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Title and Abstract

Title Commercialisation of Public Sector Innovation via Symbiosis Programme in Malaysia

Background of Study

The public universities and research institutions are the major players in research and development (R&D) activities, promotion of technical improvements and introduction of new innovative products in Malaysia. A lot of investments have been made by the Government of Malaysia in R&D activities especially those conducted at public universities and research institutions.

It is therefore imperative that a return on investments made is visible. The return discussed here is beyond the usual number of students graduated, papers published and cited or number of intellectual properties filed. The inventions and solutions innovated by the public sector should benefit the public and a transition from laboratory's prototype to actual products on the shelves in the market, i.e commercialization pathway has to be established and the processes facilitated.

Abstract

While the solutions are innovated by the public sector, the rate of take-up by the industry remains to be low for various reasons. Efforts have been intensified in increasing commercialization of public sector's R&D especially through the creation of spin-off companies. The pool of abled technopreneurs to lead these companies needs also be enlarged.

The Malaysian Technology Development Corporation (MTDC) has been set up to increase the rate of commercialization in Malaysia, especially the R&D outputs from the public sector. Its twenty years of data exhibits that the take up of public sector R&D by the industry is still considerably low.

A program called 'Symbiosis' has been formulated specifically to increase the commercialization rate of public sector R&D, using spin-offs as the vehicle. Introduced in 2008 with a leading research institute in Malaysia the programme has now involved five organisations, 150 graduates and fifty technologies. To date, through the programme, fifty spin-off companies have been formed, all led by technopreneurs trained through the programme.

The immediate success from Symbiosis is seen in the substantial increase in the number of inventions from the public sector going on into the market. The Tenth Malaysia Plan (year 2011 to 2015) is ongoing but has already seen 50% of total number of projects approved which makes up to 41.05% of total amount approved in Ringgit Malaysia. It is foreseen that by the end of the Plan, the percentage would exceed 60%.

This paper walks through the scheme and discusses the challenges faced and solutions identified. Crucial factors limiting commercialization success via such path are also discussed.

Objective of Study

The study aims to look at the effectiveness of the Symbiosis program in increasing the rate of commercialization of public sector's innovation and the size of abled technopreneur pool in Malaysia. Where weaknesses are identified, recommendations on improvements are put forth. Comparisons are also made on the variations at each participating organisations and best practices are identified.

Simplified methodology

Landscape setting will be made by an analysis of MTDC's database since the last twenty years.

Symbiosis, being a programme that involves the industry (entrepreneur), the university/research institutions as technology provider and the Government (through MTDC) will be studied via interviews with all participating entities – Technology Transfer/Licensing Offices of the universities/research institutions, the technopreneurs and the organizer for data finding and their views.

The spin off companies were assessed on their performance, value created and potential. Comparisons were then made between different Symbiosis programs to identify the similarities and differences witnessed at different organisations.

Summary of results

Data generated were analysed and assessed to see commercialization success rate via such scheme, identify weaknesses and stumbling blocks as well as success and boosting factors.

Conclusions

The one common observation on Symbiosis at the different organisations is that the universities in Malaysia produce inventions that have commercial potential and graduates that have the traits required for a technopreneur. The researchers and Technology Transfer/Licensing Offices (TTLO) though may have disputes in the valuation of the technologies since commercialization in the country, as an active activity, only started since the Eighth Malaysia Plan and as such, the commercialization process by itself is something new to the universities/research institutions.

The commercialization vehicle chosen in this pathway is spin-off companies. There were issues identified on company structure, ownership, membership of the Board of Directors, reporting chain as well as control. The issues were discussed in length.

Recommendation(s)

Recommendations made are on the improvements of the programme as well as the commercialisation strategy of each university.