AN INTER-ORGANISATIONAL KNOWLEDGE SHARING MODEL FOR MULTINATIONAL ORGANISATIONS

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ABSTRACT

This study analyses the current decision variables of the decision-making process by multinational organisations when selecting their offshore locations as extended operations. The study proposes an additional dimension to the current decision model used by multinational organisations by explicitly addressing the knowledge-sharing requirements of the parent company as a relevant concept in today’s knowledge-based societies. The theoretical foundation of the study is based on recent studies in inter-organisational knowledge sharing (IO-KS) as well as the recent findings in international business studies in offshoring. The study asserts that among other things, the knowledge-sharing requirements of multinational companies need to be explicitly addressed when selecting an offshore location as a subsidiary, and proposes a decision model for multinational organizations when selecting an offshore location. The organization under study is a South East Asian multinational organization which is both a parent organization, and at the same time, a subsidiary of another organization.

Keywords: Knowledge Sharing, Offshoring, Multinational Organisations, Decision Model, Decision Making Process, Supply Chain management.

1. INTRODUCTION

Traditionally, studies of offshoring have been based on various strands of post-colonial theories which generally build on Foucault’s (1972) discourse analysis by looking at how representations of the Eastern world are underpinned by designs of creating and maintaining asymmetric power and control relations that favour the Western world (Goss, 1996; Kapoor, 2002) as well as the ways in which colonial societies engaged in and utilized imperial culture for their own purposes.

The current study extends the existing studies in knowledge sharing in inter-organisational contexts (e.g., Ke & Wei, 2007; Seyyedeh & Daneshgar, 2010; Van Wijk et al., 2008) as well as studies in offshoring (Farrel, 2006; Kumar et al., 2009; Farrel, 2005; Perez-Nordtvedt et al., 2008; Al-Qahtani & Daneshgar, 2010) and proposes an integrated decision model for offshoring decisions by introducing an additional dimension to the existing set of decision variables that manifests itself in the form of a set of new decision factors. It regards offshoring relationship as a special kind of supply-chain relationship where parent and subsidized organizations are involved in intensive knowledge-sharing relationship, which has been ignored by many studies and yet deserves much attention. Explicit integration of such IO-KS requirements of the multinational companies into the offshoring decisions is the ultimate goal of the current study.

2. CASE STUDY ORGANISATION

The case study organization, called ‘the company’, is a public company in a South East Asian country that provides aviation fuel services including aviation depot and aircraft refuelling service at various airports in several countries in the SE Asia region. Awareness of safety and product/service quality, best practices, and full-heartedly service orientation are major core values of the organization.
Major business processes include management of its own fuel pipelines, acting as an intermediate fuel storage facility for aviation, providing into-plane services, and aircraft refuelling. Currently, the company has major shareholders including several airport authorities, one international airline company, and three major multinational oil companies. The company also has its own subsidiary company and the interviewee believes that he is in a position to present perspectives from both sides of the relationship; however it must be emphasized that at this stage the company considers itself more as a subsidiary company to its above major powerful shareholders rather than other way around.

3. LITERATURE REVIEW
A recent study in the area of offshoring demonstrates that the offshoring phenomenon is more than just a business relationship with Western firms, and is embedded within the context of the longstanding imbalances of power in the relationship between the West and the East, the implications of which have been largely ignored in empirical work on offshoring (Ravishankar, Pan, & Myers, 2013). In multinational companies in general and oil companies in particular, two specific imbalance relationships are getting much attention. The first condition is when the multinational enters into some kind of sourcing contract with a supplier where the former is powerful enough to dictate and/or willing to subsidize opening of an offshore location either to be fully owned by its supplier, or to be owned jointly. The second condition is when the multinational’s supplier company is powerful enough to dictate and/or subsidize an offshore location either for the parent company, or jointly owned by both companies (Farrel, 2006).

The current study asserts that under both conditions the relationship between the two parties falls into a special kind of supply-chain relationship where one party has more power in determining an offshore location. Such assertion links the current study of offshoring to the studies in inter-organizational supply chain. Being informed by the above theories the McKinsey Global Institute (MGI) provides a framework for selecting a suitable offshore location by multinational organizations (quoted in Farrell, 2006). The framework provides six generic factors that should be considered by multinationals in order to choose an offshore location. These factors are: (i) Cost (of labour, infrastructure, real estate, and corporate taxes of the host country), (ii) Availability of skills, (iii) Environment (e.g., government, business, and living environments and associated infrastructures) (iv) Market potential, (v) Risk profile (e.g., disruptive events, security, regulatory and macroeconomic risks), and (vi) Quality of infrastructures.

Kumar et al. (2009) suggest that with globalization and offshoring growth it is essential to have a good perspective of interdependence theory that is suitable for designing and understanding offshore locations. To this end, the current study extends the MGI framework by explicitly incorporating inter-organizational knowledge sharing (IO-KS) requirements of multinationals, as shown in detail in the next sections. The current study asserts that sharing knowledge among parent and offshore companies can help both organizations to overcome many reported failures in supply chains that may not have been revealed previously (for reported failures refer to Perez-Nordtvedt et al., 2008; Seyyedeh & Daneshgar, 2010). Figure 1 shows an overview of the intentional side of the above theory that is relevant to, and is used by, the current study.
A study by Al-Qahtani & Daneshgar (2010) extended the above studies by integrating the MGI framework and the IO-KS study by Seyyedeh & Daneshgar (2010) in order to identify relevant factors that multinational organizations should take into consideration when selecting their offshore location with particular focus given to the IO-KS requirements of these organisations. By integrating the studies by Seyyedeh and Daneshgar (2010) and Al-Qahtani and Daneshgar (2010) with the MGI model of offshoring decision, the authors have developed a two-dimensional decision model for the multinational companies as shown in Table 1.

4. RESEARCH METHODOLOGY
The current study conducts a series of semi-structured interviews with a senior manager of a multinational oil company in a country in South East Asia in order to develop a specialised version of an Inter-Organizational Knowledge-Sharing (IO-KS) model to be used by multinational oil companies. Results from the current study can be used by future studies to prepare a more representative survey questionnaire in future studies as an extension to the current study, and this constitutes the authors’ future study.

The research plan of the current study consists of the following three phases:
**Phase 1:** Assessing the alignment between KM and offshoring strategies in the case study organisation
**Phase 2:** Identifying factors that affect selection of an offshore location by multinational oil companies
**Phase 3:** Developing and evaluating an analytical tool for supporting offshoring decisions by multinational oil companies while addressing the latter’s knowledge-sharing requirements.

5. RESULTS AND DISCUSSION
In the following sections interview results for the three phases are presented each followed by a discussion and analysis of the results.

**Results of Phase 1**
Assessing the alignment between KM and offshoring strategies
Below are the highlights of the first interview with the Managing Director of the case study organization. The interviewee responses are shown in italic font, and have already been verified by the interviewee.
Q: In your opinion, what has been the overall knowledge management strategy of parent oil companies with whom you have had parent-subsidiary relationships in the past?
A: Generally speaking the parent companies always have had some kind of KM initiative ranking from highly sophisticated electronic KM systems to partial KM procedures for dealing with their subsidiaries. In some cases when the required knowledge for sharing with us had not been already available on electronic formats in the parent companies, they have either allowed us to directly access some of their internal databases, or they have provided online opportunities for discussions and enquiries.

Q: How do you assess the effectiveness of the above situation?
A: The problem is not their lack of KM initiatives, it is our lack of linkage capabilities (as a subsidiary) to effectively utilize, understand, and relate with sensitive areas such as their quality assurance standards, human resource training programs, etc.

Q: How do you think you can fix this problem?
A: We need to take our organizational learning programs more seriously and invest in that; we need more formalized procedures for sharing knowledge between the two companies or even among ourselves. Currently in many situations we mainly rely on links between individuals from the two sides; if personal relationships are OK then knowledge is shared otherwise that will not happen. On the other hand, as subsidiary, have capital investment constraint and therefore, if KM is not highly valued by our top executives we will not invest in it. I really do not know how to fix this problem.

Q: What is your overall assessment of the past, present, and future power relationship between your company and your parent companies? How does your company exercise power within those various off-shoring relationships?
A: Parents have always been powerful enough to dictate contractual statements to us; Parents generally tend to exercise their power that they potentially may have over us.

Q: Please explain reasons behind such exercise of power, if possible.
A: Normally they prepare contract forms, and we discuss some aspects, but they always win in cases where no solid agreement is reached. This is not ideal for us but we are fairly satisfied and expect them to have such expectations. However, the ideal situation for us would be if contract statements could actually ‘facilitate’ collaboration among us through say appropriate procedures for sharing our knowledge. I strongly believe this is absolutely necessary for the success, and has the potential to prevent many of the future problems.

Discussion: Major points here are (i) emphasis on the ‘internal capabilities’ of the recipient company, and (ii) expressing desire in having more formalized forms of knowledge sharing artefacts. Also, latter questions helped the researchers to plan interview questions for the following phase. The following interview was held approximately two months after the above interview.

Results of Phase 2
Identifying factors that affect selection of an offshore location by multinational organisations
The following questions directly relate the IO knowledge sharing factors in Figure 1. Based on the answers provided in the previous phase in relation to the balance of power within the case study organisation, the following questions were designed specifically to clarify the nature of such balance, hence the importance of knowing the perspective of both parent and subsidiary company regarding each factor wherever applicable.

Q: Existing knowledge indicates that the following four factors are the major factors that affect inter-organizational knowledge sharing (IO-KS): Trust, Dependency, Tie Strength, and Cultural Proximity (definitions of these factors and relevant measures were provided to the interviewee to read and discuss; these details also appear in Appendix ‘A’). In your opinion, what ranks (1-10, with 10 being highest) would a parent company give to the above factors in terms of their importance for IO knowledge sharing? Please explain the reason behind your
selection. Higher ranks given to a factor indicates higher importance of that factor in enhancing IO-KS.

A: <Below are the ranks provided by the interviewee for each factor in ascending order>

**Trust:** 10: definitely the starting point for the parent company. If this factor is not present they will not continue partnership with us.

**Cultural Proximity:** 9: For the South East Asian subsidiary and parent company with strong national culture I believe cultural proximity is the next important factor for us.

**Dependency:** 8: there is not much choice for subsidiaries other than this. On the other hand, we do not mind being dependent on them as mentioned before. Such dependency in many occasions is translated into their trust in us, and our security. Also we welcome adherence to their product/service quality procedures as a sign of good will, and this is nothing but dependency I suppose.

**Tie Strength:** 7: this is more relevant to the subsidiary than the parent company. We usually are ‘dependent’ to the parents in the first place, and only after that, we think about how to strengthen such ties. Therefore I believe this should have a lower rank than ‘dependency’.

**Discussion:** The issue of ‘cultural proximity’ needs to be addresed in conjunction with the ‘strength of the organisational culture’. Dependency is welcomed by subsidiaries in exchange for building trust and security with the parent.

Q: What has been done by both parties in the past in order to increase trust within the relationship?

A: One solution has been appointment of joint positions. We also always welcome their auditing of our operations, we happily adopt their quality procedures, and basically do anything we can to increase their trust on us.

Q: In terms of the intention to share knowledge between you two, rank the importance of the following determinants of ‘Trust’ (adopted from Seyyedeh & Daneshgar, 2010) on behalf of your parent company, and comment on the most and least important determinant (the interviewee was given the list of ten factors before answering, in order to avoid the ordering bias):

- Reliable performance and predictable actions of the subsidised company will result in more intention by parent to share knowledge with subsidiary (ranked 10): “this is absolutely the line”.

- The risk of opportunistic behaviour by the subsidiary will reduce the intention of the parent company to share their knowledge with the subsidiaries (ranked 8): “this factor will have varying degrees of importance in various situations, so I give it an average of 8”

- The risk of leakage of knowledge to competitors inhibits the parent company to share their knowledge with their subsidiaries (ranked 9): “I have noticed that this is another important factor, and we as subsidiary ourselves try not to avoid such situation”

- The lack of trust about appropriate and successful use of knowledge by a subsidiary will result in less intention for the parent company to share knowledge with their subsidiary (ranked 7): “true to some degree, although appointment of joint positions reduces the effects of this factor”

- Trust in the ability and strength of the subsidiary to use the knowledge in a way that leads to a more efficient performance of the parent company and/or the intention to share knowledge will increase in the supply chain (ranked 7): “we are normally compensated based on our performance and if we do not perform well, we will lose. So I would give the weakest rank to this one”
Q: In terms of intention to share knowledge rank the importance of the following determinants of the ‘Dependency’ (adopted from Ibid) and comment on the most and least important determinants:

- For subsidiaries, sharing knowledge with the parent company in order to retain collaboration with the parent (ranked 8)
- For subsidiaries, sharing scarce and important knowledge with the parent company. In what situations would you go that far with your parent company? What should the parent company do (or be) before you share such exclusive knowledge with them? (ranked 7) I never remember encountering such situation. Contrary to the IT industry, in the oil industry it is rare for a subsidiary to possess such knowledge. In terms of what the parent company should do to receive such knowledge from a subsidiary I would say it is quite situational issue and is very much dependent on the temporal needs of the subsidiary.
- For parent company, sharing supportive knowledge with the subsidiaries in order to improve their performance (ranked 9)
- For subsidiaries, increasing intention to share knowledge with the parent due to a lack of other alternatives (ranked 7)
- The parent company shares knowledge with its subsidiary companies in order to keep them working better and as a result to increase the market demand (ranked 10): “In today’s business environment companies give highest values to their customers. So to what extent the parent regards the subsidiary a customer, and to what extent, a supplier and etc.”
- For parent company, sharing knowledge with a subsidiary in order to hold the current market demand (ranked 6): “Normally, in our industry the current market demand is never sufficient; shareholders do not like it as majority of the parent organisations have not reached market saturation as companies like McDonalds’ has. Therefore this is not a major issue.”

Q: In terms of the intention to share knowledge between you and your parent, rank (1-10) the importance of the following determinants of the ‘Tie Strength’ (adopted from Ibid) and comment on the most and least important determinant:

- Longer and positive relationship experience will result in more trust between trading partners (ranked 10)
- Positive and frequent ‘communications’ with trading partners result in developing more trust (ranked 8)
- High level of ‘involvement’ in different projects with trading partners will result in developing more trust (ranked 9):

Q: In terms of the intention to share knowledge between a subsidiary and your parent, rank (1-10) the importance of the following determinants of the ‘Cultural Proximity’ (adopted from Ibid) and comment on the most and least important determinant:

- Wrong perceptions about the behaviour of a partner with different national and organizational culture will cause problems in the process of trust building between the partners (ranked 7)
- Supply chain partners with same national culture have a close view about economic issues and market requirements (ranked 8)
- Some of the misunderstandings in communication are due to using second language (ranked 6): “not a major problem anymore; new generations are generally equipped with the required language skills”
- There are more trust on partners with similar organizational culture and values due to more clear and easier communication between them (ranked 10): “this is very
important, not because of the importance of the communication, but because of the importance of culture particularly in the SE Asian countries.”

Discussion: The above responses clearly confirm the appropriateness of the generic IO-KS model to the parent-subsidy relationships the latter being a special type of IO relationship because all received ranks above ‘5’. In addition, it was also noticed that (i) while knowledge-sharing as a voluntary activity is very much appreciated but the importance of formalised method of knowledge transfer is also equally important since subsidised companies are generally perceived as ‘recipients’ rather than the ‘provider’ of knowledge; and (ii) ‘trust’ remains the dominant factor in such relationships.

Results of Phase 3
Developing and evaluating an analytical tool for supporting offshoring decisions by multinational companies while addressing knowledge-sharing requirements.

The current study proposes a decision model in the form of a two-dimensional matrix that integrates the generic IO-KS model of Figure 1 with the MGI framework. This model is shown in Table 1. Each cell of the matrix is a composite factor representing the relationship (High, Low, and Medium) between various factors affecting IO-KS, and various elements of the MGI framework. To demonstrate the application of the proposed decision model in a typical decision situation a third interview was arranged with the case study interviewee, and he was asked to fill up various cells of Table 1 with values ‘HIGH’, ‘LOW’, ‘MEDIUM’ and ‘U’ (“Unsure/Not Applicable”) based on a typical decision situation to select an offshore location from three hypothetical alternative locations: Singapore, Myanmar, and Vietnam; therefore he had to fill up three decision tables one for each location. Values in Table 1 represent his ‘Vietnam’ alternative with 4x6=24 decision variables.

Due to space limitations a summarised version of the interview is presented below, and results for only one alternative, that is Vietnam, is reported in this study followed by the detailed analysis of the first two cells only.

Table 1: A Decision Table for analysing offshoring requirements of multinational organisations

<table>
<thead>
<tr>
<th>COST</th>
<th>TIE STRENGTH</th>
<th>CULTUREL PROXIMITY</th>
<th>TRUST</th>
<th>DEPENDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>AVAILABILITYOF SKILLS</td>
<td>LOW</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>ENVIRONMENT</td>
<td>HIGH</td>
<td>LOW</td>
<td>MEDIUM</td>
<td>LOW</td>
</tr>
<tr>
<td>MARKET POTENTIAL</td>
<td>LOW</td>
<td>HIGH</td>
<td>LOW</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>RISK PROFILE</td>
<td>MEDIUM</td>
<td>MEDIUM</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>QUALITY OF INFRASTRUCTURES</td>
<td>MEDIUM</td>
<td>LOW</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

Cost–Tie strength: Using the measures provided in Appendix ‘A’ the factor ‘cost’ mentioned in the McKinsey’s framework (MGI) needs to be assessed against the following three measures for the Tie Strength (see Appendix ‘A’):

(i) The possibility of establishing long and positive trustful relationship: “The cost of establishing such relationship seems to be irrelevant to the oil industry, and therefore a LOW value can be assigned to this factor, (ii) benefits as a result of positive and frequent communications with the partner (MEDIUM), and (iii) benefits as a result of possibility of
future higher levels of involvement in more projects (irrelevant and LOW). Therefore the authors’ assessment for this cell is LOW.

**Cost – Cultural proximity:** Using the measures provided in Appendix ‘A’ the factor ‘cost’ mentioned in the McKinsey’s framework needs to be assessed in terms of (i) benefits as a result of mutual understanding of, and expected behavioural patterns of a partner with a different national culture (HIGH in many offshore examples), (ii) benefits as a result of communicating with a common language (HIGH), and (iii) benefits as a result of additional ‘trust’ to partner simply as a result of sharing a common set of values, beliefs and language (MEDIUM). Overall, a HIGH value is assigned for this cell.

6. **CONCLUSION AND FUTURE WORK**

This study proposed an integrated decision model and associated assessment methodology to be used by multinational oil companies when selecting an offshore location. Results have been satisfactory in terms of the capability of the proposed model helping the company to achieve its intended goals, and the authors believe that the proposed model and associate methodologies can be equally applicable in other multinational cases. The latter constitutes one major future work for the authors. As another future study, a large-scale survey will be developed to assess both suitability and the degree of generalizability of the proposed integrated model for other types of multinational companies.

7. **REFERENCES**


8. APPENDIX ‘A’
Inter-Organizational Knowledge Sharing Concepts and Definitions
This appendix provides detailed definitions of the factors that affect intention to share knowledge in supply chain relationships, along with various measures corresponding to those factors as reported in the current literature:

**Trust:** It is a belief that one organization acts in a consistent manner and will perform in accordance with expectations and intentions (Spekman et al., 1998).

**Dependency:** Organizations aim to optimize their ways of conducting activities and obtaining required resources. So, they are dependent on other organizations’ resources to provide their requirements (Seyyedeh & Daneshgar 2010).

**Tie Strength:** The strength of the relationship between two organizations; it enhances the process of trust building between them (Preze-Nordtvedt et al, 2008 and Van Wijk et al, 2008).

**Cultural Proximity:** Two organizations have cultural proximity when they share the same or close cultures based on factors including language, norms, values, meanings, and beliefs (Li, 2005; Adobor, 2006).