

A National Policy to Orchestrate Oman's Zest for R&D

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Transforming creativity and critical thinking into a profitable and commercial R&D ecosystem requires a National Policy, which lays out a clear roadmap for the members of Oman's triple helix model; government, academia and industry. A united effort is required to create an eco-system to accelerate Oman's journey to becoming a knowledge-based and innovative economy, as per the National Vision 2020 and 2040.

The Royal decree that helped establish the Research Council in 2005 marked the first vital step in what will be a multifaceted journey. Now, the Research Council and all the other entities in the triple helix model are working together to carve out a detailed and nation-wide policy that boosts the level of inspiration and accountability associated with R&D.

As with all economies centered on hydrocarbon production, low oil prices since mid-2014 have created a move in many oil producing countries to diversify their economy and to be less dependent on revenues from hydrocarbon production. The International Energy Agency (IEA) warns that oil prices could stay within the current \$50/bl range until mid-2017 at least.

A National R&D Policy has been developed by TRC as part of the National Research Strategy to activate collaboration between government, academia and industry so that the rapidly-evolving R&D efforts in all are aligned. R&D completed by Oman's public energy entities must support the commercial goals of the private energy sector and vice versa. Such cooperation encompasses energy efficiency, data

management systems and enhanced oil recovery (EOR) and renewable energy technologies.

In particular, academia and industry can do considerably more to jointly define key performance indicators (KPIs) for individual and joint projects to maximise their financial and human capital.

Joint efforts by SQU and Oman's state-owned and Shell-led Petroleum Development Oman (PDO), provide a useful example of cooperation between academia and industry. A joint committee of researchers from SQU and PDO meet regularly to share challenges and brainstorm solutions. Such efforts would also accelerate the rate of locally-registered patents, which will strengthen Oman's R&D ecosystem and attract more investors at home and abroad to commercialise novel ideas and crossover technologies - tools used in other industries such as medicine, aviation and mining, for example - that can most easily be adapted to cut costs and boost operational efficiency in the energy sector.

KPIs will help decide funding structures, so that the primary beneficiary of the innovation makes the greatest managerial and financial contribution to the R&D process. Contributions do not need to only be financial. Industry can offer the use of its facilities and historical data, academia can allocate scientific and technical talent, while government can help market the project at home and abroad, for example.

Different funding structures can also be laid out to support the three primary R&D routes;

basic, applied and experimental. Applied R&D solves a specific problem and exploratory R&D is characterised by engaging in more practical ideas. All three hold equal importance in creating a culture of innovation. They each require a variety of scientific and technical skills and are appropriate at different points in the innovation ecosystem.

Through TRC, Oman is on the right track towards creating an innovative ecosystem aligning R&D along national needs. Various programs have been launched ranging from encouraging innovation at young ages in schools to establishing research centers where the triple helix entities are the main stakeholders.

Competition is essential to creating a culture of innovation, but duplicating activities and wasting time and resources are not. With a population of 4.3 million, it is vital that Oman uses its relatively small pool of human resources wisely. Focus and careful planning would enable established R&D centres to support the ever-growing community of small and medium-sized enterprises (SMEs) and entrepreneurs, which are a key part of Oman's creative engine.

Last, but certainly not least, a National R&D Policy will be strengthened by the development of the national innovation strategy which will enhance the collaboration between the triple helix stakeholders. These efforts will boost the ability to think critically, research in a qualitative and quantifiable manner and communicate new ideas and most important to create a socioeconomic benefits from R&D activities. ■