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Control, trust, power, and the dynamics of information system outsourcing relationships: A process study of contractual software development

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ABSTRACT

This paper provides a longitudinal description and analysis of the evolving relationships between a university and vendors contracted to develop software systems. A contextualised social process model is developed and employed using data gathered over the decade-long process, focussing on the early years. The right levels of control and trust are conceptualised to lead to confidence that the development process is set on the right course. The study gives unique insights into the contractual software development process from a client's perspective together with pointers for more general applications of the findings related to control, trust, and bargaining power in customised information system development. The analysis of the data reveals how the client's actions oscillated between trust and control in three areas: performance, price level, and observed behaviour.

1. Introduction

One of the core competencies of information systems (IS) and information technology (IT) managers is how to master the relationships with outside vendors (Feeny and Willcocks, 1998; Kern and Willcocks, 2001; Cullen et al., 2005). This requirement is related to IS contracting (e.g. Whang, 1992; Richmond et al., 1992; Fitzgerald and Willcocks, 1994; Kern and Willcocks, 2000), and IS procurement strategies, because management has to decide whether to develop software in-house or purchase it from the market (Saarinen and Vepsäläinen, 1994). In a broader context, the managers have to decide to what extent it is profitable for their organisations to outsource IS services (Lacity and Hirschheim, 1993; Lacity and Willcocks, 1998). The client–vendor relationships may be in constant flux because the business situations of the partners change and new technology and new vendors enter the market place. The management of outsourced services is an increasingly important topic (Clark, 1992, p. 70; Feeny and Willcocks, 1998; Lacity et al., 1996; Choudhury and Sabherwal, 2003; Sabherwal, 2003; Hirschheim et al., 2006; Rivard and Aubert, 2008).

It is typical of information systems outsourcing situations that it is very expensive for the client to change its vendor, i.e. the switching costs are high (cf. Whitten and Wakefield, 2006). Very early on in an IS development project a client becomes tied to its chosen vendor, even though the client may try to keep the costs reasonable through competitive arrangements by introducing additional vendors. Moreover, it is not possible to specify every contingency in a closed contract over a long period of time (Richmond et al., 1992; McFarlan and Nolan, 1995, p. 17). The parties form a hybrid organisation that is

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somewhere between a market and a hierarchy (Bachmann, 2001; Williamson, 1991). Negotiations and re-negotiations with bargaining (Argyres and Liebeskind, 1999) fill the voids that emerge due to incomplete contracting issues; it is also possible that the contract between the parties would evolve into a relational one (Kern and Willcocks, 2000; Lacity and Hirschheim, 1993, pp. 35–36). The influence mechanisms available to the parties form the basis of how the relationship is managed during long contractual periods. Power, trust and control are key notions here.

In this paper, the logic of action (Bacharach et al., 1996) of the vendor is assumed to be that of a product or service provider that expects compensation for its efforts. The level of expected compensation may, however, vary over time. If the profit expectations of the vendor grow very high and it succeeds in pursuing this end, the client may find that it is in an expensive trap. The client attempts to secure the supply of IS products and services in an economically sound way. To some degree the logic of action of a typical vendor contradicts the logic of action of a typical client, because the client and vendor are in an adversarial relationship: a euro gained by the vendor is one lost from the client's wallet (cf. Cullen et al., 2005). This adversarial relationship is moderated by two facts. First, it is assumed that the chosen vendor has during the sourcing process been deemed to be the best alternative for the client. Second, both parties may benefit out of a cooperation that is deemed as the most economic way of organising the services needed by the client. Of course, over time this initial equilibrium state may change in favour of one of the parties especially, for example, if more lucrative alternatives exist for the vendor as the competitive climate improves.

Some researchers have assumed that in IS outsourcing the parties form a strategic alliance, and indeed, cooperation between IS vendor and its client has features of a strategic alliance because of its longevity. However, a strategic alliance also entails the sharing of risks and rewards. In a seminal case, Applegate and Montealegre (1991) described how Kodak outsourced IS services as a strategic partnership. The view of strategic alliance (cf. also McFarlan and Nolan, 1995) has somehow downplayed the simple fact that in many cases the IS client is only buying products and services and the vendor is selling them, without any real intent of forming an alliance or changing the firm's boundaries (cf. Lacity and Willcocks, 1998).

As Cullen et al. (2005) argue, there is a multitude of options as to how to configure the IT outsourcing client–vendor relationship. Towards the end of this paper we elaborate in more detail the notions that have been pertinent for our case study of customised IS application development. We hope that our article is able to increase the understanding of the outsourcing process, an area in need of research as identified by Dibbern et al. (2004, p. 88). We also discuss vendor pricing policy which is deemed by Cullen et al. (2005, p. 370) to be a topic on which the outsourcing literature is surprisingly silent.

In this study, the client was trying to find the optimal kind and level of trust and control in order to safeguard itself against any possible opportunism of the vendor (Das and Teng, 1998; Wicks et al., 1999). Simply defined, trust entails that a client is confident that a vendor will deliver what has been stipulated in a contract, deal with problems, and be fair and honest in its charges (cf. Kern and Willcocks, 2002, p. 12). Control is the other side of the coin (Gallivan and Depledge, 2003; Möllering, 2005). Good control means that the controller can be reasonably confident that no major, unpleasant surprises will occur: establishing control mechanisms makes the attainment of desirable outcomes more probable and reduces the level of risks (cf. Das and Teng, 1998, p. 493).

We take a process point of view and examine the case history of a contractual cooperation during the years 1996–2002 (cf. Argyres and Liebeskind, 1999; Newman and Robey, 1992; Nooteboom, 1996). The empirical material comes mainly from a process where up to 13 Finnish universities with outside software houses developed a student record system, called Oodi (Heiskanen et al., 1998; www.oodi.fi). Currently more than half of Finland's total university student population are in Oodi universities. The expected number of direct Oodi users will grow to 100,000 individuals when all the components of the system targeted at students and faculty members have been installed. The University of Helsinki administers the Oodi consortium and is the legal body that signs the contracts with software vendors on behalf of the consortium.

The motivation for this paper is straightforward. We wish to analyse the dynamics of the client vendor relationship from the inside to increase our understanding of the general IS outsourcing process. We want to show how and why the client's behaviour oscillated between trust and control when they were trying to gain confidence that a project and its costs are on the right course. Part of our task is to condense the vast amount of empirical data into an easily grasped graphical format using social process modelling (Newman and Robey, 1992).

The paper proceeds as follows. An overview of the theories of power, trust and control is provided leading to a simple classification that brings these notions together. This section also explicates the contextualised social process model. This is followed by describing the research approach and analysing the first and third authors' role as active participants in the process including how we analysed the data in order to construct the contract trajectory. We also present the background to the case. The next section combines theory with the observed histories by presenting the results of the cooperation of the client and the main vendor. Possible interpretations of the case are then discussed. The concluding section sums up the implications of this study for research and practice, and suggests topics for further research.

2. Power, trust and control in IS client–vendor relationships

Ideally, trust and control are balanced in such a way that both the client and the vendor are confident that the relationship will be so beneficial to them that they are willing to continue it and will be satisfied with its outcomes. According to the literature, trust and control are complicated notions (e.g. Bachmann, 2001; Das and Teng, 1998, 2001; Gallivan and Depledge, 2003; Möllering, 2005; Nooteboom, 1996; Reed, 2001; Sambamurthy and Jarvenpaa, 2002; Wicks et al., 1999). Moreover,