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S.E.T. for socio-economic growth

'South Africa needs a new funding currency: Innovation Translation Units' – says DUT's Prof Fulufhelo Nemavhola

Opinion piece by Prof Fulufhelo Nemavhola, Deputy Vice-Chancellor for Research, Innovation and Engagement at the Durban University of Technology (DUT)

South Africa's (SA) universities are rich in intellectual input, but the funding system still fails to provide the torque needed to turn ideas into products, enterprises and public solutions.

Every year, postgraduate students produce dissertations and theses. Academics publish articles. Research offices submit output claims. Universities celebrate increases in publications, graduations and subsidy units. These achievements matter. They reflect effort, scholarship and institutional discipline.

But the country must now ask a harder question: what happens after the publication, after the thesis, after the patent filing, after the prototype demonstration and after the student entrepreneurship competition?

Too often, the answer is: very little.

Promising research remains in repositories. Prototypes stay in laboratories. Patents are filed but not licensed. Student start-ups struggle to survive beyond pitching competitions. Technologies that could assist municipalities, clinics, schools, small businesses and industries do not always reach the users who need them most.

This is not merely a university performance failure. It is a design defect in the funding architecture that drives university behaviour. The government gets what it funds. Universities become what government measures.

For decades, SA's university funding system has rewarded enrolments, graduations and research outputs more predictably than innovation, entrepreneurship and technology translation.

Universities have therefore built strong systems to manage student numbers, publication submissions and postgraduate completions because these affect subsidy, reputation and institutional performance.

But where is the equivalent national system for innovation translation? Where is the formula that rewards a dissertation that becomes a product, a doctoral project that becomes a clinical tool, a manufacturing process, or a student enterprise that survives incubation and creates jobs?

This distinction matters. A patent filed by a university is not the same as a patent licensed to industry. A prototype displayed at a launch is not the same as a product adopted by a school, hospital, municipality or company. A registered student business is not the same as a surviving enterprise with customers, revenue and employees. A research paper is not the same as a device, process, platform or tool that improves lives.

SA's funding system must distinguish between knowledge that is produced and knowledge that is used.

The urgency is clear. SA's gross domestic expenditure on research and development remains around 0.62% of GDP, well below the 1.5% target that has appeared in national policy discussions for years.

At the same time, youth unemployment remains devastating: in the first quarter of 2026, unemployment among young people aged 15 to 24 was above 60%.

These figures should force universities, government and industry to rethink the purpose of publicly funded knowledge.

A country facing unemployment, de-industrialisation, infrastructure collapse and technological dependence cannot afford a university system where too many good ideas end as PDFs.

A journal article should not be the graveyard of a good idea.

This is why SA needs a new funding currency: Innovation Translation Units.

Innovation Translation Units would reward universities for moving knowledge from idea to use. They would not replace research outputs, teaching outputs or graduate outputs. Instead, they would correct the imbalance in the current formula by funding translation as a serious university mission.

This is not a technical accounting adjustment. It is a policy signal about what kind of university system SA now wants to build.

The principle is simple. A filed patent should receive modest recognition; a licensed patent should receive more. A validated prototype should count; a prototype adopted by industry, government or a community should count more. A surviving spin-off or postgraduate project that becomes a usable tool, process or technology should attract an innovation premium.

If the formula rewards innovation translation seriously, universities will build systems for that too. Vice-chancellors will ask different questions. Deans will design different strategies. Students will see entrepreneurship and innovation as part of their academic journey, not as extracurricular activity. Technology transfer offices will move from the margins to the centre of strategy.

This is particularly important for universities of technology. They were never meant to be traditional universities with different branding. They were created to be closer to industry, practice, applied

knowledge and the real economy. Applied knowledge is not inferior knowledge. It is knowledge that has reached the world.

SA must stop funding all universities as if they have exactly the same mission. A mature higher education system does not confuse fairness with sameness. All universities should be excellent, but they need not be excellent in identical ways.

This does not mean abandoning publications. SA needs scholarship, scientific rigour, peer review and global academic participation. But research quality must no longer be understood only as publication. Quality must also include use, adoption, commercialisation, public value and developmental impact.

The Higher Education Innovation Fund and entrepreneurship programmes are welcome developments. But side funds cannot carry the burden alone. A small innovation fund cannot defeat the gravitational pull of a large funding formula.

SA should introduce a fifth major funding stream in the university subsidy framework: an Innovation and Entrepreneurship Grant based on audited Innovation Translation Units.

It should reward licensed patents, validated prototypes, surviving spin-offs, student enterprises, industry-adopted technologies, public-sector solutions and postgraduate research that produces usable tools or systems.

The grant must be designed carefully. It must avoid rewarding empty company registrations, unused patents, ceremonial prototypes or exaggerated claims of impact. A filed patent should not carry the same value as a licensed patent.

A registered company with no activity should not carry the same value as a surviving enterprise. A prototype locked in a laboratory should not carry the same value as a technology adopted in the field.

That is the discipline Innovation Translation Units would introduce. They would force universities to ask the questions SA now needs answered: What happened after the publication, the doctoral thesis, the patent, the prototype and the student pitch?

SA does not need another slogan about innovation. It needs a funding formula that pays for the hard and risky journey from knowledge to use. Until the formula changes, universities will continue to follow the incentives placed before them.

Change the formula, and universities will change. Change universities, and SA may finally begin to turn more of its knowledge into enterprises, technologies, jobs and public solutions.

The opinions expressed above are those of Prof Fulufhelo Nemavhola, Deputy Vice-Chancellor for Research, Innovation and Engagement at DUT. He writes in his own capacity, and his views do not necessarily reflect the views of the Executive Committee or members of the NSTF.