

Private intermediaries play a larger role in addressing skills mismatches at the sectoral level than is recognised in policy.

Broker, facilitating a transaction between two or more actors: In the sugar sector, the Department of Agriculture facilitated linkages between agricultural colleges and firms. In the automotive sector, the AIDC facilitated linkages between businesses and government bodies at the national and provincial levels.

Mediator, assisting organisations to form a mutually beneficial collaboration: Both private and public intermediaries across the three sectors worked with firms to identify skills needs, and communicate to government bodies. They negotiated work placement for students; with government and firms to support the capabilities of PSET actors, and to develop articulation and responsiveness to the needs of firms.

Co-ordinator, relationships across a skills development system: This could take the form of co-ordinating the skills activities of private sector actors – firms, industry and private research institutes. For example, SASA acted as an umbrella body for the sugar industry, coordinating research and skills development for growers and millers, to meet their current and future skills needs. It could also mean co-ordinating the programmes offered by public and private PSET providers. The Square Kilometre Array (SKA) Association established a human capital development programme to co-ordinate across, and enhance the responsiveness of universities and colleges, to develop skills for radio astronomy. It established an informal network between participating universities, to build the personal relationships that promote collaboration. Finally, this role could entail co-ordinating skills planning and development across public and private sector organisations. Some intermediaries operated in effect as ‘public-private intermediaries’, playing crucial roles in co-ordination across

a sector, particularly where change is rapid. For example, the SKA project office played a distinctive role by prioritising not only the needs of the sector, but also national development goals.

Our evidence showed that private intermediaries play a larger role in addressing skills mismatches at the sectoral level than is recognised in policy, and that there is potential for public intermediaries to contribute more effectively to systemic functioning, through playing a co-ordinator role.

Promoting the roles of intermediaries in bridging skills demand and supply

Private sector intermediaries should be more widely recognised: they have the necessary expertise and social capital to provide and support sector-specific education and training and to enlist support from public intermediaries, especially the SETAs, as needed. One way to strengthen skills development systems is to increase funding support to private intermediaries who act on behalf of the sector, and not only in the narrow interests of an individual firm. Another way is to promote formal public-private partnerships.

Public sector intermediaries should play a larger role in co-ordination and bridging

SETAs are currently challenged to develop their capacity to function as brokers between industry, government and public education and training organisations.

across employer networks, government bodies, and education and training organisations. They should extend their current practice of building bilateral relations, linking government and employers, or linking employers and education and training organisations, to build networks and coordinate skills initiatives across sectors.

SETAs are currently challenged to develop their capacity to function as brokers between industry, government and public education and training organisations, and as strategic partners for TVET colleges. Their interactive capabilities to perform these network-building roles need to be improved. To bridge supply and demand-side actors, SETAs should include representatives from public education and training organisations in their sub-sector committees.

Public-private intermediaries should take on the role of co-ordinating skills development activities across public and private domains, to coordinate skills development locally, to facilitate interaction, and manage relations between the diverse set of local stakeholders with each other and into global networks.

In conclusion, such evidence highlights the actors that can support stronger alignment between universities, TVET and community colleges, SETAs, government and firms. Clearly, a better understanding of the roles of a wider range of public and private intermediaries in skills planning and development can add value to current policy efforts to promote partnerships and interaction across the PSET system.

Authors: Dr Il-haam Petersen, postdoctoral researcher fellow, Education and Skills Development (ESD) research programme, HSRC; Dr Glenda Kruss, director, ESD.

This article is based on Petersen, I, Kruss, G, McGrath, S and Gastrow, M, (2016). Bridging skills demand and supply in South Africa: The role of public and private intermediaries. Development Southern Africa. 33(3):407-423.

 is available on www.lmip.org.za

HIGHER EDUCATION and ECONOMIC DEVELOPMENT: building interactive capabilities

There is more to the role and developmental impact of higher education than economic development alone. In a rapidly changing and technologically increasingly complex world, one core role for universities is to prepare young people for active participation in work and the economy. *Glenda Kruss, Il-haam Petersen and Simon McGrath* ask how universities can respond to the changing technological capabilities and skills needs of firms, particularly in relation to their professional and occupational programmes.

To address this question our research used an approach new to the South African skills literature, which is based on evolutionary economics and innovation systems. In this article we present a case study of the automotive Tier 1 component supplier sector in the Eastern Cape, to illustrate how such an approach can contribute to understanding the role of higher education in skills and economic development.

Meeting routine skills needs

In countries like China and India, the automotive sector has succeeded in technological capability building to the extent that local firms have become part of global innovation networks and, in turn, have created globally competitive national industries.

In South Africa, the sector remains strongly disciplined by global production chains with research and innovation conducted primarily at multinational headquarters. In our study, all the large original equipment manufacturers (OEMs) and many of the Tier 1 firms (component and suppliers)

are multinational corporations. Their decision to stay and invest in their South African operations is subject to frequent reappraisal.

The government has prioritised the sector in its industrial policy strategies and it is well organised into industry associations with strong trade union presence. In the Eastern Cape, the sector is high among provincial and metropolitan economic development priorities. Representatives from industry, government and skills providers meet regularly and have a shared understanding of, and commitment to, the automotive sectoral system.

Nationally, a sectoral prioritisation and development programme initiated by the Department of Trade and Industry (dti) has been successful in that its incentives have kept the South African sector alive – but it does not provide a model for productive transformation. The programme lacked specific mechanisms to promote skills development and its benefits have been dominated by the small group of OEMs. Nor do the main component firms and sectoral intermediaries have

co-ordinated strategies to promote research excellence, innovation or sector-specific skills.

In the automotive component sector as much as 70% of employment is at basic operative levels, with relatively little current demand for intermediate skilled workers or high-level engineers. Firms have developed effective strategies to address these routine skills needs and many have the capacity to deliver in-house training or source courses from private training providers.

In the automotive component sector as much as 70% of employment is at basic operative levels, with relatively little current demand for intermediate skilled workers or high-level engineers.



The automotive industry did not concentrate sufficiently on building capabilities for technological upgrading. Credit: Tourism SA

The sourcing and upgrading of engineers is typically managed through interaction with universities, through bursary programmes, student placements and internships or leadership training.

In short, firms have the capacity to meet their routine skills needs, and interact with universities in traditional ways to meet their limited high-level skills needs.

A missing link: dynamic interactive capabilities

However, our analysis suggests that the automotive component sector is constrained by weak dynamic interactive capabilities. It has not concentrated sufficiently on sectoral co-ordination and networking, directly aimed at building capabilities for technological upgrading, so that it can be introduced

Our analysis suggests that the automotive component sector is constrained by weak dynamic interactive capabilities.

more favourably into global production chains and innovation networks. That is, it does not have a strategy to meet changing skills needs, to grow jobs and productivity through sensing change, and to co-ordinate and integrate new mechanisms and structures in response to change. In this context, the question that arises is to what extent the four universities in the province currently evince the interactive capabilities to support such a dynamic strategy of technological upgrading.

Our network analysis shows that only one university is currently strongly inserted in skills networks with component firms. The other three universities provide graduates who may work in management or on the business side of component firms located in their region. While there are a few linkages to the management training programmes in three of the four universities, there are no structured science, engineering and technology-oriented programmes.

What are the distinctive features of the highly networked university?

- It has a historical practice of industry interaction, supported by its institutional culture, leadership and the disciplinary competences of its academics.
- The university has an employability-driven view of graduate attributes and a legacy of work-integrated learning linking students to industry.
- The university's interactive capabilities are reflected in external interface structures such as sectorally funded research chairs and research units and a technology station funded by government that focuses on technology transfer to small enterprises in the automotive component industry, providing design and prototyping services. Another critical external structure is the programme advisory boards inherited from the technikon tradition.
- In terms of dynamic interactive capabilities, the university has a strong institutional planning structure that informs strategic planning, quality enhancement and monitoring and evaluation of progress, reflecting its sensing and integrating capabilities.

The role of universities in local and global economic development

In this provincial sectoral system there are gaps in the interactive capabilities of three local universities, but the capabilities of one university are sufficient to meet the routine skills needs of firms. However, if Tier 1 firms are to be more competitive locally and internationally, then there is a critical role for universities to play going forward.

More universities in the region need to develop the dynamic interactive capabilities to network with component firms.

The dti should consider the skills component of targeted industrial policy to build domestic firms' technological capabilities.

More universities in the region need to develop the dynamic interactive capabilities to network with component firms to address changing skills needs and to raise productivity levels.

In terms of technological capability building for economic development, the universities in the region could support local firms in Tier 1 and Tier 2 (smaller, local suppliers to the main component suppliers) more effectively, whether through their graduates, research, technology transfer or training. As the main knowledge producers in the network, universities can contribute to enhance firm learning, if firms are to become more proactively introduced into global production networks.

There are no guarantees that a more innovative automotive components cluster can be achieved, given the global constraints under which it operates. Nonetheless, there is a pressing need to support the sector to continue as an important contributor of employment, exports and skills.

Policy implications: building interactive capabilities

Our case study highlights policy implications that focus on learning, capabilities and interaction. It enables the identification of strategies that may lie within the control and agency of firms, higher education and government.

Policies that prioritise target sectors should include a careful assessment of the national capacity to make the policy a reality, within the context of the global capitalist system.

The Department of Higher Education and Training (DHET) should work strategically with public and private intermediary organisations, as well as education and training organisations themselves, to create a distributed

process of capacity development and network enhancement.

The dti should consider the skills component of targeted industrial policy to build domestic firms' technological capabilities.

Universities need to focus more on their own capabilities to learn and innovate within their own organisations, by developing a clear strategy, structures and interface mechanisms. They need to develop their capabilities to interact within skills development networks and systems, particularly in relation to priority sectors that match their academic expertise, whether in their immediate local context or nationally.

In sum, the automotive components case study serves as a cautionary tale, demonstrating the need for a realistic view of the local, national and global conditions impacting on development, while at the same highlighting the potential role universities can play in economic development if they build their dynamic interactive capabilities more strategically.

Authors: Glenda Kruss, director, Education and Skills Development (ESD) programme, HSRC; Dr Il-haam Petersen, post-doctoral research fellow, ESD; Professor Simon McGrath, Centre for International Education Research, University of Nottingham

This article is based on Kruss, G., McGrath, S., Petersen, I. and Gastrow, M. (2015). Higher education and economic development: the importance of building technological capabilities International Journal of Education Development.

43:22-31, is available on www.lmip.org.za