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Harvesting local R&D

Habhajan Singh; Kiranjeet Singh

IF you want to harvest in the autumn, you need to sow in spring. If they have their way, researchers at local public universities would be drumming, day in and day out, to this ancient wisdom. They are aware of the prime role of research and development (R&D). Over the years, powers-that-be at local universities have also attempted to carve out a bigger funding pie for that area.

Slowly but surely, it is inching up. While the local entities may not compare to world giants, R&D at Malaysian universities has shown tremendous potential, more so in niche areas. Here and there, they are making their mark.

Take, for example, the breakthrough for a new gas process. Two researchers from Universiti Sains Malaysia (USM) churned out a process to produce ethylene from natural gas. The USM-duo conjured an innovative solution to convert natural gas into ethylene. Plastic industry players would be all ears here as ethylene is a vital ingredient for plastic produce. No mean task. It won the tag-team a gold award at the Seoul International Invention Fair last year.

This is not a one-off thing for local researchers. In the past, many have successfully channelled their resourcefulness into interesting and exciting inventions. `In this region, we are far ahead of most countries in terms of R&D capabilities,' says Prof Dr Radin Umar Radin Sohadi, dean of faculty engineering at Universiti Putra Malaysia's (UPM). `However, we still have a long way to go compared with developed countries.'

One key factor is the spending pattern. A common method of gauging how embedded R&D is in a particular country is to compare its R&D budget against the Gross Domestic Product (GDP). Malaysia still ranks on the lower side. In 1998, it was at 0.4%. However, R&D expenditure has been on the rise. According to the Eight Malaysia Plan (8MP), RM1.1 billion was spent on R&D in 1998, almost double of RM549.1 million two years earlier.

The figure is still growing. Under the 8MP - spanning from 2001 to 2005 - a total sum of RM1.6 billion is allocated for R&D and commercialization of technology. Under the previous plan, it was RM1 billion.

The funding game is merely one limitation. `The biggest challenge is to turn inventions into a marketable product. It's a long journey with many gaps,' says Prof Radin Umar. `One glaring gap in the journey from prototype to product is attracting venture capitalists.'

VCs, as the venture capitalists are popularly known, dole out cash and related assistance in earlier stages of R&D programmes. They take a stake in the venture, hoping to profit from it later on. They usually come in with an exit plan. In the end, profit rules. Hence, VCs look for projects with commercial viability.

Here, takers come in dribs. One way to judge is by looking at the success, or the lack of it, in priority research. It falls under the category called Intensification of Research in Priority Areas (IRPA). Ripping apart R&D findings, one finds low level of its commercialization. Few finally make the commercial cut. `There were few takers of potential technologies and products,' comments the 8MP, `as the private sector wanted to minimize risks on untried and untested technologies and products in the market.' In addition, linkages with industry through joint or collaborative R&D were still negligible.

Hence, public funds rule the day. Private money flowing into

universities' R&D is still a distant dream. All the more if one dreams big. `Our industries are not investing in R&D,' says Tan Sri Dr Syed Jalaludin Syed Salim, former vice chancellor of UPM and current chairman of Bank Kerjasama Rakyat Malaysia Bhd (Bank Rakyat). `We don't rank high' in terms of R&D,' he says.

In each of its development plans the government has allocated large sums of funds to public universities (IPTAs) to undertake research in various disciplines. This is to enhance the country's development and competitiveness to achieve a developed nation status by 2020. The research effort has contributed significantly towards knowledge, innovation and creation of new products and technology. Many of the research outputs have won national and international awards.

But public universities are sitting on their laurels. Come October, local public universities will be putting up their best in R&D. The Research and Development Exhibition and Conference, last organized in 2001, will be featuring more than 500 R&D works. The exhibition is specially planned as a platform to congregate researchers from the following seven research clusters:

* Agriculture, Food and Forestry
* Energy, Products and Environment
* Bioscience and Biotechnology
* Technology and Communication
* Science and Engineering
* Health and Allied Sciences
* Humanities and Social Sciences

The idea for the event was first mooted by Prime Minister Datuk Seri Dr Mahathir Mohamad. It was to see local public universities sharing research outputs. The event became the ideal place for institutions to exhibit their innovative and commercialisable research outputs.

The year, the theme is `Investing in Innovation'. `This is consistent with the government's investment of more than RM3 billion through local public universities,' says Prof Radin Umar. `Also, the theme reflects the government's vision to enhance public awareness of and confidence in current research expertise and their contribution to society.' One last word to potential VCs and investors: he says: `We have a lot to offer....Just come and judge for yourself.'