However, none of the above will be achieved within a stagnant economy and a shift from an interventionist state to unleashing entrepreneurial energy in a rapidly expanding private sector may be the required catalyst.

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