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The Role of Potential Licensee Availability in Facilitating Commercialization of Academic Research Results

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Abstract

This paper mainly focuses on investigating the effects of the availability of potential licensee as a measure of academic commercialization. Moreover, a qualitative research method is adopted based on the case study approach. In order to explore the issues of this study, ten face-to-face interviews were conducted. The respondents were chosen among inventors, researchers, academic entrepreneurs and Technology Transfer Office staffs in Universiti Teknologi Malaysia (UTM). The researcher used content-analysis approach to analyse the data obtained from the interviews. The results showed that the availability of potential licensee and awareness of the invention market potential facilitated the invention commercialization.
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Keywords: Commercialization; potential licensee; market potential; research output; university.

1. Introduction

The commercialization of university-generated knowledge looms large in public discussion nowadays and is mainly due to the production of scientific results taking place at universities, as well as the interface between universities and industries that has come into focus. The role of academic institutions present in society has been analyzed with many different disciplines (Clark and Neave, 1992). Since the 1960s, universities have been considered as institutions that are devoted for creation and diffusion of knowledge for public good, mainly through research and education, thus contributing to the economic and scientific growth of a country (Mansfield, 1991; Rosenberg and Nelson 1994;

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Mansfield and Lee, 1996). Recently, a new stream of research has been focusing on technology transfer activities performed by universities. Numerous empirical analyses based on U.S. context have examined the different forms of technology transfer which includes patents (Henderson et al., 1998), academic start-ups (Gregorio and Shane, 2003; Shane, 2004), TTO activities (Thursby et al., 2001), incubators (Mian, 1996) and university-industry research collaborations (Shane, 2002).

Since competition has become increasingly knowledge-based (Amesse and Cohendet, 2001; Ruggles, 1998; Scarbrough and Swan, 2001), firms need to manage the knowledge internally (Grant 1996; Hansen 2002; Spender 1996). However, companies need the ability to manage acquisition and emission of knowledge to realize the potential inherence in terms of knowledge assets (Chesbrough, 2003; Ford, 1988). In fact, more companies make use of external knowledge exploitation, i.e. the commercialization of knowledge assets.

However, transferring technology into wealth is considered a risky activity that will probably decrease the success rate of project growth or it may influence investments in such projects (Dorf & Worthington, 1990; Eldred & McGrath, 1997) whereby the cost assigned to each project is restricted. Therefore, the success of academic commercialization will be a serious issue for universities and the government.

The main goal of this study is to analyse the practitioners' responses; to explore how the availability of potential licensee can improve the commercialization rate. The study was conducted as a case study at Universiti Teknologi Malaysia (UTM), which is a leading university in Malaysia (Aziz et al., 2011).

2. Literature Review

2.1 University Commercialization/ Technology Transfer

Technology transfer is a procedure which is considered to be an idea emerged in one institution, in a particular area, or for one purpose, and is being utilized in different institutions, in different areas, or for a different purpose according to Schacht (2003). The economic benefits of a technology or technique occur when a product, process, or service is brought into the marketplace, where it can be sold or used to increase the productivity as per Schacht (2003).

The licensing agreements, university spin-offs and research joint ventures are important principal fiscal tools for transferring technology from academia to the market (Siegel and Phan, 2005). The two important conditions for transferring technology include 1) the intellectual property (IP) owner should be able to convince a buyer, especially when technology has a greater potential to attract market; 2) the potential licensee should evaluate whether the IP possesses a value that surpasses the expense for patenting, licensing, and other opportunistic costs according to Elfenbein (2005). Although rules have been implemented to ease technology transfer, the government is not satisfied with the commercialization level of public funded research.

2.2 Availability of Potential Licensee

The market research phenomenon is considered to be one of the successful keys in the commercialization process of every research output. The research process is taken up by industrial research teams from the very beginning when they recognize it as a problem with several reasonable solutions (Hindle and Yencken, 2004). As per existing literature on R&D management, four different forms of generations of R&D strategies were indicated (Liyanage& Greenfield, 1999; Miller & Morris, 1999; Niosi, 1999). In this regard, the first generation of R&D is to find scientific shortcuts, followed by the next generation that mainly focuses on the aspects of shortcut feasibility. The third generation is mostly dedicated to satisfy customers' needs and wants for the products and services, whereas the fourth generation is known because of its association with independent research agents as per Miller and Morris (1999).

On the other hand, for achieving competitive advantages through the successful development and commercialization of a new product requires capabilities such as convergence innovation, opportunity scanning and exploitation (Song and Parry, 1997). Marketing literature having market orientation and is mostly market driven (Day, 1994) has been widely accepted as the precursor for creating competitive advantages through innovation and new product development.

The main problem existing within China's innovation system is that most of the industries don't have sufficient R&D ability, which is a common concern to most companies present in China. The industrial company does not have

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