

Challenges and Opportunities of University-Industry Linkages in the Research Field: A Collaboration between a Higher Education Institution and Commercial Banks

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ABSTRACT

University-industry linkages (UILs) in the research field significantly contribute to the needs of the industry and society. However, little is known about its practice in the context of Cambodia. Therefore, this study aims to explore the challenges and opportunities concerning the linkage between a higher education institution and a banking industry for research purposes. The study takes ACLEDA Institute of Business (AIB) as a case study because research activities have become its strategic priority. The study employs a qualitative approach by conducting expert interviews with key informants and document analysis. By using a thematic method in analyzing the data, the study found that the key challenges that AIB faced in collaborating research with the banking industry included the current bank's competitive strategy, which has yet to prioritize UILs; patents and commercialization in research and development (R&D) and technology transfers, which embrace innovation or disruptive technology in order to create new products or services. However, there is still room for AIB to collaborate with the banking industry and relevant sectors.

Keywords: University-industry linkages, University research management, Applied research, ACLEDA Institute of Business

1. Introduction

Background of the study

Universities drive economic growth in the United Kingdom and worldwide (Witty, 2013) and economic development “through education and technology absorption, adaptation, and diffusion (Yusuf, 2007, p. 3). As a modern society moves toward a knowledge-based economy, the universities focus on three missions, namely teaching, research, and entrepreneurship (Guimón, 2013). In order to facilitate economic growth, all universities have to embrace the third mission (Witty, 2013). Sam and Sijde (2014) noted that “the university is a supplier of human capital (graduates), knowledge (research) and in the provision of (incubation) space for new enterprises” (p. 902).

Many universities have moved beyond the “traditional teaching and research toward a third mission” because they want to address the need of the industry (Guimón, 2013). The connection between a research activity and the industry is so-called university-industry linkages (UILs), which Korff (2014) refers to “collaboration between a university and industry partner” (p. 282). UILs can push “commercialization of public R&D (research and development) outcome and increase the mobility of labor between public and private sector.” (Guimón, 2013, p.1) This benefits can be seen in developing countries, such as Chile and Colombia (Guimón, 2013). Likewise, in Thailand, its Higher Education Development Project (HEDP) has strengthened both “core academic missions and UILs activities within newly founded centers” (Schiller & Brimble, 2009, p.59).

Problem statement

In Cambodia, UILs have recently been emphasized by the Ministry of Education, Youth and Sport (MoEYS) and public and private Higher Education Institutions (HEIs). The improvement of the higher education curriculum to meet industry needs has been addressed in the sub-theme of the Higher Education Improvement Project (HEIP), which attempts to improve the quality and relevance of higher education and research, mainly in science, technology, engineering and mathematics (STEM) and agriculture. The Higher Education Quality and Capacity Improvement Project (HEQCIP) and the Department of Scientific Research (DSR) of MoEYS have also focused on UILs in the 2nd and 3rd National Conference on Research and Innovation in Cambodia.

MoEYS has begun to focus on research because Cambodia still falls behind other countries in the region in terms of research and publications (Heng & Sol, 2021). With the lack of research publications, Cambodia has currently faced another challenge; that is, the need to link research with the industry, addressed at the 3rd National Conference on Research and Innovation in

Cambodia by Dr. Heng Kreng, Director of DSR. In order to solve the issue of limited academic research publication, stakeholder involvement is indeed needed (Heng, 2020; Sam & Dahles, 2017). However, little is known about the issue of UILs in research in Cambodia, especially at the institutional level. Which role do HEIs play in order to promote UILs in research? What are the challenges and opportunities for HEIs in promoting UILs in research?

Research setting

This study focuses on UILs at the ACLEDA Institute of Business (AIB). As a subsidiary of the ACLEDA Bank Plc., AIB was recognized by the MoEYS in 2016 as a HEI providing academic services such as master's degrees, bachelor's degrees, and associate's degrees. Two offices of AIB dealing with UILs are the Student Support Service (SSS) and the Centre for Research & Innovation (CRI).

Moreover, the study determines an industry linkage by including two commercial banks. The reasons that the two commercial banks are selected because they value the research activities and they support education activities as part of their corporate social responsibilities. Both commercial banks have been founded by Cambodian entrepreneurs. One commercial bank has been in the bank industry for 30 years by transforming from a micro finance institution to a specialize bank in 2000 and then to the commercial bank in 2003. The second one has been in the bank industry since 2008 as a money transfer business. Then it has upgraded to a specialized bank in 2014 and to a commercial bank in 2020.

Research objective

To explore the challenges and opportunities concerning the linkage between a higher education institution and a banking industry, this study takes the ACLEDA Institute of Business (AIB) as a case study.

Research questions

This study has two research questions:

Which role does AIB play in order to promote UILs?

What are the challenges and opportunities for AIB in promoting UILs with commercial banks?

2. Literature Review

Definitions of university-industry linkages (UILs)

Mostly, UILs are referred to as a commercialization activity such as patenting and licensing and the incubator (Göktepe-Hulten & Mahagaonkar, 2010), while Korff et al. (2014) noted that UILs can be referred to as all types of activities, collaborated by a university and other partners; thus, the definition of UIL is expanded to a “collaboration in R&D, commercializing R&D, mobility of students and staff, curriculum development and delivery, entrepreneurship, governance and lifelong learning” (Davey et al., 2011, p. 27). Based on this definition, this study seeks insight into the collaboration in R&D between the university, namely the ACLEDA Institute of Business and business partners in the field of finance and banking.

Challenges for university-industry research

Since UILs in research is a new phenomenon in developing countries, particularly Cambodia, the collaboration between firms and universities are likely to meet several challenges.

First of all, firms are interested in applied research, whereas universities focus on basic research (Guimón, 2013). Applied research is conducted for fast commercial results (Guimón, 2013) or when a decision must be made about a specific real-life problem (Sekaran & Bougie, 2016). Applied research, including action research, evaluation research, or R&D (targeting market’s needs), is conducted to solve problems at the workplace, education or society (Indeed, 2021). On the other hand, basic research attempts to expand the limits of knowledge (Sekaran & Bougie, 2016). It examines how a process or a concept works; and the findings of basic research “creates a foundation for applied research” (Indeed, 2021).

Secondly, firms want to the research results developed into new patents or new products quickly and want to “delay publications to avoid disclosing information,” whereas university researchers want to publish their research results immediately (Guimón, 2013) as they want to show their achievements to the research community.

Thirdly, there is an obstacle in terms of collaboration between firms and universities due to difficulties in negotiations such as “lack of information, difficulties finding contact persons, and transaction cost of finding the right partner” (Guimón, 2013, p. 4).

Fourthly, firms are “concerned about secrecy and misalignment of expectations with regard to intellectual property (IP) rights and making a profit from them.” (Guimón, 2013, p.4). This is due to the fact that newer and smaller universities have “small industrial liaison offices and could not afford to have dedicated staff who could properly manager and exploit the intellectual property and technology being generated by their universities” (Howells et al., 1998, p. 62).

There is another fear that some firms view the universities as the threat of the new entrants. They have created a new company as a result of succession of their incubator. This spin-off firm is likely to exploit the research results produced by its own parents (the universities).

Fifthly, the collaboration is considerably costly and the returns can be either medium or long terms, whereas most firms wish to see “the short-term results and clear contributions to their current business lines” from their high expense on research (Guimón, 2013, p.4).

Last but not least, most universities do not have enough budgets to invest in their UIL research activities. According to Intarakumnerd and Schiller (2009), public funding for universities fulfilling their demand is limited, which negatively impacts the academic capability building in technological capabilities, public policies, and start-up financing.

Challenges of research collaboration in Cambodia

Previous studies have identified another challenge in research collaboration, which is the limited stakeholder involvement. According to Sam and Dahles (2017), “despite the involvement of the four major stakeholder categories, collaboration has remained weak and hence failed to advance the sector” (p. 17). There is a lack of clear mechanism to promote the collaboration, and the industries are considered passive in this collaboration because of their resource and capacity limitations (Sam & Dahles, 2017). Likewise, Heng (2020), also noted the limited research capacity of Cambodia HEIs and academics as well as the limited stakeholder collaboration. According to Sam and Dahles (2017), HEIs are expected to be key players in collaboration; however, they are not resourceful and proactive enough.

Motivation for university-industry research collaboration

Despite the challenges, there are several reasons leading to UILs or university-industry research collaboration. UILs have benefits for both firms and universities.

One of the reasons for firms to collaborate with universities is that they can gain access to complementary technological knowledge, including patents and tacit knowledge, access to the universities’ facilities and equipment, access to public funding and incentives, reduction in risks by sharing costs of R&D, and the facilitation of good community relations (Atlan, 1987; Guimón, 2013).

Furthermore, according to Guimón (2013), several benefits that the universities can gain from the UILs in research include “the improvement of teaching, the access to funding, reputation enhancement, and the access to empirical data from the industry” (p. 4). AbebeAssefa (2016) also noted that:

[...industry provides a new and additional source of fund for university, universities relationship with the industry, reduce governments' responsibility for the economic support of university research, industrial money involves less "red tape" than government treasury, industrially sponsored research provides student with exposure to real world research problems, industrially sponsored research...] (Atlan, 1987, p.10)

Despite the challenges and benefits of UILs, previous studies have provided some suggestions: the mission of each partner should be supported; long-term partnerships should be fostered; and the benefits of each party should be focused (Guimón, 2013). The government should take a lead in promoting research (Heng, 2020) and promoting stakeholder collaboration (Sam & Dahles, 2017). Industries and non-governmental organizations (NGOs) have to be actively involved in providing inputs for HEIs to produce qualified graduates, and HEIs have to constantly build staff capacity and mobilize their resources to attract potential collaborations (Sam & Dahles, 2017).

3. Method

Research design

This study employed a qualitative method, in which the researchers "collect data themselves through examining documents and interviewing participants" (Creswell, 2014). The study reviewed previous studies and relevant documents by using the existing themes to create the investigative questions in order to design the interview guide.

Research participants

The study employed purposive sampling, in which participants were selected based on their unique characteristics (Schindler, 2019). The study selected three key participants who had many years of experiences in the banking industry. The first participant has been working with ACLEDA Bank Plc. for more than 20 years, and he used to be the CEO of Laos ACLEDA Bank Plc. for 9 years. He has led AIB for 5 years. The second participant is the Head of the Strategic Development Division at a commercial bank in Phnom Penh city. He has experience in the banking industry for more than 20 years. The third participant is the Deputy CEO of another commercial bank in Phnom Penh city. He has also been working in the banking sector for 15 years.

Research tools

The study used unstructured interviews. Sam (2017) noted that interviews provide interaction setting for exploring experiences and perspectives of their partners (see also Schostak, 2005). Moreover, the unstructured interviews allow "the interviewee to talk from their own perspective

using their frame of reference and ideas and meanings that familiar to them” (Edwards & Holland, 2013, p.30). The interviews included themes related to types of research conducted at the bank, types of data required, research needs, challenges and opportunities in the collaboration between the banks and AIB.

Data collection

The study collected primary data from the responses of the three participants. The study, first of all, asked the first key participant to explore the research activities currently implemented at Institute and strategies to promote research activities as well as UILs in research. Then the study designed a letter of request and a consent form and sent these forms to the other two key participants of the commercial banks. Due to the COVID-19 pandemic, the interviews were conducted online via Zoom and the researchers asked the key participants to record the interviews. The interviews were conducted from the second week of September to the second week of October 2021.

Data analysis

To explore the insights of the challenges and opportunities of UILs in research, the study coded and analyzed the data by using a theme-based analysis (Braun & Clarke, 2006). The theme on types of research and type of data required were coded as TH01 and TH02, respectively. Moreover, the theme on research needs, challenges opportunities in the collaboration, and strategies to promote UILs in research were coded as TH03, TH04, TH05, and TH07, respectively. Furthermore, the first key participant was coded as P1, Head of Strategic Development Division was coded as P2, and Deputy CEO was coded as P3. Finally, the data were interpreted and compared to the previous studies.

4. Findings and Discussions

Types of research

In order to capture the overall picture of UILs research, the study found that the tasks of research are the responsibility of the Product and Marketing Department in one commercial bank and the Strategic Planning Division in another commercial bank. All of the participants remarked that research plays an important role at the banks as it helps top leaders make effective decisions. P2 stated:

“Research is important for the bank. First, it improves the policy, operating manuals and procedures, understand the market theory, operational situation and perception... Second, the findings from the SWOT analysis are used for developing and solving, competitive trend, pricing, product trend, technology, etc.”

Therefore, the banks need both basic research and applied research. As P2 stated,

“We do both. The basic research is conducted for improving and understanding the issue, and the applied research is conducted for problem solving, gaining market insights, and so forth.”

Furthermore, both types of research have been conducted in order to understand customers’ behavior and satisfaction so that new products are well-developed and upgraded. As P3 stated,

“The digital payment service has been developed with an understanding of customers’ wants and it has gained popularity among clients so far.”

The commercial banks participating in this study have prioritized patents, commercialization in R&D, and technology transfers. The banking industries have to innovate their products and services constantly so that they fulfill the market needs. They raised an example of a mobile banking app which was introduced to the market in 2009, and they have continuously improved this service until today. However, they have worked with industry experts in order to build and develop this innovative product, and they have not worked with higher education institutions in Cambodia to create a new products or services.

To ensure the quality research outputs, the study found that both primary and secondary data are required by both commercial banks. According to P3, his bank needs to conduct a market survey among the households and collect statistical data from the index. Likewise, as P2 stated,

“We use both data such as pricing, product achievement, market share, compared growth, involved statistic, etc.”

The study also found that one commercial bank focuses on micro-environment factors, while another commercial bank focuses on both macro-and-micro-environment factors as crucial information supporting decision making. As P2 stated,

“It depends on which objective that the SWOT need to be involved. If we do SWOT (in feasibility study) for product, it's local analysis and SWOT for cross border or international payment, we shall add information of regional and global information. It can be used both local and regional or peer group of countries for SWOT on Opportunities and Threats.”

Findings on the Collaboration between Banks and Universities

The study found that both commercial banks have collaborated with the Ministry of Education, Youth and Sport (MoEYS) in different fields other than research. For instance, one commercial bank has collaborated with MoEYS on “Entrepreneurship Competition” and another

commercial bank has taken part in “Building the quality of education.” Both commercial banks have offered the internship and job opportunities to any HEIs in Cambodia.

The collaboration has not only been initiated by the banks, as AIB has also worked closely with the industries, particularly the banking sector. For instance, AIB signed an MOU with a commercial bank to allow its students to do internship/apprenticeship. AIB also collected inputs from a commercial bank and other employers in order to design and review its academic curriculum. As P1 stated,

“AIB signed MOU with 93 private sectors including ACLEDA Bank Plc. and its subsidiaries. AIB has constantly collected feedbacks on the work performance of its students from the employers.”

Findings on the challenges in UILs in research

The demand for UILs in research is considerably low. Even though both commercial banks positively view the research collaboration between the banks and the universities, they have not integrated this possible collaboration into their strategic plan yet. As P2 stated,

“It’s a good idea to have such a collaboration, but we do not have plan yet.”

According to Guimón, (2013), there are several obstacles in university-industry research collaboration, namely mismatches between firms and universities related to research orientation, costly collaboration, different purposes of research outputs, concern of intellectual property (IP), and difficulties in collaboration negotiation. Stakeholder involvement is another challenge in the collaboration (Heng, 2020; Sam & Dahles, 2017). The industries themselves are passive due to their resources and capacity limitations, while HEIs are not active players (Sam & Dahles, 2017) and they have limited research capacity (Heng, 2020).

However, the findings of this study contradict those of Guimón (2013). Both basic and applied research are required by the commercial banks, but these types of research are conducted by using the internal resources only. Currently, they have not had the plan for UIL in research yet; therefore, none of the reasons addressed by Guimón (2013) have been found in this study.

Furthermore, the findings of this study slightly support those of Sam and Dahles (2017) and Heng (2020); however, this study fully support their suggestions since the research activities have been participated by stakeholders at the institutional level as found in the case at AIB. The shareholders, Board of Director and the management have strongly supported research activities by formulating strategies to promote both basic and applied research. They even allocate annual budget to support the process and product of research. At the national level, the Education Research Council (ERC) was established to promote insightful thinking and innovative ideas.

For example, ERC has regularly published a journal, called Cambodia Education Review (Heng & Sol, 2021). The HEIP project has also been implemented to promote research in STEM and agriculture at higher education. The Department of Scientific Research has particularly played an active role in promoting research activities in higher education (Heng & Heng, 2023).

Findings on the opportunities for UILs in research

Besides the challenges, there are still floor for the universities to collaborate with firms, especially in the banking sector. The study found that both commercial banks had a positive opinion about the collaboration between banks and universities. Banks view universities as the collective of intellectuals that bridge the connection between theories and practices in order to embrace innovation. As P2 stated,

“...yet this academic theory is valuable if utilized to reflect the society’s needs since it can be used to develop a new product. Moreover, the university is a new impressive idea, which brings about new innovation as a bridge between theory and practice in the banking sector...”

Furthermore, the study found that the future collaboration between banks and universities could happen if the universities conduct the study on the needs for this collaboration. As P2 stated,

“The future collaboration sounds good and we need to talk on the possibility or research need assessment.”

Even though these findings do not support what was mentioned by Atlan (1987) and Guimón (2013), there are some insights worth considering. As HEIs are the hubs of knowledges, they are able to create new and innovative knowledge through their original research; moreover, they can work with the industries to create the demands for them.

Findings on strategies to promote UILs in research

The study found that there is still floor for AIB to promote research collaboration with the industry. The key participants requested AIB to conduct the assessments of research needs to identify the gap with the banks; moreover, they suggested AIB to take the initiative in this collaboration for the coming future. As P2 and P3 emphasized,

“AIB should take the initiative by being proactive rather than reactive in the future research collaboration.”

In addition, to sustain future collaboration in research, each partner has to be strong and qualified. AIB starts promoting research activities through research publications; for instance, eight research articles were published in AIB Research Series (Volume 1) and 11 research

articles were published at AIB Research (Volume 2). Moreover, several articles have been posted at the Business News Category of AIB's website; however, these research activities are not enough yet. As P1 stated,

“AIB has to promote both quantity and quality of the research. AIB needs to use the research quality as one of the means to promote the image to the local and international partners.”

Norng and Sam (2022) found that research productivity at AIB is at the infant stage; therefore, AIB can strengthen their research productivity through building the quality of research and mobilizing experienced researchers. This action allows AIB to create and transfer knowledge to the industry.

5. Conclusion and Recommendations

Research collaboration between AIB and the industry, namely the banking sector, has not existed yet. This may come from both the internal and external factors. Before and after COVID-19, research and publication in Cambodia fall behind several other countries in the region and very few higher education institutions focused on research activities. Therefore, research quantity and quality still matter in the Cambodian higher education context. During and after the pandemic, all stakeholders have taken part in promoting research activities. Many public and private higher education institutions, including the ACLEDA Institute of Business (AIB), have included research activities into their strategic priorities. However, research quality is the challenging internal factor for AIB since it is a newly established institution and research productivity is still in its infancy. Besides this internal factor, external factors have been the challenges as found in this study. The commercial banks participated in this study have conducted both basic and applied research; however, they have not prioritized university-industry linkages (UILs) in research yet. They used to work with independent research institutes but not much with the higher education institutions. Another external issue is the technological environment in Cambodia, namely research patents, commercialization in R&D, and technology transfers, which embrace innovation or disruptive technology in order to create new products or services. The commercial banks would work with the industrial experts rather than the higher education institutions to develop their new products or services.

Besides all of these challenges, the opportunities are more likely to exist in the long run. There is still room for AIB to collaborate with the banking industry and relevant sectors in the research field only if AIB takes the initiative by adapting a proactive approach rather than a reactive approach.

Moreover, AIB should conduct assessment of the needs on UILs in research by identifying which area that this new established higher education institution can collaborate with the banks

or relevant industries. AIB can also build a research team by mobilizing experienced researchers so they can create and transfer knowledge to the industry. Finally, AIB should develop a long-and-medium term strategic plan in order to promote applied research.

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