Transnational higher education programs for facilitating inter-university knowledge transfer: University of Indonesia’s experience

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Abstract

This paper explores the impacts and extent of knowledge transfer (KT) in an undergraduate engineering transnational program with an Australian university partner at the University of Indonesia (UI) using an inter-university KT conceptual framework (Sutrisno, Lisana, & Pillay 2012). For the purpose of this paper, the opportunity for KT in curriculum design is examined. Given the explicit nature of curriculum knowledge, assessing each partner’s curriculum was pivotal in allowing UI to enrich its own curriculum. The KT mechanism of face-to-face contact between Indonesian and Australian academics led to not only transfer of knowledge related to the curriculum of the undergraduate program but also to other cooperation beyond the transnational program in the form of joint research and joint supervision of post-graduate theses. Positive inter-university dynamics, such as trust and willingness to work together between the partners were underpinned by the presence of key actors from both sides at the earlier stages of the partnership. Retrospectively exploring the KT process in the UI’s transnational programs with its Australian partner suggests that there have been both structured and unstructured mechanisms, highlighting the ubiquitous and unbounded nature of KT between universities. While initially successful in facilitating KT, due to rapid succession of persons in charge of the program and the increasing focus on revenue generation, the useful lessons and practices unfortunately are being lost. Although the intention to use the transnational program for KT was always implied, it gradually was overlooked by newer staff members. Based on UI’s experience as the first provider of transnational program in Indonesia and other similar cases in China, seemingly transnational programs driven by short-term immediate financial return are unsuccessful in facilitating KT due to sensitivities to unfavourable economic situation. Those that remain operational and contribute to knowledge exchange between the partners apparently have genuine long-term engagement objective.

Keywords

knowledge transfer, transnational higher education program, Indonesian university, Australian university, case study

Introduction
The growth of transnational higher education (HE) programs cannot be separated from the changes in the global HE scene. The neo-liberal idea that influences various governments and international organisations, such as The World Bank and World Trade Organization, posits that competition propels prosperity and HE is a market commodity (Scholte 2005). HE is included in the General Agreement on Trade in Services (GATS) and the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) as a sector that needs to be liberalised (Department of Foreign Affairs and Trade 2009). As both Australia and Indonesia take part in those agreements, there are opportunities for universities in the two countries to increase their international partnerships and provides innovative educational services to access untapped markets. One example is the joint transnational programs offered by Australian and Indonesian universities.

In the Australian-Indonesian HE partnership context, transnational programs mostly take the form of dual degree programs (DDPs). DDPs allow students to obtain degrees from both Australian and Indonesian universities for a single program of study. They typically study the initial part of their study in Indonesia (home country) and then the final part in Australia (host country) (Asgary & Robbert 2010). Transnational programs are often advocated as an ideal means for developing country universities to improve their quality by transferring knowledge from their partners in developed countries (Vincent-Lancrin 2007). However, there is little known about the actual knowledge transfer (KT) process between Indonesian and Australian universities. Similarly, while the Australian perspective on DDP with Indonesian universities has been published elsewhere (Tan 2008; 2009), the Indonesian perspective is scarcely available in the research literature.

This paper aims to clarify the Indonesian perspective on the operations of a DDP with an Australian partner university and the extent of KT that takes place through that program. It begins by delineating an inter-university KT framework that is used to analyse the KT process. The case DDP between University of Indonesia (UI) and Queensland University of Technology (QUT) and the methodology employed, leading to the findings of this study are subsequently discussed. The paper ends with some implications for other universities seeking to maximise KT through their DDPs.

**KT Conceptual Framework**

The conceptual framework for this study is derived from an earlier work by two of the current authors (Sutrisno, Lisana, & Pillay 2012). KT is examined using four interrelated constructs: KT process, KT mechanisms, types of knowledge, and inter-university dynamics. However, before delving into the discussion on the theoretical framework, delineating what is meant by knowledge and KT, which are key terms in this paper, is necessary. Knowledge is a justified personal belief which is a result of a combination of experiences, personal values, personal characteristics and contacts with others (Courtney & Anderson 2009). It is used to interpret, evaluate, and incorporate new experiences and contact in improving an individual or organisation’s capacity to take informed action (Alavi & Leidner 2001). KT in an organisational context is “the process through which one unit is affected by the experience of another” (Argote & Ingram 2000, p. 151). It is not identical to an exact replication of knowledge to a new context. In contrast, KT entails modification of the existing knowledge to a new organisational context to solve specific problems faced by the organisation (Bauman 2005).

**Structured and Unstructured KT Process**

KT process can be structured and unstructured based on the level of planning and intention involved. The structured KT process involves four stages (Szulanski 1996). The initiation stage begins with identification of problems and desired knowledge. In the second stage, implementation, the partner universities may engage in an exchange of knowledge with the aim of adapting new knowledge to the recipient university. In the ramp-up stage, the recipient university begins to apply the acquired knowledge and rectify any problems hampering the application of knowledge. Finally, in the integration stage, the acquired knowledge is institutionalised through the production of standard operational procedures and organisational strategies.

The unstructured process is unplanned and can occur serendipitously (Chen & McQueen 2010). This may take place by copying existing knowledge from external sources and applying it to local practices. It can also take place by adapting the external knowledge to the new context. By focusing on KT, a university’s capabilities to generate its own knowledge are not precluded. However, for a university that forms a partnership with another university, KT could be pivotal to improve its capacity by acquiring new knowledge from the partner university (Khamseh & Jolly 2008).
Types of Knowledge and KT Mechanisms

The inter-university KT process, whether structured or unstructured, involves three related constructs: knowledge type, KT mechanism, and inter-university dynamics (Chen 2010; Easterby-Smith et al. 2008). While knowledge can take the explicit form of curricula and teaching materials, it can also be more tacit such as teaching skills mastered by an academic, which can be more difficult to transfer than explicit knowledge (King 2009). Explicit knowledge is codifiable and overt, whereas tacit knowledge is not readily articulated and codified because it is bound to the senses, intuition, and a particular context (Alavi & Leidner 2001). Nevertheless, tacit and explicit knowledge are not rigidly demarcated. Both dimensions may be present in any knowledge (Nonaka & Von Krogh 2009). Recognising that all knowledge has different degrees of tacit and explicit dimensions, the study does not rigidly separate tacit and explicit knowledge and views that both tacit and explicit knowledge can be acquired through DDPs. It takes into account that knowledge is perhaps best transferred through a combination of KT mechanisms (Jasimuddin & Zhang 2009).

There are two KT mechanisms that correspond to the distinctions between tacit and explicit knowledge. Soft mechanism relies on face-to-face contact to convey mainly tacit knowledge, whereas hard mechanism utilises information and communication technology (ICT) to convey explicit knowledge (Jasimuddin & Zhang 2009). However, developments in ICT have created a hybrid of hard and soft KT mechanisms through means such as video-conferencing, blurring the distinctions between the two mechanisms (Courtney & Anderson 2009).

Inter-university Dynamics: Social Ties and Power Relations

The inter-university dynamics consist of power relations and social ties (Easterby-Smith et al. 2008; Van Wijk et al. 2008). Social ties can be perceived as the strength of relationship between individuals from different organisations or units involved in a KT process (Hansen, Mors, & Løvås 2005). Social ties build trust and minimise risk in the partnership (Dhanaraj et al. 2004). Research has consistently highlighted the importance of trust between partners as a prerequisite of effective KT (Becerra et al. 2008). Trust between partner universities is so critical that it is often used as a determinant of KT success (Courtney & Anderson 2009). Dhanaraj et al. (2004) conclude that trust facilitates KT because the partners have a sense of security that the knowledge will not be over-exploited, minimising the risk of expropriation by one of the partners. Moreover, strong personal social ties can be a stronger determiner of success in KT process than national or institutional cultural similarities (Mercer & Zhegin 2011).

Power relations refer to the perceived degree of equality between partner organisations in terms of their strength in influencing decision making (Ando & Rhee 2009). The general perception is that developing countries universities are lower than universities from developed countries. This often undermines the relationships between the partners and disrupts the KT process as the Australian university may perceive that it faces a risk that KT to the Indonesian partner erodes its competitive advantage (Heiman & Nickerson 2004). Hence, the Indonesian universities need to minimise and moderate the gap in power relations, which can be achieved by strengthening the social ties with their partners (Muthusamy & White 2005). Staff members who trust each other and have good social ties may have lesser likelihood to impose unacceptable requests to the partners as they have understood each other and have good communication (Fielden 2011). Therefore, there is a strong connection between the strength of social ties and the equality of power relations.

Based on the above discussions, an inter-university KT theoretical framework can be developed. Figure 1 provides a graphic illustration of the framework. At its centre is the inter-university KT process, depicted by the bold-faced circle and interconnected with three circles. Each of them represents: types of knowledge, KT mechanisms and inter-university dynamics. Two bi-directional arrows connect the KT process with the boxes representing the Indonesian and Australian universities. These arrows signify the potential bi-directional KT between the universities (Mercer & Zhegin 2011). This framework encapsulates the above discussion of inter-university KT and its related constructs, and provides a meaningful depiction of the complexity involved in analysing KT between universities through DDPs.
Three research questions are used to guide this study:

1. What are the indications that KT has taken place in the DDP?
2. How has KT from the Australian partner university impacted the Indonesian university?
3. What factors influence the inter-university KT process?

The Dual Degree Program

The joint DDP in Engineering offered by the University of Indonesia and Queensland University of Technology is the oldest operating DDP in Indonesia. Students can enrol in Architecture, Civil, Mechanical, and Electrical Engineering undergraduate DDP. This program began in 1998 at the height of the Asian Financial Crisis, which saw many potential international students abandoning their plans to study in Australia (Healey 2008; Tan 2008; 2009). The program offered alternative entry to an Australian university at a fraction of the cost of studying directly at an Australian campus. Since its inception, the program has attracted an average of 20 students per year.

Initially, the DDP was designed on a “3+1” basis, in which the students commence their studies at UI and after a three-year period, they transfer to QUT. In this design, QUT academics were expected to deliver the lessons at UI in the third year. However, due to modification of the curriculum and Australian government travel warning to Indonesia, in 2000, the design of the program was changed to “2+2”, requiring the students to study longer in QUT and not involving QUT academics teaching in Indonesia.

Besides taking advantage of the economic situation, UI saw the DDP as an opportunity to partner with an Australian university on the principle of equality and acquire knowledge from the partner to achieve its goal as a world class university. As the curriculum of the DDP was assessed by both UI and QUT, it gave the recognition that UI’s curriculum was of equal standard with QUT’s. The subsequent increasing number of DDP partnerships with other international universities was seen as evidence that the initial recognition from QUT propelled UI’s Engineering Faculty to an international level.

Given the status as the oldest operational DDP between an Indonesian and Australian university, the Engineering DDP between UI and QUT presumably has numerous experiences of KT between the partner universities. Moreover, UI is considered as the leading university in Indonesia with the highest ranking in the QS World University Rankings. Supposedly, investigating this DDP and how it has facilitated KT can be useful for other universities seeking to establish its DDP with an international partner and improve its quality through such partnership.
**Narrative Approach**

This study uses narrative case study design (Rushton 2001). Case studies are primarily utilised to generate thick description regarding the potential causal relationships between actors, activities, and outcomes that form a process (Yin 2009). Narrative studies can be used to provide detailed personal accounts from a key source person about a particular process (Creswell 2012). They also can raise voices from previously unexposed perspectives to the forefront and empower individuals to publish their experiences (Cortazzi 1993). By combining narrative and case study designs, this study is appropriate to investigate a situation that has been scarcely analysed such as the case of KT process between Indonesian and Australian universities from the Indonesian perspective.

The key informant for this study is the second author, who was the Dean of UI’s Faculty of Engineering and the progenitor of the DDP with QUT. Given his previous position, his perspectives are crucial to understand the rationale behind the opening of the DDP and the KT process that has taken place since then. To ensure that the Indonesian voice and perspectives are amply represented, the second author was not only interviewed through e-mail but also involved in the writing of the current paper (Creswell 2012).

As a further means to corroborate the primary informant’s narratives, a current academic and a former staff member of UI were also involved in this study. The former was interviewed via e-mail and the latter was interviewed in person. For ethical reasons, they cannot be specifically named.

The gathered data were analysed in line with the thematic analysis strategy (Braun & Clarke 2006). The data were read repeatedly and were analysed in accordance with the constructs identified in the framework. Major themes in line with the research questions and the theoretical framework were identified to come up with the final results reported in this paper.

**Findings**

The findings of this study indicate that KT did take place in the DDP in several areas, which impacted UI’s reputation internationally. Face-to-face contacts, the presence of key persons in charge in the two partner universities, and the rationale to build partnership on the principle of equality are important factors for facilitating KT. These findings are further elaborated below in line with the research questions posed earlier.

In regards to the first research question, there were indications that KT occurred through the curriculum mapping process, joint research project, and joint supervision of research students. One of the UI staff members stated:

> Knowledge transfer between UI’s Faculty of Engineering and QUT automatically happened through educational processes ... and also research cooperation and visits from UI-QUT lecturers...as well as joint supervision for research students [translated].

Before establishing a joint DDP, both UI and QUT already had their own Engineering programs. In the negotiation leading to the opening of the joint DDP, UI and QUT’s academics compared their curricula and mapped the curricula to be used in the DDP based on the existing curricula. The aim was to ensure that the students studied all the necessary subjects at UI before they transferred to QUT and avoided duplication of the materials once in QUT. The curriculum mapping process provided opportunities for UI to learn about the content of QUT’s curriculum and enrich UI’s curriculum with materials and lesson delivery sequence from QUT through a more structured KT process. This was seen as a means to improve the quality of the undergraduate program at UI. Through the partnership with QUT, there were also opportunities for UI and QUT students to collaborate in joint architectural design.

Given that the initial DDP partnership involved more academics from both UI and QUT, there were opportunities for joint supervision of two UI PhD students in Industrial Engineering. While the DDP agreement did not include Industrial Engineering, the fact that the joint supervision occurred in this area indicated that KT opportunities were not limited only to the formally agreed programs.

Concerning the second research question, the major impact of KT through the DDP partnership was the increasing quality of UI as a world-class university and the perception thereof. For quite a long period, Indonesian HE sector paid more attention to increasing the number of its undergraduate outputs and did not pay much attention to international reputation and research output (Koswara & Tadjudin 2006). This QUT-UI DDP partnership was the first in Indonesia to allow an Indonesian university to work together with an international partner on an equal basis. Both
UI and QUT’s curricula were used and both of their degrees were conferred to the graduating students. This equal partnership was perceived as an important milestone as an acknowledgement that Indonesian HE quality and degrees were equal to those in Australia. Since the operation of the DDP, UI has added more international partners, initiated more joint DDP with other overseas universities, and increased research output, either jointly with other universities or independently. Currently, there are several international DDP partners from 5 countries (Australia, Japan, Germany, France, and Taiwan). Arguably, these newer partner universities perceive that UI has an international reputation and a working DDP with QUT. In the global ranking, UI also has shown progress. In 2005, the rank was 250 according to QS World University Rankings. In 2011, the rank was 217.

There were some important factors that facilitate KT between UI and QUT. First, face-to-face contacts were crucial for gaining trust and enabling unstructured KT process. Face-to-face contacts were the preferred means of communication with the partner university. These soft KT mechanisms were particularly important during the initial stage of DDP operation. Trust between the partners was built through the direct meetings. Through these meetings there were opportunities to exchange knowledge and venture into more multi-dimensional partnership beyond DDP. Face-to-face discussions led to the idea of joint research and supervision for research students. After the trust and good rapport between the partners were built, ICT-based communication could be used to conduct the bulk of the communication and KT. Through frequent e-mail exchanges, there were opportunities to discuss a variety of issues and exchange knowledge. It seemed that face-to-face communication (soft KT mechanism) and ICT-based communication (hard KT mechanism) complemented each other to facilitate the KT process.

Second, it was important to have key persons in charge in both universities who believed that the partnership could work and persist in overcoming the problems in the partnership. These champions were pivotal in addressing the challenges coming up in first years of the DDP operations, such as in the curriculum mapping process and the initial transfer of the students to QUT. During the late 1990s until mid 2000s, the Australian government issued serious travel warning to Indonesia. This potentially strained the cooperation and stopped the face-to-face contacts between the partners. Nevertheless, the key person in charge from QUT persisted and kept on coming to UI. These key persons in charge from both universities in the first years of the operation were academics, who enabled KT through guest-lectures, seminars, and ideas for research. Later on, as these academics were replaced by more administrative and marketing officers, the KT in academic areas seemed to decrease.

Third, UI’s strong rationale for using the DDP as an equal partnership and means to learn from QUT was another important factor that facilitated KT. Since its inception the DDP was a part of the major plan to propel UI’s Engineering Faculty to become a world class institution. This entailed the goal of acquiring best practices and knowledge from the partner university to help achieve that major plan. The notion that this DDP partnership was on an equal basis with QUT was also significant in ensuring that UI could assert its intention to learn from QUT and selected areas that it wanted to learn from QUT. There was no indication that QUT dictated UI’s decisions. While the ideas of KT and equal partnership had been embedded in the DDP, successive changes of officers and leadership may have shifted the rationale of the program. As more marketing staff members were in charge in the DDP, more attention was given to the financial aspects of the program, rather than the academic knowledge exchange. Given the rapid succession of leaders in the two partner universities, the sense of ownership and direction of the DDP among the academics was also less than certain. According to one of the participants:

The ownership sometimes is the problem. So who owns the dual degree programs... whether the management, current management or the staff in general understands the global objective of the dual degree programs. So that’s something that I think is not really clear. Perhaps that is inhibiting them to learn from... the programs.

Discussion

In light of the findings of this study, KT through DDP between UI and QUT has materialised through both structured and unstructured processes. The KT that materialised has been seen as useful to improve the quality of UI and the perception as an international education provider, partially confirming findings in other contexts (Akiba 2008; Brolley 2009). As has been discussed in previous research (Napier & Mai 2004), the presence of key contact persons or champions are important in the partnership between two universities. It is also evident that universities that have strong orientation to build partnership beyond short-term financial gains are the ones that have successful partnership to facilitate KT (Fielden 2011).

Given the lack of in-depth studies regarding inter-university KT, it is difficult to compare the findings of this study with the wider literature. Nevertheless, from the existing research in the Chinese context (Li-Hua 2007; Courtney & Anderson 2009), this study concurs that inter-university KT is ubiquitous and often goes unnoticed. Reiterating the
This study agrees with Napier and Mai (2004) in relation to the importance of *champions* in both partner universities to keep the operations running and facilitate KT. Napier and Mai (2004) found that the partnership between an American and a Vietnamese university owed its success to a key actor who persisted in keeping the partnership despite challenges posed by the Vietnamese and American university leadership and the lack of funding to keep the program running. Similarly, in this study, a key contact person from QUT was instrumental in establishing the partnership and taking the risk of coming to Indonesia despite the Australian government travel warning. UI’s cooperative leadership at that time was also important to ensure that the positive gesture from the QUT’s academic was reciprocated.

As in the Malaysian context (Akiba 2008; Brolley 2009), the transnational HE program partnership is useful for the Indonesian partner university. First, the DDP with QUT helps UI to gain more international profile and boosts the number of international partnership that it has. Second, the DDP enriches UI with knowledge about the partner university’s curriculum and opened opportunities for joint research and supervision of research students. This is quite different from the Malaysian situation where the Malaysian partner institution is teaching-based and cannot grant its own degrees (Brolley 2009). Arguably, the DDP model between QUT and UI puts UI as a more equal partner, not only in teaching-learning process but also in research.

Commodification of HE has put many partnerships in turmoil when the number of students is low and the rationale for cooperation is short-term student recruitment (Mohamedbhai 2003). Fielden (2011) found that the partnership between Monash University and Sichuan University was sustainable because of the universities’ mutual goals of improving each other’s quality and research output, not short-term student recruitment. Such finding was in contrast with some partnerships between Australian and Chinese universities that faltered when the number of students declined and the local market potentials had been fully exploited (Banks et al. 2010; Fang 2011). Similar to situations found in Monash-Sichuan University (Fielden 2011), the UI-QUT partnership still continues and the underlying notion of equal partnership and providing KT opportunities has not been fully replaced by profit-orientation.

Comparable to studies done by Heffernan and Poole (2004; 2005), this study concurs that stability of the inter-university dynamics as embodied in the presence of long-serving staff members is crucial for successful transnational partnership. Given successive changes in the university’s leadership and the DDP’s persons in charge both in Indonesia and Australia, the initial rationale and focus on KT may have shifted. This is in contrast with the first years of the partnership when the KT was more prevalent and the rationale for utilising the DDP partnership as a means for knowledge exchange was clearly espoused by the key academics involved in UI and QUT.

**Implications**

Given the above findings and discussion, there are several implications for other universities that wish to utilise their DDP partnership with an international university for KT. First, it is necessary to identify a suitable partner that that equally prioritises academic quality and knowledge exchange when selecting a DDP partner university. While the institutional reputation is important, the social ties between staff members from the two partnering universities are indispensable. Successive changes in the leadership and organisational structure can easily disrupt the KT process and shift the priorities to maximising financial gains, given the pervasive commodification of HE. Individual *champions* from each partner should be identified and given the support to manage the partnership. To enable fruitful long-term KT process, these *champions* play the crucial role of maintaining the stability of the partnership.

Second, both soft and hard KT mechanisms are important for conveying the knowledge. Soft KT mechanism through face-to-face contact plays a crucial role in the initial stages of the partnership. Through these direct contacts, the staff members build trust and explore KT potentials. Whereas, hard KT mechanism through ICT-based communication carries the bulk of the communication and facilitates more spontaneous unstructured KT process.

Third, the universities involved in DDP partnership should be mindful of the ubiquitous KT potentials beyond the more structured KT process. Exchanges in curriculum content and some possibilities to jointly design some lessons seem to be the focus for the structured KT process for the university staff members. Nevertheless, there are other KT potentials that can be explored. In the case of UI-QUT partnership, the KT process takes place also through joint
supervision of research students and joint research. These are important to help UI build its capacity as an internationally recognised research university.

Finally, there is a need to institutionalise the acquired knowledge from the DDP partnership and keep record of the joint activities done by the partners that have enabled KT (Szulanski 1996). Institutionalising the knowledge ensures the long-term impact of the DDP for the improvement of the university’s quality. Keeping record of the KT activities informs the future university leaders about the potentials of the DDP and the positive impacts it has contributed. While it is true that the DDP MOU enshrines the more cooperative and quality improvement goals, these can easily be sidelined by the newer persons in charge. Having other records to complement the MOU may help the DDP running on its intended goals. This can be further strengthened by communicating the stories behind the DDP and the good impacts it has contributed may improve the sense of ownership of the program for the future university leaders and academics.

Conclusion

This paper has outlined the KT process that took place through the DDP partnership between UI and QUT. This is a complex process which is not independent from the wider global changes in HE. The inter-university KT conceptual framework has been employed to analyse the KT process and examples of structured and unstructured KT process with the factors that support the process have been presented. The notions of equal partnership and knowledge exchange between the partner universities were pivotal in allowing KT during the initial years of the DDP operation. The academics involved from both universities persisted to deliver the DDP and worked together to facilitate KT through curriculum mapping, joint research, and joint supervision of research students. Impacts of KT through DDP partnership for UI include the increasing perception as an internationally recognised university and research profile. However, changes in the personnel and growing commercial orientation of the DDP may have hampered full KT potentials between the two partners in recent years. Choosing an equal partner university and the individual champions is pivotal for successful DDP partnership and facilitating KT. Attempts to identify KT potentials beyond the curriculum mapping process require more intensive communication between the partner universities through face-to-face contacts and ICT-based communication. Institutionalising the acquired knowledge and conveying the KT progress achieved during the partnership to subsequent university leadership may be helpful to garner support for the longevity of DDP partnership and instil enthusiasm to facilitate KT beyond the existing partnership.

References


Chen, J & McQueen, R J 2010, ‘Knowledge transfer processes for different experience levels of knowledge recipients at an offshore technical support center’, Information Technology & People, vol. 23, no. 1, pp. 54-79.


