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# Partnership Outsourcing Evolution - The Process of Creating and Maintaining a Network of Actors

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#### PARTNERSHIP OUTSOURCING EVOLUTION

#### -The Process of Creating and Maintaining a Network of Actors

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#### **Abstract**

This paper is an attempt to build on and extend existing outsourcing research by focusing on the process of managing an outsourcing partnership. Furthermore, it considers the role of information technology and the importance of establishing interorganizational trust in order to provide a deeper understanding of the partnership outsourcing phenomenon. The outsourcing partnership in focus in this paper is between Alpha Corp., a large minerals group, and RDC, its remote service provider. The paper shows that Alpha Corp.'s strategy for creating, maintaining and evolving the partnership with RDC occurs in three different stages: black-boxing of technology, establishing interorganizational trust, and performance based contracting. This study provides support for McFarlan and Nolan's (1995, p. 22) claim that "What determines success or failure is managing the relationship less as a contract and more as a strategic alliance". However, given the multiple roles information technology assumes in an outsourcing alliance, this paper also shows that understanding and managing the role of IT is just as crucial in maintaining a successful partnership. In addition, given the documented importance of information technology in outsourcing partnerships, there is a need to include trust in technology as yet another dimension in establishing interorganizational trust.

Keywords: Partnership outsourcing, management strategies, interorganizational trust

#### 1. INTRODUCTION

With the extensive use of information technology in organizations, new business relationships emerge and the outsourcing of services and business processes is enabled (Davidow and Malone, 1992; Venkatraman and Henderson, 1998; Gallivan, 2001). There have been several research studies focused on the motives for outsourcing and the strategies behind making an outsourcing decision (Ang and Straub, 1998; DiRomualdo and Gurbaxani, 1998; Nagpal, 2004). There is also much work done on mapping the determinants of interorganizational relationships in order to understand the different types of outsourcing relationships that may emerge and the impact they could have on the client organization (Oliver, 1990; Williams, 1997; DiRomualdo and Gurbaxani, 1998; Kishore et al., 2003). However, it is the management of the outsourcing relationship that is critical for its success (McFarlan and Nolan, 1995) and in this area the research is lacking. In the traditional view of outsourcing, organizations let go of business functions that are seen as commodities and hold on to those that are viewed as strategic assets and the interorganizational relationship is strictly regulated through a written contract (Lacity, Willcocks and Feeny, 1995; Yahklef, 1997). In an outsourcing partnership, however, the client organization and the service provider engage in mutually beneficial behaviors in order to create a win-win situation (Yahklef, 1997; Kishore et al., 2003). This requires a deliberate strategy as the partnership is not primarily based on formal contracts. Instead it is based on developing the interorganizational relations and as such, the monitoring mechanisms are considered high on mutual trust and low on contractual control. Furthermore a partnership relationship entails common objectives and goal symmetry between the client and service provider (Kishore et al., 2003). How to administer such relations thus poses a real challenge for the management of the client organization.

Examples of such outsourcing partnership relationships can be found within the processing industry where information technology is being increasingly used to monitor the process line (Hibbert, 2000). The collection of production data has led to the development of remote diagnostic systems that can detect current status, unusual use, and signs of equipment failure through continuous real time data logging, which is passed on for subsequent analysis (Han and Yang, 2006; Lee et al., 2006). The use of this technology is meant to ensure high quality products and an efficient process, the latter being very important as an increase in up-time means a competitive advantage for the organization. Monitoring equipment from a distance also means that one no longer needs to be physically on site to perform advanced machine diagnostics and consequently creates an opportunity for outsourcing some of the maintenance work to an external part, a remote service provider. The use of remote diagnostics technology and its expected outcomes, such as a reduced number of unplanned production stops and a more efficient production process, are of highly strategic importance to the client organization and the management of the outsourcing partnership therefore becomes a key concern for its executive officers. Using a case from the processing industry, the aim of this paper is therefore to identify and explore the process of creating and maintaining partnership outsourcing relationships over time and to discuss the role of information technology in such relations.

This paper is focused on a case study of two organizations; a large minerals group, Alpha Corp., and its remote service provider, Remote Diagnostics Centre, RDC. The paper is organized as follows: The following section gives an overview of related research on partnership outsourcing and interorganizational trust. Section three describes the research methodology. The case study is presented in section four and analyzed in section five. The paper ends with conclusions and suggestions for future research.

## 2. PARTNERSHIP OUTSOURCING AND INTERORGANIZATIONAL TRUST

IT outsourcing has been treated in various ways in the research literature. Slaughter and Ang (1996) claim that IS skills can quickly become obsolete, and that outsourcing is a way to provide a company with a skilled up-to-date workforce. This view of outsourcing as a support relationship describing the motive for outsourcing as cutting costs, providing a more efficient organization, and placing a strategic focus on core business has also been at the center of previous research (Prahalad and Hamel, 1990; Quinn and Hilmer, 1994; Yahklef, 1997). Following this line of reasoning, the outsourcing decision has been made on the basis of determining whether the particular IT operation has been seen as a strategic asset or as a commodity. In the latter case, the decision to outsource has been made (Lacity, Willcocks and Feeny 1995). However, there is evidence that organizations are outsourcing for strategic and not only tactical reasons to exploit the full business potential of the use of IT (DiRomualdo and Gurbaxani, 1998). The increased globalization, widespread use of new technology, and pressure to be on-line, flexible, and efficient have prompted organizations to rethink and reshape their original forms, and as a result of these demands, strategic alliances, joint-ventures and partnerships have been formed (Gallivan, 2001). These outsourcing partnerships are different from traditional outsourcing in that they presuppose a transformation from the pursuit of self interest in a hierarchically structured relationship to a partnership based on trust (Lee et al. 2003; Lee and Kim, 1999). Forming such a relationship changes the organization's view on itself, from client and customer with the right to make high demands, to a partner that has to give something back to the service provider (Yakhlef, 1997).

Kern and Willcocks (2000; 2001) point out that the relationship dimension in IT outsourcing is key to outsourcing success, but often neglected in outsourcing research. They have developed a conceptual framework consisting of six dimensions: intent, contract, structure, interaction, behaviour, and efficiency and outcome, all of which together for a basis for understanding an outsourcing relationship, and a tool for managing it. Williams (1997) draws on Oliver (1990) and identifies six main contingencies for developing interorganizational relationships; necessity, asymmetry, stability, efficiency, legitimacy and reciprocity. The last of these, reciprocity, is defined as a relationship where organizations pursue mutually beneficial goals. Such relationships are considered innovative and based on information sharing and only exist where trust is well developed. Furthermore, they are focused on cooperation and collaboration rather than domination and control (Oliver, 1990). This line of reasoning is also evident in Kishore et al.'s (2003) discourse on different types of outsourcing relationships. They suggest a framework of Four Outsourcing Relationship Types (FORT); support, alignment, reliance, and alliance. These four types show various degrees of involvement/ownership substitution and strategic impact of the service provider on the client organization. With both ownership substitution and strategic impact being high, the relationship is characterized as an alliance. An alliance is a strategic partnership where monitoring mechanisms are considered high on mutual trust and low on contractual control. Furthermore an alliance relationship entails common objectives and goal symmetry between the service provider and client. The objective is to engage in mutually beneficial behaviors. Additionally, in an alliance the outcomes of outsourcing information services are ambiguous, uncertain and dynamic, and this type of relationship therefore benefits from behaviorbased performance measurements instead of output-based performance measurements. Partnership outsourcing in the form of an alliance relationship is growing in scope as organizations seek added value through long-term, mutual relationships with their service providers (McFarlan and Nolan, 1995; Michell and Fitzgerald, 1997; Srinivasan and Brush, 2006).

McFarlan and Nolan (1995) identify four critical areas for managing an outsourcing alliance. They speak of the need for a strong, active CIO function, the necessity of performance measurements, the

importance of a careful mix and coordination of tasks, and the value of establishing a client - service provider interface in order to enhance integration. Ultimately they state that "What determines success or failure is managing the relationship less as a contract and more as a strategic alliance" (Ibid., 1995, p. 22) In order to do that, one should consider the concept of trust. Trust is seen as a critical part of the process of developing interorganizational relationships (Warne and Holland, 1999) and considered to be essential in the success of interorganizational systems (Ibbot and O'Keefe, 2004). Trust is a multidimensional issue, defined by Mishra (1996) as "...one party's willingness to be vulnerable to another party based on the belief that the latter party is 1) competent, 2) open, 3) concerned, and 4) reliable". These four dimensions form an overall trust construct, and a low level of trust in any one of the dimensions offsets a high level of trust in any of the other dimensions. That is, it is the combination of these four dimensions that determines the general level of trust that one party has for another. In an outsourcing partnership the client organization opens up and exposes strategically important business processes to the service provider, potentially leaving itself very vulnerable. The service provider, in turn, has large initial costs associated with equipment, communication lines and personnel, which must be taken into account as there can be some time before the business starts to provide any revenues (Yakhlef, 1997; Ross and Westerman, 2004). In order for the partnership to be successful trust must be present between the two parties as lack of trust is among the most frequently cited reasons why organizational cooperation fails (Williams, 1997). In an alliance relationship the degree of trust is considered to be high and the contractual control low (Kishore et al., 2003). Lacity and Willcocks (2001) list a number of reasons why outsourcing relationships fail, and "Lack of active management of the supplier on contract and relationship dimensions" (p. 205) is one of them. From a managerial perspective it should therefore be important to identify the motives behind creating such an outsourcing partnership and strategies for how to establish and maintain trust in order to uphold and develop the relationship over time. Against this background we shall examine Alpha Corp. and its partnership with RDC.

#### 3. RESEARCH SITE AND METHODOLOGY

In order to understand Alpha Corp.'s strategies for managing its outsourcing partnership with RDC an interpretive case study (Walsham, 1993; Klein and Myers, 1999) was performed. The rationale behind selecting the research sites was their willingness to cooperate, the availability of multiple sources and the possibility of purposeful sampling (Yin, 1989; Peppard, 2001). The names of the organizations have been fictionalized in order to protect privacy. There were two rounds of interviews carried out. The first round occurred in 2003-2004, during which we followed the initial discussions in forming the partnership between Alpha and RDC. The second phase of the study was conducted in 2006, where we revisited the organizations and followed up on the development of the partnership and explored the companies' strategies for maintaining the partnership and establishing trustful relations and the impact of technology on the organizational transformation.

Data was collected by the author and another project member through a mixture of techniques such as semi-structured interviews and document reviews (Yin, 1989). Together we performed 31 interviews with people from both Alpha Corp. and RDC and visited the industrial sites where the remote monitoring technology was in use. The respondents ranged from technical staff and maintenance personnel to division managers and corporate executive officers from both organizations. The interviews had one structured part with a framework of questions concerning the partnership, the technology, and the organizational impact of the outsourcing solution and technology introduction. Moreover, there was an unstructured element with follow up questions and questions that emerged from previous interviews, documents and meetings. All interviews were audio recorded and then transcribed. We also examined documents and minutes from internal meetings. The data was read through and cross-analyzed before being coded into categories concerning the partnership and the technology, and their relation to organizational transformation and strategy. As recommended by

Miles and Huberman (1994, p. 278), a preliminary copy of the results was presented to and circulated among the interview respondents to ensure credibility and authenticity of the research. These reviews increased the internal validity of the research as informants got the opportunity to correct any errors made in the process.

In this paper, the different categories that emerged from the empirical data are presented as three separate stages that emerged from Alpha Corp.'s management strategies. Some specific quotes from the interviews are used to highlight certain discussions, but for the most part, the material constitutes the overall findings from the interviews.

## 4. STAGES FOR CREATING, MAINTAINING, AND EVOLVING THE PARTNERSHIP

Alpha Corp. is an international high-tech minerals group with mines, processing plants, and harbors in Sweden and Norway. The company has about 3500 employees. In order to increase up-time and maintain competitive advantage, information technology is being increasingly used to monitor the process line. The use of remote diagnostics technology and its expected outcomes, such as a reduced number of unplanned production stops and a more efficient production process, are of high strategic importance. However, Alpha has chosen to outsource this aspect of the maintenance organization to and external part, RDC, a company that was created as a joint venture between Alpha Corp. and two of its long term business partners. Alpha Corp., who initiated the establishment in 2003, owns 20% of the company and is its first customer. RDC's business concept is to provide advanced condition monitoring of machinery and equipment all over the world. The creation of the partnership with RDC is a part of a larger reorganization strategy, where Alpha Corp. has developed a strategic vision of improving service and maintenance work in order to increase production without investing in new machinery. Managing the partnership with RDC is essential for this strategy to be successful. Alpha's management process has evolved in three stages. In the first stage, there was a clear black-boxing of technology in order to get the relationship with RDC started. In the second stage, there was a move to establish interorganizational trust to deepen the relationship. In the third stage, Alpha is making the move towards new kinds of business agreements based in part on trust, so called performance based contracting where RDC will no longer be paid for the services they deliver, but for the results they achieve. This move is expected to further increase integration and to strengthen the partnership over time.

#### 4.1 Setting the stage: black boxing of technology

Alpha's effort to become a leading minerals group has been very technology driven as there is a strong belief that technology will lower costs and increase production. There is a strive for making informed decisions based on data analysis: "Condition monitoring in itself is not going to help anyone; that is that one simply measures. When one measures, and knows, and has the time to do something about it, then one can take calculated risks". However, although Alpha Corp. recognizes the importance of data analysis they also state that they do not have the time to become good analysts themselves. Instead they have chosen to outsource this part of the maintenance organization to RDC. In order to get the relationship started, Alpha transferred both staff and competence to RDC, who now possesses both technological ownership and knowledge. Before creating the partnership with RDC, Alpha performed some remote diagnostics on its own. However, this was not organized in a structured way, but depended on skilled individuals who performed some measurements and analyses as part of their ordinary jobs as maintenance workers. Now, Alpha expects the partnership to increase the overall level of competence, as all knowledge is gathered within one organization instead of spread out on several different plants and maintenance units. Furthermore, they intend to increase transparency between the organizations by creating a common platform where information is shared so that knowledge is recycled back to Alpha from RDC. In return, RDC is given full access to Alpha's machinery, maintenance system, and technological infrastructure which they can use to try out new technology and develop their methods of analysis.

Currently, Alpha is collecting and storing data from all parts of the production process. Various sensors are dispersed across the production line where they log machine data such as temperature, oil pressure, and vibrations. In the past 20 years, Alpha has increased the number of measuring parameters from three to 33 and simultaneously increased the number of points of measurement from about 100 to more than 15 000. Some data analysis is performed, but mostly data is simply collected because the technology is available, and in the hopes that it might prove useful in the future. According to the director of services "If data isn't saved, it is lost forever". There is an interesting dichotomy in Alphas technology strategy. On the one hand the director of services expresses that: "We have to be in the frontlines when it comes to the technology, in order to decrease costs". On the other hand an Alpha service technician states: "We are not going to be responsible for technology development. We will bring in outside expertise to meet those needs". That is, basic machine knowledge should reside within the company, but developing new technology is not within Alpha's main focus. These two standpoints are seemingly contradictory; to be a forerunner when it comes to technology usage, but to leave technology development to someone else. However, Alpha's service director justifies this by saying: "We are not going to be experts at constructing these highways, we are going to be experts in using them and getting the information that we want. Sometimes we adjust the system to Alpha Corp., sometimes we adjust Alpha to the system". This black boxing of technology helps Alpha put a focus on maintenance work and paves the way for the outsourcing relationship with RDC. By choosing to maintain a very narrow view and understanding of technology, Alpha makes it possible for other actors to contribute with their expertise. This is stage one in Alpha's process of managing the relationship with RDC.

#### 4.2 Maintain relations: establish trust

Alpha had several reasons for forming RDC. The main reason came from a need to focus and stay focused and by letting someone else handle data monitoring and analysis they saw an opportunity to reduce complexity and structure the maintenance organization. They also saw the possibility of saving time, cutting costs, and getting to know the plant better through monitoring and subsequent analysis of data. The creation of RDC is viewed as an added-value project, a partnership that brings new job opportunities to the region, and increases revenue for Alpha. With the transferal of both property and decision rights to RDC, these are key issues in an outsourcing partnership. When RDC was established, Alpha recruited some of their own employees and moved them to the new company. A trusted member of the group was made CEO. This was also a strategic step towards establishing interorganizational trust as it is considered easier to trust someone you already know. This also becomes apparent while talking to Alpha's service director. In describing RDC's CEO, he says: "[He] is in such control... he will surely make more money than we have imagined". Not all of RDC's employees came from Alpha, and a strict business contract was written to regulate the partnership. Alpha also has a designated person who is in charge of the contract with RDC and who is to ensure that they deliver what they have promised. However, Alpha's service director states that it was impossible to cover all aspects and claims the decision to trust simply had to be made as he says: "We have to stay focused, so we just have to trust".

In the beginning some of Alpha's maintenance staff was highly skeptical of the technology that RDC uses to monitor the machines. They were used to using their senses to detect any errors; to do regular inspection rounds to see if anything looked, smelled or sounded wrong. The methods used by RDC are on the other hand so sophisticated that they can predict a machine breakdown a year before it actually takes place. Many Alpha workers did therefore not initially believe in RDC's reports and listen to their warnings, as the machines appeared to be working fine the last time they walked by them. However, with the support of Alpha's maintenance managers, RDC has had the chance to prove that their

analyses have been on target, by letting a machine run until it breaks down and then picking it apart and analyzing the cause. RDC has also spent a lot of time on site, talking to Alpha's staff, showing up for coffee and discussing technology. Moreover, they have provided some courses on vibration analysis, which is the main method they use to detect errors, and made a conscious effort to show curves and diagrams on the computer screen and explain what they indicate. This strategy has been very successful and has gradually built up trust in both people and technology. Both Alpha and RDC state that this has been crucial in strengthening relations between the two organizations. Although the partnership is regulated with contractual control measures, mutual trust has proven to be very central to the success of the relationship. As trust has been established, staff members from both organizations have tended to work more as a team instead of as separate entities, which has led to more cooperation and collaboration and a higher level of information sharing. This is seen as beneficial to both parties who have taken steps to further increase integration by moving towards performance based contracting.

#### 4.3 Evolving businesses: performance based contracting

Alpha Corp. and RDC are currently making the move towards performance based contracting. This means that RDC guarantees an agreed upon minimum level of machine availability based on their ability to detect errors in time. The basic premises for the contract are that if RDC delivers what they have promised, they will receive a set amount of money. However, if they increase up-time for Alpha, they will be rewarded, and if they fail to reach the set level, they will be punished. That is, RDC will no longer be paid for the services they deliver but for their actual performance and may thus both gain and lose money on this agreement. This is a strategic move to deepen the relationship and to create a win-win situation. If RDC increases machine availability, they make more money, and so does Alpha since they avoid costly stops and can increase production. Both organizations thus have an incentive to engage in mutually beneficial behavior.

Performance based contracting is seen as crucial in developing the partnership. So far, however, the necessity of taking this step is only acknowledged at the highest managerial level and Alpha's maintenance staff is skeptical. They think that the partnership with RDC works well the way it is set up now and do not see the need for a change. They also debate the idea of paying for what something is worth and not for what it costs, as they believe that maximizing performance should not be something that you charge extra for. This is seen as mainly an internal problem at Alpha as lack of information and poor communication has created many misunderstandings. The division managers do not know why performance based contracting is to be used, who owns the contract, what possibilities they have in terms of changing the agreement etcetera. Another issue that concerns the maintenance division is the problem with increased costs. If RDC increases machine availability they are guaranteed a bonus. However, although better machine availability increases production and is profitable for Alpha Corp. in general, it does not generate revenues for the maintenance division. Instead they fear they might lose money if RDC detects an increased amount of errors as the funds to repair machines are taken directly from the maintenance budget. In addition, they think that the division of responsibilities might also become a problem. They claim that maintenance of one machine is dependent on several different factors and wonder how it will be determined who is responsible for what and how much say will RDC have in Alpha's daily maintenance work. Alpha's and RDC's managers on the other hand believe that both organizations will benefit greatly from such an arrangement. By moving towards performance based contracting, Alpha sees the possibility of creating long term businesses, gaining access to advanced technological expertise, and increasing the efficiency and effectiveness of its entire maintenance organization. RDC on the other hand are planning to expand on their technological knowledge so that they may come up with more efficient and less expensive methods for performing remote diagnostics in order to maximize machine availability and increase profit. They also see that the experiences that they gain from Alpha will be useful in establishing other partnerships with other organizations.

#### 5. DISCUSSION

McFarlan and Nolan (1995, p.22) state that "the ongoing management of an alliance is the single most important aspect of outsourcing's success". So far, however, the research community has focused on the motives for outsourcing (Ang and Straub, 1998; Nagpal, 2004), the strategies behind making an outsourcing decision (DiRomualdo and Gurbaxani, 1998), and on mapping the determinants of interorganizational relationships in order to understand the different types of outsourcing relationships that may emerge and the impact they could have on the client organization (Oliver, 1990; Williams, 1997; Kishore et al., 2003), and thereby largely neglected the area of outsourcing relationship management (Kern and Willcocks, 2001). In mapping out the different stages in Alpha Corp.'s management strategy towards RDC, this paper is an attempt to build on and extend existing outsourcing research by focusing on the process of managing an outsourcing partnership. Furthermore, it considers the role of technology and the importance of establishing interorganizational trust in order to provide a deeper understanding of the partnership outsourcing phenomenon.

Alpha Corp.'s strategy for creating, maintaining and evolving the partnership with RDC occurs in three different stages. In the first stage, Alpha creates a need for external competence by choosing to maintain a very limited understanding of technology, so called black-boxing. In the second stage, Alpha actively seeks to establish interorganizational trust in order to create closer ties to RDC. In the third stage, Alpha turns towards establishing goal symmetry through performance based contracting, and thus towards further evolving the partnership. Alpha's management process used in the outsourcing partnership with RDC thus exhibits all of the characteristics of creating an alliance as expressed by Kishore et al. (2003). Ownership substitution and strategic impact are considerable (stage one) and the monitoring mechanisms are high on mutual trust and low on contractual control (stage two). In addition, an alliance relationship entails goal symmetry between the service provider and client with the objective of engaging in mutually beneficial behaviors (stage three). It can also be seen as an example of an interorganizational relationship based on reciprocity as described by Williams (1997) and Oliver (1990). Such relationships are based on the pursuit of mutually beneficial goals and considered innovative and focused on information sharing. Furthermore, they stress cooperation and collaboration rather than domination and control and only exist where trust is well developed (Oliver, 1990). McFarlan and Nolan (1995) identify four critical areas for managing an outsourcing alliance: a strong, active CIO function, performance measurements, a careful mix and coordination of tasks, and a client/service provider interface in order to enhance integration. These four areas are present within the three stages of Alpha's management process, and by choosing this management strategy, Alpha becomes a live illustration of McFarlan and Nolan's (1995) claim that "What determines success or failure is managing the relationship less as a contract and more as a strategic alliance". However, given the importance of information technology in all three of Alpha's management stages, I would like to add that understanding and managing the role of information technology, is just as crucial in maintaining a successful partnership.

Echoing the call of Orlikowski and Iacono (2001) to pay closer attention to the IT artifact and its importance, an outsourcing relationship should not be discussed without considering the role of information technology. In some research, IT is simply what is being outsourced, from hardware in the 60s, to software in the 70s, hardware and software standardization in the 80s and to the outsourcing of total solutions in the 90s (Lee et al., 2003). Others have focused on IT as an enabler, transforming the organization and paving the way for new business relations and processes (Davidow and Malone, 1992; Venkatraman and Henderson, 1998; Gallivan, 2001). In yet other studies, IT appears in the form

of interorganizational systems, as the glue that holds the organizations together and makes it possible for them to collaborate and interact (Williams, 1997; Gallivan and Depledge, 2003; Ibbot and O'Keefe, 2004). In this paper, the findings show that the role of IT is multifold. It appears both as what is being outsourced, as the enabler of new business processes, and in the form of interorganizational systems. The technological development that has led to the establishment of remote diagnostics has in itself created the possibility of outsourcing as one no longer needs to be on site to perform advanced machine diagnostics. However, Alpha has also chosen the deliberate strategy of maintaining a very narrow view and understanding of technology and instead outsource hardware, software, and technological expertise to RDC. In doing so, Alpha further cements the need for external competence and as a result sets the stage for establishing the partnership. IT is thus both what is being outsourced and the enabler that provides the basis for establishing new business relations. Furthermore, IT also appears as the medium by which the relationship is maintained as Alpha and RDC move towards using a common technological platform. Developing an interorganizational system is seen as central in increasing transparency and evolving the partnership. This study thus shows that in an outsourcing partnership, information technology assumes multiple roles and cannot be limited to the restricted view of either/or provided by earlier research. It is not either an interorganizational system or an enabler, it is both and more. In order to successfully manage the partnership, one must therefore be aware of the different shapes that IT might appear in and how to best make use of it. By acknowledging the dynamic character of IT, another important dimension is added to the process of managing an outsourcing alliance and the risk of partnership failure decreases.

In order to manage the relationship once established, Alpha has put a lot of focus on developing interorganizational trust. As trust has been established, staff members from both organizations have increased both cooperation and collaboration and moved towards a higher level of information sharing. Trust is a multidimensional issue, defined by Mishra (1996) as "... one party's willingness to be vulnerable to another party based on the belief that the latter party is 1) competent, 2) open, 3) concerned, and 4) reliable". In order to establish and maintain trust, Alpha has encouraged RDC to work on all four dimensions. By making correct predictions RDC has proven that they are competent; by showing diagrams and explaining their methods of analyses, they have appeared both open and concerned; and by providing quick and accurate response to calls and questions they are now deemed reliable. The overall level of trust is considered high. However, no matter how accurate RDC initially was in predicting machine failure, they did not appear trustworthy until they had also established trust in the other three dimensions. The findings of this study thus support Mishra's (1996) claim that it is the combination of these four dimensions that determines the general level of trust that one party has for another and that a decrease in one dimension offsets an increase in another dimension. The four dimensions are however based on the premise that interorganizational trust is something that occurs between people. Given the documented importance of information technology in enabling and forming such a relationship, the discussion should be expanded to include trust in technology. Technology cannot in itself be competent, open, concerned, and reliable. The reason Alpha's workers initially started to trust the remote diagnostics technology was because RDC's staff had proven that they were trustworthy. However, once that relationship had been established, the trustworthiness of the technology was no longer questioned, and all interviewed Alpha staff members now state that they trust the technology in use, regardless of their feelings towards RDC. This is an interesting relationship that should be further explored in future research.

#### 6. CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Although there has been much written about outsourcing, the area of outsourcing relationship management has not yet received full attention from the research community. In mapping out the different stages in Alpha Corp.'s management strategy towards RDC, this paper is an attempt to build on and extend existing outsourcing research by identifying and exploring the process of creating and

maintaining partnership outsourcing relationships over time and by discussing the role of information technology in such relations. It has been shown that Alpha Corp. has effectively gone through three stages to create, maintain, and evolve the partnership with RDC. These are black boxing of technology, establishing trustful relations, and moving towards performance based contracting. Based on the above discussion, I conclude:

- Alpha's management process used in the outsourcing partnership with RDC exhibits all of the characteristics of creating an alliance as expressed by Kishore et al (2003). The three stages in the process all contribute to strengthening the partnership. This study thus provides support for McFarlan and Nolan's (1995, p. 22) claim that "What determines success or failure is managing the relationship less as a contract and more as a strategic alliance".
- However, given the dynamic character of information technology and the multiple roles it assumes
  in an outsourcing alliance, this paper also shows that understanding and managing the role of
  information technology, is just as crucial in maintaining a successful partnership.
- Given the documented importance of information technology in outsourcing partnerships, there is a need to include trust in technology as yet another dimension of establishing interorganizational trust. This study shows that trust in people has created trust in technology, but once trust is established, technology stands on its own. This relationship needs to be further explored in future research.

#### References

- Ang, S. and Straub, D.W. (1998). Production and transaction economies and IS outsourcing: a study of the U.S. banking industry. MIS Quarterly, 22, pp. 535-552
- Davidow, W.H. and Malone, M.S. (1992). The Virtual Corporation. New York: HarperCollins Publishers
- DiRomualdo, A. and Gurbaxani, V. (1998). Strategic Intent for IT Outsourcing, Sloan Management Review. Summer 1998, pp. 67-80
- Gallivan, M.J. (2001). Striking a balance between trust and control in a virtual organization: a content analysis of open source software case studies. Information Systems Journal, Vol. 11, 277-304
- Gallivan, M.J. and Depledge, G. (2003). Trust, control and the role of interorganizational systems in electronic partnerships. Information Systems Journal, Vol. 13, 159-190
- Han, T. and Yang, B-S. (2006). Development of an e-maintenance system integrating advanced techniques. Computers in Industry, August 2006, Vol. 57, No. 6, pp. 569-580
- Hibbert, L. (2000). Here, there, everywhere. Professional Engineering, 09/06/2000, Vol. 13, Issue 16, p. 40
- Ibbot, C.J. and O'Keefe, R.M. (2004). Trust, planning and benefits in a global interorganizational system. Information Systems Journal, 14, pp. 131-152
- Kern, T. and Willcocks, L.P. (2000) Exploring information technology outsourcing relationships: theory and practice. Journal of Strategic Information Systems, 9, pp. 321-350
- Kern, T. and Willcocks, L.P. (2001) The Relationship Advantage. Information Technologies, Sourcing, and Management. Oxford:Oxford University Press
- Klein, H.K. and Myers, M.D. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. MIS Quarterly, 23, 67-93.
- Kishore, R., Rao, H.R., Nam, K., Rajagopalan, S., and Chaudhury, A. (2003). A relationship perspective on IT outsourcing. Communications of the ACM, December 2003, Vol. 46, No. 12, 87-92
- Lacity, M.C. and Willcocks, L.P. (2001) Global Information Technology Outsourcing. In Search of Business Advantage. Chichester: Wiley

- Lacity, M.C., Willcocks, L.P., and Feeny, D.F. (1995). IT Outsourcing: Maximize Flexibility and Control. Harvard Business Review, May-June 1995, pp. 84-93
- Lee, J., Ni, J., Djurdjanovic, D., Qiu, H. and Liao, H. (2006). Intelligent prognostics tools and emaintenance. Computers in industry, August 2006, Vol. 57, No. 6, pp. 476-489
- Lee, J-N and Kim, Y-G (1999). Effect of Partnership Quality on IS Outsourcing Success: Conceptual Framework and Empirical Validation. Journal of Management Information Systems, Spring 99, Vol. 15, Issue 4, pp. 29-61
- Lee, J-N, Huynh, M.Q., Kwok, R.C-W, and Pi, S-M (2003). IT Outsourcing Evolution Past Present and Future. Communications of the ACM, May 2003, Vol. 46, No. 5, pp. 85-89
- McFarlan, W.F. and Nolan, R.L. (1995). How to Manage an IT Outsourcing Alliance. Sloan Management Review, Winter 1995, Vol. 36, No. 2, pp. 9-23
- Michell, V. and Fitzgerald, G. (1997). The IT outsourcing market-place: vendors and their selection. Journal of Information Technology, Vol. 12, pp. 223-237
- Miles, M.B. and Huberman, A.M. (1994). Qualitative data analysis: An expanded sourcebook. London: Sage.
- Mishra, A.K. (1996). Organizational responses to crisis: the centrality of trust. In Kramer, R. M. and T. Tyler (eds.) Trust in organizations. Newbury Park, Ca: Sage. 1996. pp. 261-287
- Nagpal, P. (2004). Use of Transaction Cost Economics Framework to Study IT Sourcing: Over-Application or Under-Theorizing? Sprouts: Working Papers on Information Environments, Systems and Organizations, Vol. 4, Issue 2, pp. 98-110. http://sprouts.case.edu/2004/040206.pdf
- Oliver, C. (1990). Determinants of interorganisational relationships: integration and future directions. Academy of Management Review, 15, pp. 241-265
- Orlikowski, W.J. and Iacono, S. (2001). Research Commentary: Desperately Seeking the "IT" in IT Research A Call to Theorizing the IT Artifact. Information Systems Research, Vol.12, No.2, pp.121-134
- Peppard, J. (2001). Bridging the gap between the IS organization and the rest of the business: plotting a route. Information Systems Journal, 11(3), pp. 249-270
- Prahalad, C. and Hamel, G. (1990). The core competence of the corporation. Harvard Business Review May-June 1990, pp. 79-91
- Quinn, J.B. and Hilmer, F.G. (1994). Strategic outsourcing. Sloan Management Review, Summer 1994, pp. 43-55
- Ross, J.W. and Westerman, G. (2004) Preparing for utility computing: The role of IT architecture and relationship management. IBM Systems Journal, Vol. 43, No. 1, pp. 5-19
- Slaughter, S. and Ang, S. (1996). Employment outsourcing in information systems. Communications of the ACM, July 1996, Vol. 39, No. 7, pp. 47-54
- Srinivasan, R. and Brush, T.H. (2006). Supplier Performance in Vertical Alliances: The Effects of Self-Enforcing Agreements and Enforceable Contracts. Organization Science, Vol. 17, No. 4, July-August 2006, pp. 436-452
- Venkatraman, N. and Henderson, J.C. (1998). Real Strategies for Virtual Organizing. Sloan Management Review, Fall 1998, pp. 33-48
- Walsham, G. (1993). Interpreting information systems in organizations. Chichester: Wiley.
- Warne, D. and Holland, C.P. (1999). Exploring trust in flexible working using a new model. BT Technology Journal, Vol. 17, No. 1, January 1999, pp. 111-119
- Williams, T. (1997). Interorganisational information systems: issues affecting interorganisational cooperation. Journal of Strategic Information Systems, Vol. 6, pp. 231-250
- Yakhlef, A. (1997). Understanding IT Outsourcing. Lund: Academia Adacta.
- Yin, R.K. (1989). Case study research: Design and methods. Newbury Park: Sage.