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# **Challenges to the Institutionalization of the Triple Helix in Developing System: Empirical Evidence from Thailand.**

## **Introduction**

The triple helix model of university-industry-government relations is a hybrid organization of alternative research system (Etzkowitz and Leydesdorff, 2000). The model has been internationally adopted as tri-lateral networks for innovation and knowledge transfer. By focusing on the importance of knowledge, the university in this model serves in the networks with its academic research transformed to help solving problems in its socioeconomic environment. However, the issue of institutional mechanisms that enable, or hinder, the development of the triple helix has slightly been neglected (Benner and Sandström, 2000). This problem is also evidently identified in previous studies conducted in Thailand (Intarakumnerd and Chaminade, 2007, Yokakul and Zawdie, 2009).

With respect to the problem identified, this paper presents the examination of triple helix modelled initiative carried out in Thailand. It presents a case study of collaborative project organized in the form of a tri-lateral network of university-industry-government of knowledge production. By focusing on “university” as the interactive partner, the paper looks into the institutionalization of academic research funding systems. It examines traditional systems of public research funding that controls the knowledge production of academic-industrial collaborations. By presenting the findings, the paper also proposes a method for reforming central mechanisms that could support a more dynamic and complex pattern of hybrid networks of knowledge and innovation transfer facilitated by academic research.

## **1. Research Methodology**

The case setting of this paper is an initiative titled “the Development of strategic approaches for promoting economic partnerships of Thailand and neighboring countries.” The project objective was to propose a national policy to the cabinet in response to emerging industrial needs. The three collaborating institutions comprised a leading Thai public university namely Mahasarakham University (MSU), a government agency namely the National Economic and Social Advisory Council (NESAC) and the Federation of Thai Industries (FTI), the most powerful network of industrial organizations in Thailand.

The author of this paper was a team member of faculty staff participating in the setting. An investigation was carried out using action research throughout the processes of the case setting. The data collection methods were interviews and the review of related institutional and government documents and financial reports. Interview participants included: seven participating faculty members and two middle-level managers of MSU; two middle-level and senior managers of FTI; and two senior managers, a finance officer and a planning officer of NESAC. The collected data was analyzed using grounded theory approach. A substantive area of the investigation was the institutionalization of the triple helix collaboration with respect to different systems of research funding of different involving government agencies.

## **Findings**

The three observed institutions in the project had their own missions towards their participations: the university, MSU, committed to serve the socioeconomic with its service mission; the industry, FTI, sought for the new knowledge and innovations to meet their industrial needs; the government, NESAC, played an intermediating role in academic-industry interaction. Every proposal of advice to the cabinet requires academic insights into emerging industrial needs. In this case, academic research was therefore required. However, there were challenges to the research conduct which hindered the development of the triple helix. These factors are discussed as follows:

### *1) Insufficient institutionalization of research funding mechanisms.*

Despite NESAC played an intermediating role to the knowledge production in this tri-lateral collaboration, it had little autonomy of research funding mechanisms. That is, supports provided to the academic researchers team was in the form of operational expenses rather than research fund. This form of support was controlled by general financing regulations of the state bureaucracy rather than public research financing regulations. Therefore, the academic researchers considered their roles as to accomplish “the third mission” of the university (Auranen and Nieminen, 2010), or academic services, rather than the research mission. As a result, the knowledge service delivered was accounted and evaluated as academic service performance, not as research performance. Concerning the norms of academic research, this finding shows a low encouragement in terms of reward structure and collegial recognition for participating academics (Sombatsompop et al., 2010). Also, in terms of the university

management, academic research with no funding documentation is rarely accounted as research performance (Chanthes et al, 2011). This finding shows that missing research funding systems implies missing mechanisms to control the research conduct. It also implies institutional inability to direct attention of the academic researchers to emerging socioeconomic problems (Benner and Sandström, 2000).

*2) The lack of dynamic links between public knowledge agencies.*

Since the government agency of this case had no direct support for academic research, any additional funding required supports from other government agencies. These agencies, namely the National Research Council of Thailand (NRCT) and the Thailand Research Fund (TRF), had direct responsibility for public research funding. In spite of these agencies specified, their existing funding systems did not support such initiative effectively in practice due to the lack of dynamic links in the networks of these agencies and the participating government in this case, the NESAC. That is, due to the project was carried out in the middle of fiscal year, there were no funding allocations available; all newly submitted research proposals would be evaluated by the two funding agencies the following fiscal year. Evidently, the lack of dynamic links between public knowledge agencies is caused by traditional top-down interventionist model of research control system of different state agencies (Benner and Sandström, 2000) and the bureaucratic system (Clark, 1997).

*3) Unsatisfactory reward systems for academic research.*

Although the lack of research funding from the participating government body is regarded as a challenge to the academic research undertaken in the collaboration, Chanthes (2012) discovers that inquiries emerged from industrial needs are considered motivating factor that helps participating academia to increase their research productivity. Agreeing with Chanthes (2012), this paper finds that, from the academic researchers' perspective, the linear model of research funding and the regulating roles of national funding agencies were perceived as acceptable norms of academic research. In this sense, the academia considered the traditional funding systems as giving them extended research opportunity. Furthermore, the academic-industry linkages built throughout the projects helped to redirect their academic interests towards industrial needs.

Factor that hindered the development of the triple helix from the academia's perspective was rather inadequate reward systems. Supports provided by the participated government agency in the form of operational expenses, rather than research funding, misled participating academic researchers to perceive their roles in the initiative as the fulfillment of academic service, not academic research. Although the academic insights delivered were outcomes of normative academic research, it can be argued that academic researchers in this case were inadequately valued concerning the importance of collegial recognition and the regulations of research evaluation of the university (Amey, 2002).

## **2. Interpretation of Findings**

The findings point out that insufficient institutionalization of research funding mechanisms is caused by the lack of autonomy of participating public knowledge agencies. In order to promote the knowledge production using the triple helix model, the participating government requires an institutionalization of its funding mechanisms that give it a more autonomy. Together with the granted autonomy, collegial recognition and intra-academic autonomy are also crucial to be taken into consideration. In this sense, the autonomy of public funding systems should comply with traditional research performance evaluation criteria. This suggested extended perspective towards academic research playing roles in the triple helix should be taken into account at the policy-making level.

## **3. Conclusions and Policy Implications**

It finds that the "university" part serves the initiatives with its classic intra-academic research. By so doing, public funding is required to encourage academic research to meet the knowledge needs of the "industry". Despite the importance of public funding, the "government" agency participating in the initiatives is not research funding agency by function and has little or no autonomy of funding provision. This paper therefore argues that the lack of institutionalization of public funding mechanisms is the threat of the knowledge production using the triple helix model in Thailand. By delivering the findings, this paper also develops a reformation approach towards the institutionalization of funding mechanisms that could enable, rather than hinder, the triple helix development in Thailand. The proposed reformation model is engaged with three key success factors including, a more autonomy of research funding provision of different public knowledge agencies, a more integrated regulatory model of research organization among these public agencies and a more systematic negotiation of normative

academic research and industrial needs. The proposed approach is claimed to be able to apply its implications in a wider extent of other developing systems.

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