

Management of Information Systems Outsourcing: Evaluation of Lessons Learned From a Boundary Spanning Perspective

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Abstract: Even if outsourcing is a well-researched phenomenon, it can be stated that evaluation studies on IS outsourcing relationships are scarce. From a description of two IS outsourcing relationship cases, a set of lessons learned are presented. A boundary spanning perspective is then used when evaluating these lessons learned in the client-supplier outsourcing relationships and thereby adding a “new” theoretical perspective on outsourcing relationships. The evaluation is concluded in a set of propositions that present the boundary spanning perspective of the lessons learned. The aim of these propositions is to act as both a guiding tool for how to further develop boundary spanning roles in outsourcing relationships and to act as a base for future research on outsourcing relationships.

Keywords: boundary spanning, IS outsourcing, relationships management

1. Introduction

Outsourcing of various firm processes has been increasing and still increases (Beasley, Bradford, & Dehning, 2009). Lacity and Willcocks (2001) claim that organisations have realised the benefits of outsourcing such as the ability to focus on core competencies, achieving reductions in human resource costs and flexibility in tapping into technical expertise when needed. At the same time, access to global markets and commercial exploitation are mentioned as strategic drivers for outsourcing (Beverakis, Dick, & Cecez-Kecmanovic, 2009) and maturity in the outsourcing market resulting in outsourcing to a high extent becoming part of firms’ strategic initiatives (Ravi, 2008). It can be stated that outsourcing has been especially evident in the area of Information Systems and Information Technologies (IS/IT). A survey published by KPMG (2007) showed that 89% of the firms surveyed planned to maintain or increase their current IS/IT outsourcing level. Gonzales, Gasco and Llopis (2010) reported a global market growth with an average of 6.3% in the year 2008. In this research, IS outsourcing refers to a relationship where a firm contracts out or sells IS assets, people and/or activities to a supplier. The supplier provides and manages these assets and services for monetary returns over an agreed time period (Kern, 1997). Although IS outsourcing has experienced a dramatic growth, it can be stated that reports on lack of success make it interesting to study conditions determining successful outsourcing. To reach successful outcomes, the necessity of having better management practices has been pointed out (Gonzales et al., 2010; King & Torkzadeh, 2008). However, it is unclear what these “better management practices” in a client–supplier relationship should deal with. As stated by Lacity, Khan, Yan and Willcocks (2010), there is a need for more research with a relationship perspective in IS outsourcing research. IS outsourcing relationships face numerous challenges in developing and delivering software services across firm boundaries. Given the critical role that IS outsourcing relationships play in integrating business and technical knowledge at the client-supplier boundary, it is important to understand the challenges that they face and to identify mechanisms that enable firms to overcome these barriers to effectiveness.

In this paper, lessons learned from an investigation of two IS outsourcing relationships are shortly presented. It can be claimed there exists a need of having better management practices to have success in IS outsourcing. However, as stated above, it is unclear what this better management should consist of. To be able to say something about this, we evaluate lessons learned from a boundary spanning perspective. The evaluation of lessons learned assist us when suggesting propositions on how to deal with challenges that the identified lessons learned suggested. This research aims at contributing to the knowledge base on management of IS outsourcing by addressing management of IS outsourcing in a client–supplier relationship from a boundary spanning perspective. The research describes two IS outsourcing cases that differ in activity outsourced, IS development versus IS maintenance and operation, and IS relationship composition. From evaluating the lessons learned, we go

beyond just telling the story and give a richer description of how identified challenges could be dealt with in search of a better management practice in IS outsourcing relationships.

The remainder is structured as follows. The next section first presents the research design and thereafter the two cases of IS outsourcing relationships. The presentation focuses on features of each case, such as the activity outsourced and the relationship. Section 2 then ends with presenting challenges and lessons learned from the two cases. In section 3, the boundary spanning perspective is presented and this perspective is used to analyse lessons learned. The section ends with a set of propositions for the management of IS outsourcing relationships. The propositions are discussed and are connected to the presented lessons learned. The final section presents some conclusions and suggests further research in the area of IS outsourcing relationships.

2. The IS outsourcing relationships and the lessons learned

In this paper, we describe two IS outsourcing relationships: case DevMen and case MainOp, see Figure 1. Case DevMen focuses outsourcing of IS development (ISD), whereas case MainOp focuses outsourcing of IS maintenance and operation. Empirical data for these cases has been collected through semi-structured interviews with representatives from the client firm, the supplier firm and the supplier's offshore site. In total, 35 interviews were conducted from June 2010 until early 2011 – 20 interviews for case DevMen and 15 interviews for case MainOp. The interviewees represented the business level, process level and systems level of included firms. Among those interviewed were business unit managers, heads of customer management, line managers, one ICT manager, one system manager, system designers, one service desk manager and IT/IS specialists. Each interview lasted between 1½ to 2½ hours. In addition to the interviews, documents describing the outsourcing relationships have been included. These documents have primarily been used for verifying statements from the interviewees but also as complementary sources to the interviews, which is in line with what Yin (2009) describes as data triangulation.

The lessons learned, presented below, come from a qualitative data analysis inspired by the technique of open coding (Strauss & Corbin, 1990). The data generated by interviews and documents were examined and coded by focusing on the interviewees' experienced challenges associated with their respective outsourcing relationship. Data quotes were coded, ordered in units, rearranged and then categorised in themes. The results are thus grounded in data rather than imposed by theory.

Both the client firm and the supplier firm are firms within telecommunication equipment and services. They have experience with outsourcing and have both national and international outsourcing relationships. The supplier firm, the focal firm in the research, has a well-developed outsourcing process, which contributes a common way of working with outsourcing. The following descriptions focus on activities outsourced and features of the outsourcing relationships. Due to confidentiality, the firms included are not mentioned by their real names.

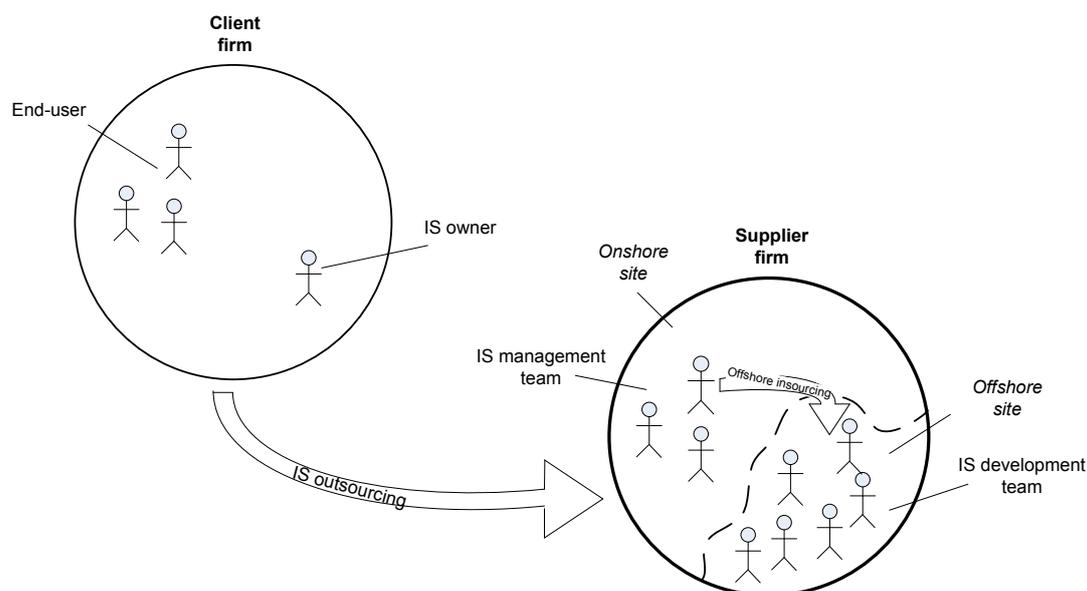


Figure 1: The DevMen and MainOp case – organisations and roles

The IS outsourcing relationship, the DevMen case, is built upon three parties, i.e. the client firm, the supplier firm and the supplier's offshore site. The client firm and the supplier firm are located in Sweden, whereas the supplier's offshore site is located in the Czech Republic. The DevMen case involves two phases: first the IS outsourcing and then the "offshore insourcing". The MainOp case involves the "offshore insourcing". This means that there is an overlap of the cases when it comes to involved parties as shown in Figure 1, however, the two cases deals with two different systems/activities outsourced.

In the DevMen case, the client decided in 2002 to outsource management, maintenance, development and support of one of its IS. This specific IS is a correction and maintenance system, which is employed by the client's end-users and the client's clients for trouble reporting on the client's products and equipment. It is stated to be a business critical IS and it has to be available 24 hours a day, 7 days a week.

Until early 2009, the outsourcing relationship was represented by two parties: the client firm and the supplier firm's onshore site in Sweden (the IS outsourcing in Figure 1 – the DevMen case). In 2009, the supplier received requirements on cost reductions, which resulted in maintenance, development and support being outsourced to the supplier's offshore site in the Czech Republic, also involving the "offshore insourcing" in Figure 1.

Offshore insourcing is defined by Bergkvist and Fredriksson (2008) as a special case of outsourcing when the supplier/client outsources work to an affiliated firm. However, the IS management was kept at the supplier's onshore site. As a result, the relationship increased to include three parties, the client, the supplier's onshore site and the supplier's offshore site. This specific IS outsourcing arrangement is referred to as two-stage offshoring (Holmström Olsson, Conchúir, Ågerfalk, & Fitzgerald, 2008), i.e. offshoring through domestic suppliers with offshore employees. The DevMen case focuses on issues related to outsourcing the development of the IS. To manage development related issues, interfaces were established between the client and the supplier's onshore site and between the supplier's onshore site and the supplier's offshore site, used as communication channel(s), creating a single point of contact for specific competence areas.

These interfaces are used on a daily basis, as development activities are conducted in an agile way of working, where the management team and the development team meet virtually each morning during the daily stand-up meeting (see e.g., Kniberg, 2007). Almost every team member at the supplier's onshore site communicates now and then with the IS owner. The communication relates to, for example, end-users' and client's requirements and requirement analysis.

The relationship case, MainOp, involves the "offshore insourcing" as shown in Figure 1. The supplier is located in Sweden and the supplier's offshore site is located in the Czech Republic.

The MainOp case includes the maintenance and operation of a part of the supplier's technical infrastructure. The technical infrastructure can be described as a business specific support process, which is divided into three parts: first line support, second line support and third line support. First line support solves more simple and routine based errands such as password problems. Second line support manages infrastructural problems related to servers and workstations for example. Complex problems and changes, such as further development of the technical infrastructure, are managed by the third line. The third line also helps end-users with the set up of IT environments for specific projects. Thus, the first and second lines manage more routine based IS operations and the third line manages more specialised maintenance work. In the autumn of 2009, it was decided that the first and second lines should be outsourced to the supplier's offshore site in the Czech Republic. Among the reasons mentioned were: a harmonised way of delivering services, reduction of costs, better utilisation of capacity and better service follow up. The main reason for going offshore was that the affiliated firm already had processes established for the kind of business required. Consequently, necessary competence was available immediately.

To manage the support process, interfaces between the onshore and offshore site were created. In addition, interfaces at the offshore site were also created between different competence areas at the second line, as well as between the helpdesk (first line) and different competence areas at the second line.

2.1 IS Outsourcing relationships: Challenges and lessons learned

Outsourcing, particularly offshore, brings geographical limitations, cultural differences, time differences and difficulties in verbal communication. This is described by Edwards and Sridhar (2005) as reasons for why unstructured and business specific activities, such as requirement analysis, are recommended not to be offshored. In the DevMen case, these were stated as reasons for keeping IS management at the onshore site. This resulted in activities such as requirement analysis and systems management still being managed at the onshore site. Relating this to what the literature recommends, this was an appropriate decision. Reasons for keeping IS management onshore could be explained by for example the complexity of the IS and the members' deep knowledge on the client's business processes and way of working (Vlaar et al 2008). A system manager at the supplier's onshore site described the complexity by saying:

"It is not only about knowing the product and its code but also about processes and the client's way of working. [...] The product is complex and it is difficult to understand what it is really used for."

This is confirmed by a system designer at the supplier's offshore site who stated "it was difficult to understand the IS from the beginning." The designer continued

"It is hard to learn the system and to find code quickly. Some parts are difficult and you have to read much documentation to learn how the system works".

The result from this was that the onshore members had to write detailed requirement specifications and requirement analyses before they were handed over to the offshore site. The explanation for keeping IS management onshore can also be related to the close and informal business relationship between the client and the supplier's onshore members. The IS owner at the client firm described the relationship:

"It is completely perfect, I do not think you can have a better relationship. We trust each other and we always try to fulfill each other's requirements and wishes."

An unreserved client-supplier relationship, the onshore members' deep IS knowledge, and the difficulty of outsourcing business knowledge are thus reasons for keeping IS management onshore, i.e. in the same country as the client. This story illustrates the difficulty of outsourcing business specific activities and business knowledge. A lesson learned from the DevMen case is that when outsourcing business specific activities that require deep business knowledge, these activities should be kept in-house or onshore.

The decision in the DevMen case of moving maintenance, development and support to the supplier's offshore site resulted in two teams geographically dispersed from each other, one team in Sweden and one in the Czech Republic. The onshore site team members spoke of the importance of having a leader at the offshore site that felt great responsibility towards the client and the outsourced product. The system manager at the onshore site explained:

"You must have a strong person [at the offshore site]. If the team does not have a leading figure it will be extremely difficult."

Even though team members at the offshore site rarely spoke with the client, they mentioned a feeling of responsibility for the product. The team members relied on their leader and they had confidence in their leader. This was not just a result of the style of leadership but also a result of technical knowledge; their leader could answer most of their questions. A system designer at the supplier's offshore site described the importance of a leading figure as:

"It is important to have someone who is really skilled in the offshore site; somebody with technical skills, developing skills and also communication skills."

A strong leader was mainly mentioned as an advantage, however the onshore team experienced some challenges connected to having a strong leader at the offshore site. One challenge was experienced during the daily morning meetings. Each team member at the onshore and offshore site should say something in relation to: what has been done since yesterday, plans for today and problems that prevent future work (Kniberg, 2007). In reality the leader of the offshore site became the offshore team members' spokesman. The line manager at the supplier's onshore stated:

"During Scrum meetings the idea is that everyone should say something. This was very difficult. It felt as if we had to point. It became better and better but it was difficult. They wanted to speak through their leader."

This was experienced as a problem since the onshore team had difficulties in assessing the continuous work at the offshore site. The team members kept a low profile and the system manager at the onshore site pointed out: *“Often we had to pull out information about status and their feeling, if everything was ok or not.”* The offshore team members’ silence could be a result of having a strong leader but it could also be explained as a cultural matter. Czech management culture is recognised by a hierarchical approach. The line manager at the supplier’s onshore site experienced *“that it was extremely hierarchical, the leader was guru and the other did not dare to say anything.”* A system designer at the offshore site explained their silence and the Swedes desire to talk as a cultural difference by saying:

“One cultural difference is that Swedish work climate is more open and friendly and people are more involved in discussions and meetings. We do not ask so many questions which is also visible during Scrum meetings. Here we discuss problems before the Scrum meeting and then take a note or mention it during the Scrum meeting.”

From this, two things could be learned. First, the importance of having a leader at the offshore site, a person that has the ability to guide the receiving team in the right direction. This research shows that problems may follow with having a strong leadership. However, it is assumed that the advantages outweigh the disadvantages. Second it is important to be aware of each other’s cultural differences in order to better understand different ways of working and behaviours.

The “offshore insourcing” in the DevMen case resulted in the outsourcing relationship consisting of three parties. The supplier’s onshore site and offshore site should however act as one towards the client. The line manager at the supplier’s onshore site mentioned the importance of creating a team and a feeling of ‘we’ instead of ‘we and them’:

“Our main focus was on how we should perform work: we should work with scrum, we should meet. We should be a team with good communication. We should work together and meet face-to-face as often as possible.”

Besides the possibility to meet face-to-face during the knowledge transfer, the agile way of working was mentioned as contributing to a team feeling. Agile methods promote daily meetings and short development cycles (Lindstrom & Jeffries, 2004), which have facilitated the activity of getting to know each other. One system designer at the offshore site mentioned strengths with the relationship: *“We respect each other, the relationship is friendly and we try to respond to each other as soon as possible.”* A lesson learned from the DevMen case then is that agile methodologies, such as Scrum, are preferable when development is conducted by geographically dispersed teams.

In the MainOp case, members at the third line support mentioned the problem with work tasks (tickets) going ping-pong between the second and third lines. The ICT manager at the supplier’s onshore site described this by giving the following example:

“Say that a ticket passes the first and second line and arrives to us at the third line. We look at it and assess it as a ticket that should have been managed at the first or second line. As a result, we send it back with a note saying something like: this you ought to have managed. And then the ticket comes back to us with the message: but we have not received any instructions.”

The underlying cause for this problem with sending work tasks back and forth is believed to be related to the non-existence of clear and written specifications for what should be solved at the second and third line respectively. The Unix specialist at the supplier’s onshore site requested “an explicit definition of which services should be transferred and which should be kept onshore.” When support concerns a business specific infrastructure, as in this case, the importance of instructions becomes even clearer, as pointed out by both the second and third line. The Unix specialist at the offshore site described the technical infrastructure as being one of the biggest and strangest he had ever worked with. The specialist’s words were: *“Because it is not standardized, because it was built during many years by only a few persons. They have done it by themselves and everybody had everything in their minds.”* This makes instructions necessary for knowing what should be solved at the second and third line. From this, two things could be learned. First, it is essential that actors at both the sending firm (in case MainOp the sending firm is the same as the supplier’s onshore site) and the offshore site have a common understanding of what each party is intended to manage. Second, the business processes and the set up of technical infrastructures need to be documented so that the offshore site can manage their part of the agreement. This is particularly important when the outsourced activity is tailor-

built. Consequently, it is recommended that an outsourcing knowledge transfer should include work packages for documentation, the creation of formalised instructions and hands-on training.

Other challenges in the MainOp case are related to differences in ways of working. The supplier's offshore site, which manages first and second line support, is referred to as a factory, supporting several clients. This means that the work processes have similarities with industrialised, routine based work. The first and second lines support a range of different clients but how it is done does not differ. The outsourcing coordinator at the supplier's offshore site summarised the challenge of different ways of working as:

"The way of working in Sweden is very, very different from way of working here in [the offshore site]. Basically it is about that in Sweden the support was in a very customer oriented way, very tailored way, it was not so much based on processes, it was based basically on a very close relationship towards the customer and there was a dedicated team for the support. This is something that we do not have in [the offshore site]. This is a big service center, and it is a very process and rigid directed way of working, strictly based on processes. It is more like a factory so to say. I guess that a lot of people in Sweden were surprised how we work and how we organize our work. So this is more or less the big difference between the [offshore site] factory approach and this very customer oriented approach in Sweden. This was the main challenge during the outsourcing preparations".

From this it can be stated that IS outsourcing should be preceded by an examination of involved parties' way of working so that differences not will be a surprise when outsourcing becomes actual.

During outsourcing, the need of communication channels came apparent. Team members at the third line of support experienced the necessity for single point of contact to facilitate the communication between the second and third lines of support. The Unix specialist at the supplier's onshore site said:

"Channels of communication are important for knowing with whom to communicate. It does not have to be a personal relation but communication must be easy. For example if I want to share information with a group of people I can use this communication channel. Then I know that the information has received the other ones. The communication channel can be informal or formal; the main thing is that communication is easy".

Through a single point of contact, it becomes possible to share information between different teams through one person. Thus, communication channels, such as a single point of contact, are believed to facilitate problems related to information and knowledge sharing. However, the team members at the first and second lines of support did not mention any problems connected to communication and information sharing. Explanations are related to the fact that they received answers to most of their questions and if they did not, unmanaged tickets were passed on to another competence area or to the third line. From this, it can be stated that communication channels for information and knowledge sharing are important in outsourcing relationships.

Another finding from the MainOp case is that employees from the third and second line differ in their mentality towards their client, i.e. the end-users. It is stated that third line support always strives for satisfied end-users and that is why they help the second line when needed: if they did not, the end-user would suffer. For the second line, on the other hand, the end-users are quite unknown and that is why their motivation is related to the business agreement rather than to satisfied end-users. The outsourcing coordinator at the supplier's offshore site explained it as: *"We miss this very close relationship with the customer. [...] We really make it work based on service level agreements."* Thus, people at the second line do their work according to what is written in the business agreement. One explanation for this is that the second line supports a lot of different clients and end-users. From this it, can be recommended that expectations should be discussed during outsourcing preparations to avoid misunderstandings later on. One lesson learned from the MainOp case is that not only representatives from the business level should be part of the preparations, but also representatives from the system level and process level, to be able to learn more about each other.

Lessons learned from the DevMen and the MainOp cases are summarised in Table 1. They are then discussed from a boundary spanning perspective in the next section.

Table 1: Summary of lessons learned from the DevMen and MainOp cases

Lessons learned	Main source
1. Keep IS activities that require deep business knowledge in-house or onshore	DevMen case
2. Make sure to have a strong leader at the offshore site	DevMen case
3. Learn about differences in organisational culture during IS outsourcing preparation	DevMen case
4. Adopt agile ways of working to facilitate cooperation and the feeling of working as one team in geographically dispersed teams	DevMen case
5. Make sure that actors at both the onshore site and the offshore site have a common understanding of each party's expectations and responsibilities according to the IS outsourcing agreement	MainOp case
6. When outsourcing tailor-built IS, detailed IS specifications should be included as part of the knowledge transfer	MainOp case
7. IS outsourcing should be preceded by an examination of involved parties' way of working	MainOp case
8. Established communication channels for information and knowledge sharing are crucial during IS outsourcing relationships	MainOp case

3. Evaluation of lessons learned from a boundary spanning perspective

In this section we evaluate the lessons learned from a boundary spanning perspective and compare these to literature on outsourcing. The results of the evaluation are some concluding propositions which are discussed in the final conclusion section. The boundary spanning perspective has a potential in describing outsourcing relationships as described by Du and Pan (2010). They define boundary spanners as someone who operates at the periphery of an organisation. This is similar to the definition given by Das Aundhe, George, and Hirschheim (2011). They describe boundaries as a defining characteristic of organizations, and that the linkage between the organization and its environment is operated by boundary roles in the form of individuals that could be called boundary spanners. According to Aldrich and Herker (1977) there are basically two functions performed by boundary roles: information processing and external representation. The information processing role is described as dealing with information overload. The basic thought about the information processing function is that it should be able to select information acting as both filters and facilitators. As stated by Aldrich and Herker (1977), the information processing function of a boundary role decides an organisations ability to adapt to environmental contingencies. However, it is dependent on the expertise of the boundary role incumbents and the success in selecting, transmitting, and interpreting information. The external representation function is then related to how an organisation responds to environmental influence (Aldrich & Herker, 1977). Aldrich and Herker (1977) describe three different ways for dealing with environmental constraints and contingencies: first, by an internal structural differentiation match patterns of relevant information; second, by gaining power over relevant elements in the environment, and from that manipulating it so that it conforms to the organisation's needs; and third, a compromise position which means a modal pattern of use of boundary personnel. In summary, it can be said that individuals' technical and communicative abilities constitute the organisation's boundary-spanning capability (Du & Pan, 2010).

It can be stated that IS outsourcing relationships face numerous challenges in developing and delivering software services across firm boundaries. This is especially the case in the context of information systems development. Fisk, Berente, and Lyytinen (2010) state that a persistent problem in the IS development context is the different parties' different knowledge. They also state that this boundary problem hinders project success and they claim that boundary spanning significantly affects IS development success. Das Aundhe, George, and Hirschheim (2011) report that studies on characteristics on boundary spanners demonstrate it to be very difficult to build inter-organizational relationships in the absence of boundary spanners. According to Levina and Vaast (2008), the boundaries are related to lack of shared economic, intellectual, social, and symbolic resources. To deal with these boundaries, it can be said that boundary spanners are necessary, but it can also be said that they need to be developed to deal with a specific set of tasks. This is described in a set of propositions that aims at shaping future research but also as guidance for how to think about IS outsourcing relationships. The rest of the text connects lessons learned to suggested propositions. The connections are then showed in Table 2.

The first lesson (Lesson 1) states that organizations should "Keep IS activities that require deep business knowledge in-house or onshore". To some extent this could be compared to the discussion around focusing on core competence when deciding on outsource or not (Johansson, 2007) as well

as what to outsource (Aalders, 2001; Dewire, 2001; Kakabadse & Kakabadse, 2002). However, from the findings of the case it is quite clear that the outsourced activities were not part of their core competence. Despite that the empirical data suggested that outsourcing from the knowledge perspective could be problematic, which indicates that knowledge exchange on activities that require deep business knowledge is of importance, even if the activity not could be seen as a core competence. From this proposition 1 could be formulated in the following way, **Proposition 1:** IS activities that require frequent face to face interaction and deep business knowledge should be kept in-house if the boundary spanner role that deals with the information overload not are present at either of the organisations in the IS outsourcing relationship.

From the reading of proposition 1 it can be concluded that if there exist boundary spanners at both the client and the supplier site then activities which requires deep business knowledge could be outsourced. However, analysing this from lesson number 2: "Make sure to have a strong leader at the offshore site" as well as lesson number 4: "Adopt agile ways of working to facilitate cooperation and the feeling of working as one team in geographically dispersed teams", the following can be claimed. The boundary spanners at both sides have an important role in providing both sides with relevant information. To do so they need to be able to deal with an information overload situation. However, to deal with the information overload there is a need to decide on what information the different actors in the relationship are dependent on, which, if not totally clear, according to Shao and David (2007), could be one reason to remain onshore. On way of dealing with the huge amount of information that needs to be exchanged could according to Kussmaul (2010) be to adopt an agile way of working, however, this also means that the boundary spanners need to support new ways of working. This discussion can therefore be summarized in **Proposition 2:** An extensive boundary spanner role is crucial when developing new and immature outsourcing relationships with non-established processes for ways of working.

This can then be related to the statement by Holmström Olsson et al (2008) who state that when establishing new offshore relationships, designers need to be trained extensively. But, also statements by Kussmaul (2010) who concludes that an outsourcing relationship should start with a small distributed team that grow over time. This could be seen as one way of learning about differences between the client and the supplier organization. This is in line with lesson 3 that state: "Learn about differences in organisational culture during IS outsourcing preparation". One reason for why it is necessary to learn about each other is that it can be said it is necessary for the success to have an extensive boundary spanner role in place. In other words; to be able to develop this extensive boundary spanner role, it can be suggested that there is a need to examine organisational culture in depth and that it should be done before the implementation of the outsourcing as suggested in proposition 3.

Proposition 3: The client's and the supplier's organisational cultural differences should be examined in the preparation phase of the IS outsourcing relationship. However, as seen in lesson 7: "IS outsourcing should be preceded by an examination of involved parties' way of working", it can be said that not only the culture are of importance. Also other types of knowledge gaps between the parties need to be dealt with. According to Gregory, Beck, and Prifling (2009) the client needs to invest a large amount of effort to manage the knowledge transfer. Mahnke, Wareham, and Bjorn-Andersen (2008) describe how, what they call offshore middlemen could be used to overcome knowledge transfer problems. The offshore middlemen could definitely be seen as a boundary spanner even if Mahnke, Wareham, and Bjorn-Andersen (2008) describe it as a third-party intermediary that needs to be used when neither the client nor the supplier can develop such capabilities internally. This is in line with lesson 5: "Make sure that actors at both the onshore site and the offshore site have a common understanding of each party's expectations and responsibilities according to the IS outsourcing agreement", as well as with lesson 6: "When outsourcing tailor-built IS, detailed IS specifications should be included as part of the knowledge transfer".

It is stated by for instance Fabriek et al. (2008) that the more cultural alike and the more familiar the client and the supplier are, the more likely it is that the relationship will bring successful outcomes. They state that team members should be introduced on both sides to learn about each other's way of working, in order to reduce distances related to organisational fundamentals. However, if there are cultural differences, it ought to be of interest to have knowledge about these to be able to deal with them. From this it can be stated that the newer and more immature the relationship is, the more important is the role of boundary spanners, which could be formulated as proposition 4. **Proposition 4:** Boundary spanners have a specific importance when outsourcing relationships are new and imma-

ture. As described in Holmström, Olsson et al. (2008), in new and immature outsourcing relationships, intense communication on a daily basis between both managers and designers is important due to non-established ways of working. This means that it is fruitful to adopt a development methodology that focuses on the team rather than on the techniques. It also means that a common understanding of each party's expectations and responsibilities according to the contractual agreement is necessary and the boundary spanner plays a crucial role for being able to create a common understanding. Lee et al (1999) state that a prerequisite for managing outsourcing relationships is the client's and the supplier's common understanding and a systematic way of working. This is in line with the statement from Ranganathan and Outlay (2009) whom state that a formal approach for workforce transition should be developed early in the outsourcing decision-making process. If not this is done in a proactive way it risks the entire outsourcing success (Johansson, 2007). It can also be related to what Davey and Allgood (2002) recommend about IS: that packaged IS solutions are preferable to tailor-built IS, since packaged systems often are well specified. From this, it can be stated that tailor-built IS should not be outsourced but they can be if boundary spanners have a specific role in making sure that detailed IS specifications are included in the knowledge transfer.

From the analysis of the empirical data and the presented lessons learned so far, the following concluding lesson learned, lesson number 8 was formulated: "Established communication channels for information and knowledge sharing are crucial during IS outsourcing relationships". This lesson strictly means that the boundary roles are of importance both during the preparation of the outsourcing relationship as well as during the on-going relationship. All of this can be concluded in the final proposition, **proposition 5** that states that: Communication channels must be in place to reach desired levels of knowledge exchange quality and for informal communication opportunities. From the boundary spanning perspective analysis it can be said that boundary spanners play an important role in creation of needed communication channels. Table 2 shows the connection between lessons learned and the propositions developed from a boundary spanning perspective. The next and final section presents some conclusions and further research in this area.

Table 2 Connection between lessons learned and suggested propositions

Lessons learned	Propositions
1. Keep IS activities that require deep business knowledge in-house or onshore	Proposition 1: IS activities that require frequent face to face interaction and deep business knowledge should be kept in-house if the boundary spanner role that deals with the information overload not are present at either of the organisations in the IS outsourcing relationship.
2. Make sure to have a strong leader at the offshore site	Proposition 2: An extensive boundary spanner role is crucial when developing new and immature outsourcing relationships with non-established processes for ways of working.
3. Learn about differences in organisational culture during IS outsourcing preparation	Proposition 3: The client's and the supplier's organisational cultural differences should be examined in the preparation phase of the IS outsourcing relationship.
4. Adopt agile ways of working to facilitate cooperation and the feeling of working as one team in geographically dispersed teams	Proposition 2: An extensive boundary spanner role is crucial when developing new and immature outsourcing relationships with non-established processes for ways of working.
5. Make sure that actors at both the onshore site and the offshore site have a common understanding of each party's expectations and responsibilities according to the IS outsourcing agreement	Proposition 4: Boundary spanners have a specific importance when outsourcing relationships are new and immature.
6. When outsourcing tailor-built IS, detailed IS specifications should be included as part of the knowledge transfer	Proposition 4: Boundary spanners have a specific importance when outsourcing relationships are new and immature.
7. IS outsourcing should be preceded by an examination of involved parties' way of working	Proposition 4: Boundary spanners have a specific importance when outsourcing relationships are new and immature.
8. Established communication channels for information and knowledge sharing are crucial during IS outsourcing relationships	Proposition 5: Communication channels must be in place to reach desired levels of knowledge exchange quality and for informal communication opportunities.

4. Conclusions and further research

This research contributes to the knowledge base on the management of IS outsourcing relationships by describing lessons learned from two cases. From this, some propositions are presented that aim to act as both a guiding tool for how to further develop boundary spanner roles in outsourcing relationships and to act as a base for future research on outsourcing relationships.

From the research it can be concluded that boundary spanners at both ends of the relationship play an extremely important role in the context of outsourcing relationships. The evaluation of lessons learned describes that boundary spanners are important to have during the initial preparation of an outsourcing deal as well as during the whole life-cycle of the relationship. The main conclusion from the research is that the success of outsourcing to a high extent builds on organizations' possibility to understand each other's culture as well as work processes. In that specific context it can be claimed that the individuals at both side of the relationship that can be identified as boundary spanners are of great importance.

Further research in the direction of how to identify as well as how to develop a boundary spanner role in outsourcing relationship would be needed to be able to give more normative prescriptions on how to further develop successful outsourcing relationships. Results from such research could also be used to give directions on how management of information systems outsourcing could be improved.

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