Risk mitigation in IT outsourcing strategy revisited: longitudinal case research at LISA

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Abstract

The origins and history of a single case study of large-scale Information Technology (IT) outsourcing in the 1994–99 period is investigated in the United Kingdom Defence sector. Such deals are high risk and the paper describes types of risk and how the client organization sought to mitigate these. These risks and mitigation approaches are then analysed against a distinctive risk framework formulated for IT outsourcing. Risks emerging in terms of type and scope of outsourcing, vendor selection criteria and process, the role of the contract, retained capabilities and management processes, and partnering and relationship dimensions are then assessed against prior research findings. Two additional distinctive risks are identified from the case history arising from the public sector context and supplier long-term market strategy. A contribution of the paper is the revised risk framework for analysing IT outsourcing that is then presented. Finally, the implications of these findings for future research and practice are highlighted. © 1999 Elsevier Science B.V. All rights reserved.

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1. Introduction

The rapid growth of Information Technology (IT) outsourcing to an estimated global market share of US$ 99 billion in 1998 and US$ 120 billion in 2002 with an annual growth rate of 16% in the 1997–2002 period (Walker, 1996; Klepper and Jones, 1998; Lacity and Willcocks, 2000a,b) has ensured that it attains extensive, on-going, world-wide business
attention (see, for example, Applegate and Monteaulegre, 1991; Huber, 1993; Moad, 1993; Cross, 1995; Bicknell, 1996; Clement, 1996; Strassmann, 1998; Impact Group, 1999; Kern and Willcocks, 2000a,b). IT outsourcing is here defined as a decision taken by an organization to contract-out or sell some or all of the organization’s IT assets, people and/or activities to a third party vendor, who in return provides and manages the services for a certain time period and monetary fee (Loh and Venkatraman, 1992; Lacity and Hirschheim, 1993).

The growth in significance, and in the size, of outsourcing deals, has resulted in an increased concern with the actual management of an outsourcing venture, and in particular with the issue of risk mitigation. This has particularly emerged as an issue because of the mixed press and results IT outsourcing has regularly received in both the trade and academic literatures (see, for example, Loh and Venkatraman, 1992; McFarlan and Nolan, 1995; Lacity and Willcocks, 1996, 1998; Vowler, 1996; Poston, 1997; Thomas and Schneider, 1997; Ang and Straub, 1998; Strassmann, 1998; Collins, 1999; Collins and Phillips, 1999; Dempsey, 1999).

Particularly interesting have been the high profile ‘total’ outsourcing deals with a single supplier. Even proponents point out that it can be a high-risk strategy (McFarlan and Nolan, 1995). Such risks, it has been suggested, can be mitigated by adopting a multiple vendor approach (see, for example, Cross, 1995; Hoffmann, 1996) or by a selective outsourcing approach on shorter term contracts (Willcocks and Fitzgerald, 1994; Lacity and Hirschheim, 1995). More recently, within the context of large-scale single supplier outsourcing, we have seen attempts at more creative and mature approaches to leveraging deals in order to gain business advantage. These include ‘value-added’ outsourcing whereby vendor and client combine their capabilities to market IT products and services; client and vendor taking equity holdings in each other; ‘co-sourcing’, involving ‘performance-based contracts; and the creation between the vendor and client of a ‘spin-off’ company selling IT services on to the wider market (Currie and Willcocks, 1998). There have also been signs of more creative and informed forms of contracting in order to mitigate risks across long-term deals (Willcocks and Lacity, 1998, 1999, 2000). Clearly there is no shortage of attempts to mitigate risk, but how thoroughly have such risk mitigation approaches and their outcomes been analysed?

Following Charette (1991) and Willcocks and Margetts (1994), risk is here taken to be a negative outcome that has a known or estimated probability of occurrence based on experience or some theory. In information systems studies risk has been heavily researched in the areas of software development (see, for example, Boehm 1991; Charette, 1991; Griffiths and Newman, 1996; Lytyinen et al., 1998; Ropponen, 1999) and project management (as examples only see Keil, 1995; Morris, 1996; Willcocks and Griffiths, 1996). However, as Willcocks and Lacity (1999) point out, although many of the case examples researched in this literature have external IT suppliers involved, this has rarely flowed into detailed analyses of risks in IT outsourcing.

In practice, in fact, the authors’ detailed review of the last decade finds that there are all too few systematic academic studies of types of IT outsourcing risks, their salience and their mitigation. The main studies have been by Earl (1996) and Klepper and Jones (1998), both of which are somewhat anecdotal in character; Ang and Toh (1998) with a detailed case history of a failed software development project, and derived guidelines; Jurison
(1995) who provided a theoretical risk-return analytical model for making IT outsourcing decisions; Willcocks and Lacity (1999) who investigated risk mitigation tactics in a single case history; and Lacity and Willcocks (1998) and Willcocks (1998) who derived risk reduction guidelines from studying 40 organizations and their IT sourcing practices. Outside these, there are many other studies that deal with IT outsourcing but do not choose to focus on providing a comprehensive analysis of salient risks and/or risk mitigation approaches (for example, McFarlan and Nolan, 1995; Ang and Straub, 1998; De Loof, 1998; McLellan et al., 1998). Given this state of affairs, and the fact that on conservative estimates, IT outsourcing may well represent, on average, 30–35% of IT budgets by 2002 (Lacity and Willcocks, 2000a,b), a primary motivation for this paper is to build on previous studies and provide much needed empirical and analytical work in an area of burgeoning importance to academics and practitioners alike.

The paper starts by outlining the analytical framework adopted, and the research choices and approach adopted to arrive at the case history. The case study of the Logistics Information Systems Agency (LISA)—its genesis and its total outsourcing deal with the IT services vendor EDS—is then detailed covering the 1994–early 1999 period. We then analyse the case history for risk issues and the ways in which LISA managers strove to mitigate the risks associated with the chosen form of outsourcing. In this analysis, we utilise evidence from prior academic research to comment on the levels of risk and efficacy of managerial response. Given that the outsourcing is a long-term one in its first few years, we also discuss in the light of prior research likely future risks, and the potential risks for the wider public sector, over and above, but still likely to impinge on the LISA–EDS deal in the future. From the analysis, we develop a new and distinctive risk framework for analysing IT outsourcing arrangements. Finally, the paper relates the findings to, and examines the implications for other IT outsourcing contexts.

1.1. Research approach

The focus of the research is on risks in IT outsourcing, and more specifically the types of risks emerging in a total IT outsourcing arrangement, whether risk mitigation tactics were successful or otherwise, and the reasons for those outcomes. We were also interested to delineate if there was transferable learning for other IT outsourcing arrangements, and paths forward for future research on IT outsourcing risks. Following Pettigrew and Whipp (1991) and Willcocks and Margetts (1994), we sought to gain an in-depth knowledge of the external and internal contexts, history, content and process of change, and of the interim outcomes represented by a single, rich case study. Key resources here included understandings arrived at through participant observation and from the views of multiple stakeholders collected as the events unfolded across the 1996–99 period. As such, the present study falls into the category of interpretive case research, recognising with Walsham and Sahay (1999) that: ‘there are significant differences of methodology, theory and method under the broad interpretive case studies label’. The study is also motivated to address a further issue with some currency in the IS literature, namely that of relevance. While there is some debate about how IS studies can achieve both relevance and rigour (see Benbasat and Zmud, 1999; Davenport and Markus, 1999; Lee, 1999), the present paper is motivated by the criteria for relevance suggested by Benbasat and Zmud—interesting,
applicable, current and accessible—with the Davenport and Markus proposals for new models of research, and the suggestion of Lee (1999) for moving beyond the approach of positivism alone.

Below we detail the research choices and methodology, the method adopted and the analytical framework developed from prior research for discussing the case history. An objective here was to both provide a post-research tool for developing a comparative interpretation, but also to discover the extent to which the framework could be further developed in the light of the various interpretations and understandings within and of the case.

1.2. Research choices and methodology

The choice of subject—risks in IT outsourcing—reflects three related observations. The first is that the academic outsourcing literature demonstrates a series of risks connected with IT outsourcing. The second is that such risks are widely commented upon by and a considerable matter for concern amongst practitioners considering or involved in IT outsourcing. The third is that, though risks in IT projects have received detailed and sustained academic attention, there has been to date a surprising lack of academic focus on risks in IT outsourcing. In order to explore the issue of IT outsourcing risks, the research strategy limited itself to a single case that could be explored in detail and longitudinally, and that covered a time period in more recent outsourcing history wherein managers had become more aware and more informed about IT outsourcing risks. We also sought an example of a total outsourcing single supplier deal which our own previous research showed to be a more risky form of outsourcing where the issues were likely to be both more transparent and significant, and so more accessible to study. While the LISA–EDS deal met these criteria, our choice was also partly opportunistic, in that several of the players were known to the researchers, thus making accessibility less of a problem.

As indicated above, our study draws on contextualism as utilised by Pettigrew (1985) and Pettigrew and Whipp (1991) and as applied to risk assessment in information systems in a previous study by the authors (for details of the approach, see Willcocks and Margetts (1994)). Following Pettigrew (1990), we also designed the study as longitudinal, collecting data over three years from the inception of the contract to mid-1999. This enabled us to identify events in this period as they happened and stakeholders reactions to these, as well as providing understandings of their forward and retrospective views, and of the shifting and differing interpretations provided by multiple stakeholders. We also took the study period back to the inception of LISA in 1994 to understand the contexts of and rationale for the development of the Agency and for IT outsourcing there. For this period, we were dependent on historical reconstruction, using published reports, internal documents, including minutes of meetings, and accounts of the past from stakeholders.

1.3. Method

We interviewed three senior managers within the vendor, three senior managers in LISA, a staff representative, three operational staff, and two outsourcing consultants involved in supplier selection and contract preparation. The interviews were carried out,
and related documents collected, at various times across the February 1996–March 1999 period. Six respondents were interviewed three times, and the others twice, across this three year period. Interviews were semi-structured, lasted between 1 and 2.5 hours and covered the history, context, process, content and outcomes of the IT outsourcing deal, subsequent developments, opinions, and statements and assessments of future plans.

We probed in detail on the specific issues that have emerged from earlier studies as potentially significant areas, in particular: reasons and decision criteria for outsourcing; vendor selection criteria and process; contract details; post-contract management arrangements and issues, risk areas (Willcocks and Fitzgerald, 1994; Lacity and Willcocks, 1998; Kern et al., 1999; Kern and Willcocks, 2000a). All participants were also asked to assess the outcomes in terms of their perceptions of levels of success–failure. Where respondents expressed a viewpoint they were prompted to provide further supporting evidence, either anecdotal or in documentary form. Each interview was audio-taped, and subsequently transcribed. The transcriptions were checked with the interviewees, and the final versions ran, in total, to 296 pages. The four steps of intentional analysis were used for interpreting transcribed interviews (Sanders, 1982). In step four, the researchers assess their own views as to how the accumulated evidence can be interpreted, and whether specific patterns, themes and interpretations emerge from the rich data. This last set of interpretations make up the bulk of the case study as written. As Lincoln and Guba (1985) and Craig Smith (1990) point out, the validity of interpretive analysis defies quantification. However, so far as space constraints allow, we have included excerpts from the transcribed interviews to help readers to judge for themselves the validity of our analysis.

We also used published sources and were given access to a number of internal documents in order to help in the construction of the case history. We attended five review meetings across the three-year period, and made a number of site visits that allowed informal contact with outsourcing participants outside the interviewing process. The case material that follows represents a distillation from these information sources, arrived at from an interpretivist perspective.

1.4. Building an analytical framework

A final research choice arrived at by late 1998 was to take advantage of the cumulative experiences of IT outsourcing in the research literature and build an analytical framework for risks in IT outsourcing, that could provide insights, and which, further developed, could be useful to practitioners and other researchers alike. Recent research into the 1991–99 period has shown that long-term, large-scale single supplier deals have been particularly risky (Strassmann, 1998; Lacity and Willcocks, 1998, 2000a,b). Lacity and Willcocks (2000b) for example, analysing 116 sourcing decisions, found 38% of ‘total’ outsourcing decisions successful. By comparison, 77% of selective outsourcing and 76% of in-house sourcing decisions had successful outcomes. Even so, ‘total’ deals, where 80% or more of the IT budget is outsourced, have continued to be entered into, with for example the Inland Revenue-EDS, Sears-Andersen Consulting and British Aerospace-CSC arrangements signed since 1994 in the UK, with similar deals signed elsewhere for example, Xerox-EDS in the USA, Lend Lease-ISSC and Commonwealth Bank-EDS in Australia, and Swiss Bank-Perot Systems in Switzerland.
Although there is a limited literature on which to draw for the identification of salient risk, an exploratory analytical framework can be distilled from case study and survey work by Lacity and Willcocks (1998, 2000a,b)) and others (see below). Drawing on this work, the main reasons for failure or negative outcomes in IT outsourcing deals have been various combinations of the factors shown in Table 1 (see also Auwers and Deschoolmester, 1993; Lacity et al., 1996; Thomas and Schneider, 1997; Ang and Straub, 1998; Ang and Toh, 1998; Currie and Willcocks, 1998; DiRomualdo and Gurbaxani, 1998; Klepper and Jones, 1998; Kumar and Willcocks, 1999).

Apart from being built on prior research findings, an earlier version of the framework was also productively utilised and further developed for present use in earlier case work (see Willcocks and Lacity, 1999). A finding there in applying the framework was that it provided sufficient generic coverage of salient risks to allow complementary detail to be explored in an insightful, qualitative manner. Therefore, a decision was made to apply the framework to the present study to see if the framework continued to hold up as a useful analytical tool.

Some final observations on applying the research approach and framework. Much of the academic attention in IT outsourcing has focused on two areas we will investigate further in the case study, namely decision-making frameworks and contracting. But when it comes to risk mitigation what has lacked serious academic attention, we will argue, are two critical areas that demand managing, especially in the long-term ‘total’ outsourcing context of a case like LISA. As pointed out by Willcocks and Fitzgerald (1994b) and Feeny and Willcocks (1998), one of these is retained in-house capabilities. The second area is the formation, development and sustaining of client–vendor relations. As already explicated in academic research, IT outsourcing agreements eventuate in inter-organizational relationships due to the resulting dependency that arises (Kirkpatrick, 1991; Grover et al., 1995; McFarlan and Nolan, 1995; Kern and Willcocks, 2000a). Paradoxically though, with a few notable exceptions (Henderson, 1990; Klepper, 1994, 1995; McFarlan and Nolan, 1995; Willcocks and Choi, 1995), the area in IT outsourcing that has received the least research attention so far is this relationship issue, and particularly the characteristics that determine effective and ineffective outsourcing relationships. The case study

<table>
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<th>Risk factors</th>
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<td>1. Treating IT as an undifferentiated commodity to be outsourced</td>
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<td>2. Incomplete contracting</td>
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<td>3. Lack of active management of the supplier on contract and relationship dimensions</td>
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<td>4. Failure to build and retain requisite in-house capabilities and skills</td>
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<td>5. Power asymmetries developing in favour of the vendor</td>
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<td>6. Difficulties in constructing and adapting deals in the face of rapid business/technical change</td>
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<td>7. Lack of maturity and experience of contracting for and managing ‘total’ outsourcing arrangements</td>
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<td>8. Outsourcing for short term financial restructuring or cash injection rather than to leverage IT assets for business advantage</td>
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<td>9. Unrealistic expectations with multiple objectives for outsourcing</td>
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<td>10. Poor sourcing and contracting for development and new technologies</td>
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offers an opportunity to investigate the content of a specific large-scale outsourcing arrangement, its contractual elements and how these interrelate and are influenced by client–vendor relationships over time.

2. Case study: IT outsourcing at LISA

2.1. History and background

The LISA was launched as a UK Defence Agency in November 1994, its stated mission being ‘to enhance the logistic effectiveness of the (British) Army in peace and war by providing information systems, services and support’ (Corporate Plan Document, 1996).

The British Army is divided into three areas—operations, personnel and logistics. From the late 1950s, the logistics area had been operating stock control information systems, the third generation Store System III being the main successor in the 1990s. In 1990, a single Directorate of Logistic Information Systems (DLIS) was formed to manage these systems. More broadly, in the early 1990s, a Defence Cost Study followed by a Logistics Support Review led to rationalisation of the logistics area into a single Royal Logistics Corps. Meanwhile, the Next Steps Review by the UK government generated pressure to create Agencies in the Ministry of Defence. In all, seven were created in the logistics area, one of these being LISA.

Before LISA was set up a formal Prior Options Process was undertaken. The options considered were abolition, privatisation, ‘contractorisation’, and Agency status. An important part of the analysis was to assess DLIS’s core and non-core tasks. Six core capabilities were defined:

- maintain sufficient military capability to support operations;
- responsibility for IS strategy and policy in the logistics area;
- act as regulator on standards, monitoring, guidance, technical approval, IS security and contract specification;
- articulate and define IS requirements as requested by customers;
- provide costed technical options to enable choice of IS solutions; and
- procure, implement, support chosen technical options, changing them as requested.

IT delivery was seen as ‘non-core’, better delivered by a private sector industry with greater flexibility, and access to requisite skills. As at 1996, these activities were defined as:

- ‘Facilities Management’ (for example data preparation and encoding, disaster recovery, help desk, system administration),
- software maintenance and development, and
- consultancy support.

Since there was never an intention to keep non-core IT/IS activities in-house, a formal market-testing of in-house IT delivery capability was eschewed. Instead, ministerial approval was gained to set up LISA and enter into a ‘strategic partnership’ with a private sector vendor offering non-core IT services.
At this stage, it was envisaged that the supplier would initially be given a base contract but that the deal would need to have innovative elements. The supplier would have to operate on site for four reasons: the significant amounts of classified information being processed; the newness of Agency status; the desire to keep visibility and control over the IT activity; and because location had significant staff implications. The main systems were located in Oxfordshire at Bicester, an area with few alternative employment opportunities for 150 IT service delivery staff. To avoid redundancies, the vendor would be expected to forego the economies of scale that could be achieved by transferring and consolidating the work and IT equipment elsewhere.

As an incentive, the vendor would be offered the opportunity to exploit LISA’s capacity, products and services on the wider market on a basis of shared revenues; and the opportunity to be preferred supplier—though subject to competitively priced bids—for subsequent parcels of IT development, project or consultancy work. LISA would retain the right to reject those bids on its own criteria, and use a different supplier if necessary. On this basis, LISA was formally allowed to be set up as an Agency. Its main customers in the 1994–99 period were the Directorates General of Equipment and Logistics Support and their supporting new Defence Agencies, and the Quarter Master General’s corporate headquarters and central functions.

2.2. Selecting a supplier: 1994–95

In late 1994, a Project Management Board was formed to set up a vendor selection process. This consisted of three in-house IT managers, two from the CCTA (government funded IS advisory agency) and two external consultants who had previously advised on large-scale outsourcing at the UK Inland Revenue. The team was a mix of contract expertise, functional expertise with a knowledge of (army) customer requirement, internal service delivery capability, together with external commercial skills and knowledge of the IT marketplace and its vendors. A list of 42 potential suppliers was drawn up. The selection criteria were:

- a sizeable company with a proven outsourcing track record;
- financial viability;
- an understanding of logistics and of the Army;
- some contact with DLIS in the previous five years; and
- the capability to handle classified information.

A questionnaire was issued to the 22 respondents, 10 of whom were invited to a bidders’ conference in December 1994, after which the short list was reduced to six.

A Statement of Requirement was issued in April 1995. A detailed evaluation of responses left two contenders. There followed a 17-week contract evaluation and negotiation phase with each company, with the best and final offers made in Autumn 1995. The winner, in this instance EDS, was chosen on the quality of its final bid, its consistency of approach, cost factors and ‘partnership’ criteria. At LISA, ‘partnership capability’ was assessed on site reference reports and visits and detailed partner profile assessments, based on vendors’ values, corporate emphasis, reliability, responsiveness and consistency. The process was necessarily arduous and detailed, not least because it involved subjective
assessments, and many participants. In the end, there were 10 members of the final evaluation team, including internal LISA support directors, while CCTA also carried out a parallel control score:

As many referees as possible should be consulted to minimize the potential for bias in the evaluation, and the final scores should be discussed and awarded by the evaluation team as a whole and not by any one individual (outsourcing consultant for LISA).

This evaluation process was exhaustive because senior management at LISA were concerned about fairness, the strategic importance of securing a single, highly satisfactory partner, and aware of the need to debrief without controversy the unsuccessful candidate. In the event, all respondents suggest that these goals were achieved.

2.3. 1996: Moving to contract

An important and difficult part of the evaluation process was drawing up base lines for comparison on cost and services delivery. The difficulties stemmed from LISA’s broad and diverse customer base, and shifting requirements and Defence commitments over time, together with an inflexible long-term Treasury costing cycle. The latter meant that LISA was cost-capped, and this constrained its room for manoeuvre in the contracting process.

The Project Management Board evaluated three areas: functionality required, service levels and costs. The requirement from EDS was defined and their bid costed against the putative in-house provision of the same requirement. The bid was also evaluated against the actual cash available. In practice, the final EDS bid represented substantial savings on the cost of the base service provision. In practice, EDS did not stand to recover much of their costs from base service delivery alone. DLIS had already worked through most of the in-house inefficiencies, removing 200 posts through reorganisation in the 1990–93 period, and operating almost on a ‘lights-out’ basis with four person rather than the previous 15 person shifts. Clearly, in these circumstances, the contract had to be made attractive to the supplier in other ways. As a senior LISA manager commented subsequently:

EDS’ perception is much more over the horizon as to what they can gain in terms of additional business and revenue which is where they foresee the money coming back. That’s why they for their part keep up continual pressure on us to make sure we are maximising their opportunity … they are basing returns on the partnership potential. That’s why the contract was so constructed that its quite challenging for them … we are actually (by 1997) now starting to see a genuine degree of mutual dependence. And that’s good because they can’t survive without us and we can’t survive without them.

The contract was constructed so that the vendor inherited the running of 50 systems under a £40 million (US$ 70m.), five year deal, extendable for a further two years. The highlights are:

- Vendor commitment to savings in excess of £15 m. over contract length.
- In addition to the base service provision EDS was offered the opportunity to exploit
LISA’s capacity, products, services and sell them into a wider market on the basis of shared proceeds assessed on a case-by-case basis.

- EDS was asked to construct their bid on the basis of their confidence in such future revenue flows.
- LISA to receive guaranteed minimum revenue returns on an annual rising scale based on forecasts of receipts. The guaranteed minimum amounted to several million pounds over the life of the contract. It would be supplemented by further revenues if the partnership actually took off.
- LISA would also look to EDS as preferred supplier for all future work, including systems/software development, projects, and consultancy. However, each piece of work would be the subject of a competitively priced bid. This would be formally evaluated on pre-defined criteria and it could be rejected, with EDS having no further participation in that piece of work.

As one vendor manager commented:

The idea, I think, was not to try to prevent us from getting work but actively attempt to make sure that we as vendor perform and can deliver.

This additional work could be considerable, the scope for technological change being far greater than LISA’s financial and skills capability as an in-house organization to effect that change. The Army itself had rapidly changing IT requirements, not least in the area of ‘front-line’ military systems. Government Private Finance, Quality and Agency initiatives created ever new challenges with IS implications, including automated accounting, resource accounting and management information systems and wider commercial funding and exploitation of IS. New systems were always needed, recent ones being logistics, tracking and workshop management systems, while the main inventory control system required regular software updates.

The partnership element here was conceived as a way of effecting the increasingly demanded technical changes more quickly, exploiting a greater range and depth of technological expertise through a faster procurement process. Also transferred staff would gain career opportunities within the supplier, while commercial skills and practices would rub off on LISA staff. At the same time, there were several other potential advantages perceived by both LISA and vendor:

As in several other recent deals … we could smooth out the client’s IT cost profile with our servicing of the base contract; as vendor we could also build on our investment through these additional contracted out parcels of work (vendor manager).

Ownership of IT assets was retained on a GOCO (government-owned-contractor-operated) basis, though the contract stipulated that this could be changed at any later date. LISA also retained the intellectual property rights for—and so the ability to exploit—any software or systems developed under the LISA–EDS contract. All these elements were included in the Tranche 1 contract, and also in the Tranche 2 contract (prepared as an adjunct later in 1996).

There followed a three-month transition phase, from January–March 1996, for transfer
of personnel in what was called Tranche 1. About 100 civil servants and 29 contractors were transferred, together with about 20 additional unfilled posts. It was envisaged that a further 50 software maintenance and enhancement staff would also be transferred in 1997 in Tranche 2, if the EDS bid for that development work proved to be acceptable. Tranche 1 would seem to have been handled uncontentiously with trade union representatives going on record as commending the smooth transfer process.

2.4. 1996: Post-contract management, skills and relationships

The agreement, called the Partnership Contract, came to be managed by a regular, sometimes, monthly board meeting consisting of LISA senior managers, the managing director of EDS defence, the EDS sales director and the EDS account manager. According to respondents, and the minutes, in the first year this proved a co-operative forum, with little or no recourse to the contract. LISA adjusted its management structure to fit with the outsourcing arrangements (see Fig. 1).

Reporting direct to the Chief Executive was a Director of Quality and Standards, responsible for implementing government initiatives in this area. LISA aimed to be a ‘one-stop shop’ for IS within the the Army’s Equipment and Logistic Support area. Therefore, to manage the customer interface and actively work on all aspects of systems’ specification, procurement, usage and replacement, three Customer Support Directors were created each to cover one of the business areas of Logistics, Corporate and Infrastructure, and Equipment. There was a separate Director of IS Strategy.
while corporate services had three Directors covering Finance, Personnel and Partnership Contract Management. These changes supported and reinforced the earlier introduction of Systems Management Boards. Lodged within and run by the businesses, these were responsible for the ‘whole-life’ management of systems (Corporate Plan Document, 1996).

These arrangements embodied and were underpinned by in-house retention of skills in two main areas. One related to LISA’s IT/IS strategic direction, contracting, costing, standards and planning. LISA also retained and developed skills in customer contact and active understanding of the customers’ businesses. This was aided by one-fifth of LISA’s retained personnel being uniformed, while retained civil service staff all had a long history in military logistics. This second area of skills essentially involved relationship building, identifying customer requirement, and cost justification of LISA’s activity through systems/service delivery. Additionally, the retention of some technical skill was also considered important:

We can’t retain too much … (technical) … skill because we will be paying twice for it, but we are retaining a modicum … in the systems analysis and requirements definition area … and for rapid application development and prototyping, and hybrid skills for example … There can be a flaw in any outsourcing if you are actually outsourcing your basic skill, that there will come a time when you can no longer call yourself an intelligent customer … (Alan Pollard, CEO of LISA)

Over the first two years the basic principle for involving LISA personnel was described as ‘customer backwards, control downwards’. LISA’s essential remit was twofold: to operate closely and actively with the end customer to elicit and clarify customer demand; and secondly to maintain overall control of the contract and performance, while leaving detailed operational delivery in the hands of the supplier. Project management and customer management skills were retained within LISA for these higher levels. As one example, on a particular systems project LISA supplied the project manager, and EDS the stage manager (a lower element manager within the PRINCE development methodology). A summary of the management approach is shown in Fig. 2.

Part of LISA’s task was to identify customers’ information systems’ requirements. In the face of an increasingly knowledgeable user base with some history of wanting to branch out on their own, this was not always easy. The Systems Management Boards represented one way forward. These were chaired and led by the business with LISA advisors on each one. Business managers funded and took the ultimate decisions on IS projects, subject to technical and—as a statutory requirement—financial approval by LISA. LISA staff offered project initiation and IS requirement identification, but the business had to commit a project champion with budgetary responsibility. EDS would then be expected to deliver the system, with LISA retaining final responsibility to the customer.

According to respondents, in the first three years the partnering relationship appeared to be functioning much along the preferred lines outlined by LISA’s CEO:

We expect the partnership to be expressed as doing first and asking afterwards within given constraints, because obviously one of the key things we are looking
for from the private sector is responsiveness and minimising the ‘flash to bang’ time of getting help to the (user) customer … we therefore expect EDS to apply the resource without too much question … but it’s a delicate balance … if they commit too much resource at risk and the formal approval doesn’t materialise, then they will be less inclined to commit a risk again. But we are looking for flexibility, a joint understanding of what we are trying to achieve, a sharing of goals and evidence that we are both working to the same game plan.

A final area of note in the first three years was evaluation. DLIS, then LISA, had been involved in evaluation and benchmarking issues for several years before 1996. Outsourcing had served to make LISA and its customers even more cost and resource conscious than before. Additionally, there continued to be government pressures to index performance and create, for example, a league table of Agency performances. One valuable series of evaluations emerging at LISA were the pre-delivery justifications of IS investments, now carried out by the user customers, and, because of outsourcing, on a full cost basis.

A second area was LISA’s close monitoring of service performance and customer satisfaction against a standard code of practice and service level agreements at end-customer and individual project levels. In effect, these evaluations meant that the individual and joint performances of LISA and EDS were always under close review. Given that the vast majority of LISA’s customers were Agencies, this meant also that the Partnership Contract came under intense pressure to deliver to Agencies’ perceptions of quality,
value, and timeliness. Therefore, these perceptions also had to be closely tracked and met.

2.5. 1997–99: service levels, developing applications, building infrastructure

After three years of monthly service review meetings LISA’s contractual right to withhold 20% of any monthly payment if EDS had breached 50 negative points on service had never been exercised: As one manager commented:

They had met, indeed mostly exceeded the service levels, that were in excess of the ones we had set for ourselves before they came on the scene.

Good working relationships had also been established, with both sides having to learn a different style of operating. Nor had any major contentious personnel issues emerged amongst transferred or in-house staff. Some customers in other Agencies had envisaged large cost rises, but in fact they experienced benefits that were transparent because customer Agencies were charged on a full cost basis.

LISA was meeting its key targets of agreeing and delivering its customer IS programmes 95% to cost, 95% to time and 80% to time and cost. The cost savings and minimum guaranteed revenues established in the outsourcing contract were being delivered. Baseline unit costs were established in the second year to ensure year on year cost reductions. Benchmarks and performance indicators had also been developed to enable better management of overall Agency performance against targets. Using the existing evaluation systems and measures, LISA and the EDS were meeting their targets without any major issues arising.

Tranche 1 had included two sample application development projects to assess EDS’ ability to take on major applications work in Tranche 2. In the event, Tranche 2 was transferred in mid-1997, together with unforeseen local network development work for which there was a large user demand. One senior manager believed that LISA had paid more than it would have liked for the latter but:

At the end of the day if you try and screw them down too much on price it will come back and hit you in the back of the neck because you’ll get what you pay for.

One element in early applications development work had not gone well amongst customers. This was Requests For Change (RFCs). Partly the problem was an over-bureaucratization of the process, with LISA sitting between vendor and customer. EDS also felt that LISA was not anticipating requirements as well as they might. Subsequently, both LISA and EDS worked on a detailed prioritization mechanism distinguishing between minor (under £1500, e.g. less than one day’s coding), medium and high priority requests. According to a vendor respondent:

The innovation here was to offer the low priority requests for free to the customer, the cost being borne by EDS and LISA.

The obligations of EDS and LISA to respond as supply and demand managers were also tightened and made retrospectively contractually binding. Complaints about RFC costs were removed after mid-1997 when responsibility for prioritization and spending was
taken over by the Quarter-Master General, leaving LISA and EDS dealing only with IT service delivery:

The effect of these contract innovations was to remove the politics from issues like cost and service credits, a clearer recognition by the user of the quality of service being delivered, and a dramatic reduction in customer complaints throughout 1998 (senior manager, LISA).

From late 1997, LISA was looking to EDS to develop those systems defined as ‘strategic’, while other suppliers were bidding on ‘non-strategic’ development work. By then, however, Army centre had developed a new strategic approach, and had identified the need for a corporate network. It was envisaged that this corporate infrastructure, with a 12,000 seat, intranet, data warehousing and electronic commerce capability, would be eventually run by EDS. This prompted the supplier to make an innovative bid to fund the development in its totality, and be paid out of the business savings that resulted. However, such a deal would have dwarfed the original Tranche 1 and 2 contracts. It also short-circuited competitive bidding and its incentive element.

The LISA response was designed to give incentive to the supplier, while maintaining control. LISA would pay for the development of the first 2000 terminals. If EDS could deliver these in time and within cost, then LISA would consider the possibility of EDS funding the rest of the development, and being recompensed out of business benefits. In practice EDS delivered the first stage successfully. By late 1998, the relationship seemed to have taken off. Furthermore, opening work to further competition could put a two-year break on any major systems development. According to the CEO of LISA, EDS were moving into the business strategic area of their customer and out of IT service commodity delivery:

For the previous three years they have been our IT partner. The climate is changing whereby they are beginning to be the business partner now. To reflect that, I requested that the final ownership of the partnership be with the Quarter-Master General, not with me … You could see the IS side wasn’t going to take off until the business processes were fully aligned. And therefore EDS had to be in at the ground-work.

3. Analysis and discussion of the LISA–EDS contract

In this section, we will draw upon the analytical framework and prior research to develop comparative material against which case evidence on risk issues and their mitigation can be analysed. The organizational risk from the LISA–EDS deal—quite quickly becoming a ‘total’ outsourcing contract—was high, and the arrangements as at mid-1999 were still in place, and considered, with some qualifications, still reasonably effective by the diverse parties interviewed. Therefore, it becomes valuable to analyse in more detail what and how risks were mitigated, and what risks remain. We achieve this by blocking the analysis into five primary areas that emerge for us from the case, namely outsourcing type and scope, vendor selection criteria and process, the contract, retained
Table 2
LISA—approaches to risk mitigation

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Practices at LISA</th>
<th>Emerging risk issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Treating IT as an undifferentiated commodity</td>
<td>Core/non-core split Retained key in-house analysis, management and technical skills Outsourced technology implementation</td>
<td>Ability to develop/retain control of future differentiating systems? (see also 4. below)</td>
</tr>
<tr>
<td>2. Incomplete contracting</td>
<td>Tranche 1 detailed contract Two year option after five years Tranching future work open to competitive bidding</td>
<td>Is future work forthcoming? Effect of giving work to another supplier? Effect of giving all work to EDS?</td>
</tr>
<tr>
<td>3. Lack of active management of the supplier on (a) contract and (b) relationship dimensions</td>
<td>Detailed active daily management (See customer backwards, control downwards Fig. 2) Clear comprehensive management structure (Fig. 1) Regular supplier–business reviews Processes in place to let relationship develop Co-location Contract a good foundation for relationship</td>
<td>Degree to which business, not just LISA will take responsibility? What happens to relationship if less optimistic scenarios occur?</td>
</tr>
<tr>
<td>4. Failure to build and retain requisite in-house capabilities and skills</td>
<td>Retained strategy, contract management, standards maintenance, supplier relationship, customer contact, project management, business/systems analysis and some technical capabilities (Fig. 2)</td>
<td>Will bringing EDS into business/core areas (1998 on) erode in-house capabilities over time?</td>
</tr>
<tr>
<td>5. Power asymmetries developing in favour of the vendor</td>
<td>Carefully delineated performance measures Government ownership of assets Intellectual property rights retained Co-location and high security established Competitive bidding mechanism LISA acts as 'intelligent customer'</td>
<td>Effect of rapid change and supplier/LISA staff turnover on ability to control vendor performance? By 1999 high dependence on a single supplier Very high switching costs Long-term supplier strategy to dominate the vertical market may increase power asymmetries in its favour.</td>
</tr>
<tr>
<td>6. Difficulties in constructing and adapting deals in the face of rapid business/technical change</td>
<td>Staged 5 year contract with additional 2 year option Tranching and ‘parcelling’ of work for suppliers Regular reviews and updates of price/service/requirement</td>
<td>Inflexibilities in Treasury rules and funding Army procedures introduces inflexibilities Flexibility requires co-dependence not 5. above</td>
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Table 2 (continued)

<table>
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<tr>
<th>Risk factors</th>
<th>Practices at LISA</th>
<th>Emerging risk issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Lack of maturity and experience of contracting for and managing ‘total’ outsourcing arrangements</td>
<td>Switching possibilities retained (?) Used external consultant advice Tranching designed to build up to total outsourcing gradually while developing experience Thorough supplier selection process Multi-disciplinary group for supplier selection Careful analysis of need pre-contract ‘Soft’ factors assessed, not just price/cost</td>
<td>LISA/customers possibly overwhelmed by expansion in business and technical requirements from 1998? Retained management capability drawn largely from existing in-house resources with little commercial expertise. Turnover amongst in-house management group loses continuity and attained expertise over time Underestimated technical ‘fixing’ capability needed in-house?</td>
</tr>
<tr>
<td>8. Outsourcing for short term financial restructuring or cash injection rather than to leverage IT assets for business advantage</td>
<td>£15 m. to be saved over contract length Looked to develop a preferred supplier relationship to deal with unanticipated work over the seven years Multiple objectives, not just IT budget constraint</td>
<td>Over-dependence on supplier may detract from business advantage target Initial cost savings being sidelined by subsequent expansion in demand and dependence on supplier</td>
</tr>
<tr>
<td>9. Unrealistic expectations with multiple objectives for outsourcing</td>
<td>Cost-service trade-offs initially focused and clear Started with good control mechanisms to realize several objectives LISA in place throughout as controlling intermediary</td>
<td>Service levels, especially with newly developed systems, more patchy than first two years Increasingly complex arrangements and IT developments to manage</td>
</tr>
<tr>
<td>10. Poor sourcing and contracting for development and new technologies</td>
<td>Initial tranching of development work on potential competitive bids Retention of technical, RAD and project management capability 1998 deal motivates supplier using business contribution measurement for development and building infrastructure</td>
<td>Extent of customer/LISA participation in development work? Especially from 1998? Quality of retained in-house project/technical skills? Over-dependence on single supplier for all development needs Supplier capability to service all these needs? At reasonable price?</td>
</tr>
</tbody>
</table>
management capabilities and processes, and client–vendor partnering and relationships. Two further risk areas, distinctive enough to merit separate treatment, also emerge and are discussed. We subsume the points summarized in Table 2 into the analysis that follows, and compare the findings here against prior research.

3.1. Outsourcing: type and scope

Based on Lacity et al. (1996) and Cronk and Sharp (1998), there are major risks when IT is treated as an undifferentiated commodity and becomes the subject of ‘total’ outsourcing. Their research suggests that the low-risk option route to using the market is to outsource ‘useful commodities’ as opposed to ‘critical differentiators’ in conditions of low business uncertainty. On the technical front, additionally, it is important to reduce risk by outsourcing discrete, as opposed to integrated systems, in situations of high-technology maturity where the market could provide an at least comparable service at a more efficient price. To some extent LISA followed this low-risk path. Thus clear distinctions were made between ‘core’ and ‘non-core’ business and IT activities, with only the latter considered as candidates for outsourcing. At the same time some of the IT activities outsourced to EDS were probably ‘critical’ as opposed to ‘useful’, in the sense of significant underpinning to LISA’s and its customers’ strategies and operations. The retention of certain LISA functions in-house together with the partnering aspect of the deal was designed to mitigate the risks here. One possibility, however, is that some future development work could be for ‘core’ or ‘differentiating’ systems and this may not be picked up in the analysis, or, with the transfer of large amounts of technical expertise, that LISA would not be in a position to control and deliver such systems.

Contract tranching mitigated technical risks, at least at the front end of the contract. The work first handed over was stable, mature technical activities well understood by LISA, and being worked on by knowledgeable ex-LISA staff. However, Willcocks et al. (1995a) show that the outsourcing of immature IT activities—where the technology is new and unstable, or it is a new application of existing technology, or in-house staff do not possess the relevant experience—can be high risk. This would be the case with the tranche 2 development work at LISA, but even more with the development work coming on-stream from 1998 onwards. Those authors recommend such work should be done in-house, with experienced resources being ‘insourced’ to work under internal management control to facilitate mutual learning on the technology and its business applications. There are two points here. LISA mitigates the risk here by expecting the long-term partnering element to pay the dividend of the supplier coming to act as a surrogate insourced resource. However, this dividend would probably take time to develop, and development work was already being considered for outsourcing within the first year of the contract. A more substantial mitigation was likely to come from the arrangements to run IT projects as business projects with the businesses heavily involved and responsible, LISA providing advice and regulation, and EDS acting as junior IT partner. LISA did also retain a level of technical skill to offset technical risks, though how much to retain seems to be always a difficult judgement (Cross, 1995; Feeny and Willcocks, 1998).

Finally, it was clear from all respondents that there was considerable technical and business change expected within LISA and its customers. In such circumstances,
short-term selective outsourcing has been recommended as the lowest risk option (Lacity and Willcocks, 1998). However, the abiding logic at LISA was that uncertainty could be managed by tranching future work and making it the subject of competitively priced bids rather than putting it all out under the same contract conditions that would be difficult to draw up in the face of future uncertainties. This arrangement did also allow for the possibility of using a different supplier at a later date, if it proved necessary, while gaining motivational and learning advantages from developing a long-term relationship with EDS. Subsequently, at least to early 1999, a different supplier had never been called upon for a major piece of work, thus rendering the mechanism designed to give incentive to the supplier while retaining flexibility somewhat redundant.

3.2. Vendor selection criteria and process

Several researchers have shown that poor vendor selection practice, misperceptions of vendor capabilities, together with exaggerated expectations as a result of vendor promises have been the source of relative lack of success in IT outsourcing deals (Lacity and Hirschheim, 1993; White and James, 1996; Michell and Fitzgerald, 1997). At LISA, the risks were mitigated first of all by a thorough procurement process. This derived partly from military and public sector disciplines, but also because of the large scale of the outsourcing contemplated. Secondly, a range of disciplines were included on the Project Management Board. These included two areas that previous researchers noted as frequently absent from such teams, namely outsourcing contract (as opposed to straightforward legal contract) expertise, and outsourcing experience and market place/vendor knowledge (in the form of third party outsourcing consultants). The team reflected the composition of the effective vendor selection process at another public sector site, namely the UK Inland Revenue in 1992–94 (Willcocks and Kern, 1997).

A further weakness in vendor selection has often been an over-focus on price and cost to the detriment of ‘softer’ factors, even though getting these wrong can be a significant risk area (White and James, 1996). In the LISA case, this risk area was mitigated by a comprehensive evaluation of ‘partnership capability’ using reference sites, site visits, and involving a range of assessors, including user managers. At the same time, clearly, the assessment of cost and service delivery parameters was crucial in a bid process. Looking at 61 sourcing decisions, Willcocks et al. (1995b) showed considerable weaknesses arising in this assessment area with concomitant detrimental affects for the resulting outsourcing arrangements. In practice, LISA would seem to have managed this evaluation area comprehensively and effectively, at least for tranche 1. One sign of this was that two acceptable competent suppliers emerged from the vendor selection process, and LISA was able to select the preferred candidate on additional superior criteria namely its more commercial, as opposed to the second candidate’s more technical, orientation.

The danger would be in allowing success here to lead to cutting down the detailed work on later contracts for other work being put out to the bidding process. Another danger is to allow the competitive bid mechanism to become a routine process for selecting the preferred supplier rather than a motivational device for sharpening evaluation and the preferred supplier’s bid. Both features have been observed in several other case histories,
and both, according to several respondents, have also been partly observable in the LISA–EDS arrangement (White and James, 1996; Currie and Willcocks, 1998).

3.3. The contract: substance, compliance and motivational mechanisms

Several researchers have pointed out the centrality of the contract to success or failure in the IT outsourcing deals they have studied (Lacity and Hirschheim, 1993; Fitzgerald and Willcocks, 1994; McFarlan and Nolan, 1995; Shepherd, 1995; Lacity and Willcocks, 2000b). Certain weaknesses in contracting can result in significant, unanticipated costs arising. Thus the client may fail to contract completely for present and future requirements, allowing the vendor to charge excess fees at different prices from the contract. Ambiguities and loopholes in the contract, and failure to allow a reasonable profit can all prompt opportunistic behaviour on the part of the vendor. Failure to contract properly can also mean a high, unanticipated amount of management activity and dispute resolution once the contract has become operational (Willcocks et al., 1996; Williamson, 1996).

The LISA–EDS contract is an example of the more creative forms of contracting that have been emerging in the outsourcing field in the last three years. The comprehensive, and complete contract for tranche 1 would seem to follow most of the guidelines and prescriptions on risk mitigation emerging from previous IT outsourcing research. Tranching the future work, and drawing up separate contracts for each parcel, having a two year further option after five years, as well as making each piece of work open to a competitively priced bid—all these features are designed explicitly to mitigate the risks associated historically with having one long-term supplier. These include: power asymmetries developing in favour of the vendor; opportunistic behaviour in the second half of the contract term; mid-contract sag as the vendor delivers to contract and nothing more; being locked in to the technologies that are convenient to the supplier rather than focused on client business requirements (Lacity and Hirschheim, 1993; Lacity and Willcocks, 1996, 1998; Willcocks and Lacity, 1998).

At the same time there could be risks associated with future work. Clearly, the vendor was motivated to secure such work, not least because EDS could make little return on the base contract. But if this work had not been as forthcoming as had been anticipated, or the vendor could not make as competitive bid as an alternative supplier would be adjudged to make—in these circumstances the supplier would not have been so motivated, and may also have looked to minimise costs as much as possible on the base contract work. This could have eaten into the supplier’s interest in providing the flexibility, fast response and technical access expected to emerge from the partnering dimension of the outsourcing arrangement. In practice, these risks did not materialise. By 1998, the amount of IT work needing to be done had greatly expanded and EDS were very pro-active in presenting creative proposals to secure the contracts. In practice, LISA and its customers perceived no real practical alternative but to give most future work to EDS—but the effect, as evidenced in some other deals, may well be to make the supplier complacent rather than competitive, in costing and service delivery terms (Lacity and Willcocks, 2000a,b).

The balance for LISA and EDS remains a delicate one. In the initial two years EDS would seem to have been taking most of the risks, with only LISA securing the immediate rewards. The same applies to LISA’s contractual right to have guaranteed minimum
returns from the potential shared returns from selling mutual products and services on the wider market. Both elements of the contract represented calculated risks for EDS. But, subsequently, EDS has taken the opportunity to shift the risk–reward equation in its own favour, resulting in greater risks being experienced by LISA, not least through the higher switching costs and increased dependence on the supplier from 1998 onwards.

3.4. Retained capabilities and management processes

The subject of retained skills in outsourcing arrangements has received surprisingly little attention. A common approach, especially observable in the UK public sector has been to keep as few staff as possible in a ‘residual’ function, carrying out IT governance contractual monitoring, and vendor liaison responsibilities (Willcocks, 1994). More recently, other research has pointed to a more in-depth capabilities and skills base for the modern IT function where external suppliers are used on any significant basis (Willcocks and Fitzgerald, 1994; Rockart and Earl, 1996). Research by Feeny and Willcocks (1998) shows the need to mitigate risks by staffing the four faces of the IT function—governance, elicitation and delivery of IS requirements, maintaining the technical base and managing external supply—with nine capabilities and their underlying skills. These are leadership and informed buying (governance); relationship building and business systems thinking (business ‘face’); technical architecture and making technology work (technical ‘face’); and informed buying, contract facilitation, contract monitoring and vendor development (external supply ‘face’).

LISA’s retained skill base maps quite well on to this conceptualisation (see Figs. 1 and 2). The leadership and informed buying capability is clearly in place. The Customer Support Directors and their staff fulfil the business facing functions, while the Contract Partnership Directorate staff fulfil the four capabilities for external supply management. And indeed there were signs in the case study of further strengthening occurring on the evaluation and vendor monitoring front. The technical ‘face’ is partly filled by the IS Strategy Directorate staff. Other research shows organizations making different decisions on how much technical skill to retain, though the evidence is that different types and levels of knowledge and ‘doing’ skill need to be spread throughout all the nine capabilities, though in different degrees (Feeny and Willcocks, 1998). The balance and risks are usefully detailed by the comment of LISA’s CEO in the case study section of this paper (see above).

Management processes built on the ‘customer backwards, control downwards’ principle (Fig. 2) would also appear, on previous research evidence, to be an effective risk mitigating approach, with LISA and business managers becoming much more involved in IT, the closer it got to the business application area, and the more high level control and monitoring of the supplier was needed (Willcocks and Fitzgerald, 1994; Currie and Willcocks, 1998). Particularly, important risk mitigating features were the retention in-house of project management skills, and of control over what one respondent called the ‘business projects with an IT component’ staying with LISA and business managers (Feeny et al., 1997). The Systems Management Boards also represented active in-house information management components that served to mitigate risk of loss of in-house control of the critical information systems (business applications) as opposed to the IT (technical supply) area.

The worry in the LISA case is that though the structure and capabilities remain in place
as at early 1999, firstly the staffing of those capabilities were largely from in-house sources with little commercial and market expertise. Secondly, as several respondents commented, as staff turnover has occurred, continuity in capability is lost, while the expertise established over time also erodes. A higher risk factor here, observed in other cases (Currie and Willcocks, 1998; Feeny and Willcocks, 1998), is that the in-house core capability begins to erode as the supplier takes over responsibility for an increasing amount of work rationalised as part of ‘strategic relationship’ development as suggested by LISA’s CEO in 1998 (see above).

3.5. Vendor–client partnering and relationships

The case respondents talked frequently of the partnership between EDS and LISA, and indeed the outsourcing arrangement was formally known as the Partnership Contract. Partnership here was not meant in the strict legal sense, though the contractual agreement to mutually sell products and services on to the wider market embraced some more legal partnership elements. In examining the UK Inland Revenue–EDS total outsourcing agreement Willcocks and Kern (1997) concluded that forming, developing and sustaining relationships over and above the contract were fundamental to the mitigation of risk and to the achievement of the wider objectives of such deals. Other commentators and researchers have come to similar conclusions (Henderson, 1990; Alberthal, 1994; McFarlan and Nolan, 1995; Willcocks and Choi, 1995). One important element identified is to have processes in place to allow the relationship to develop. The regular management board meetings, and often daily meetings between staff of the Partnership Management Directorate and EDS managers facilitated the development of the relationship. Co-location was also found to help in this process and in LISA’s case the EDS account manager and staff were all located at the Bicester site.

At the same time there has been found to be in IT outsourcing a mutual dependence and influence between contract and relationship development. Using case studies, Fitzgerald and Willcocks (1994) showed that good relationships cannot substitute for poor contracting; indeed the impact of the latter is usually to sour relationships. Building working relationships, confidence and a degree of trust takes time, and can deal with problems and difficulties, but only where the contract is well set up and the vendor stands to make the required profit margins, or is perhaps achieving its wider strategic objectives (see below). In the LISA–EDS case, the first two years obviously reflected the relationship in its transitional and formative phases. All respondents reported relationship development as a positive influence on the progress of the outsourcing arrangement. The risk element, and the real test of the ability of the relationship to mitigate risk for both parties, must be assessed from what happens subsequently.

Here, by early 1998, the formal relationship structure and processes were still in place and over the next year continued to be utilised. Meanwhile EDS had resolved to make a strong move to become the major, single supplier of IT to UK army logistics. Its innovative bid to develop infrastructure and networks had considerable relationship implications. It meant that EDS would be responsible for most of IT development in army logistics, and, on EDS respondents’ arguments, would need to be much more involved in the ‘business’ aspects of IT planning and delivery. Here one can see a relationship in what Lacity and
3.6. Distinctive risks (1) the public sector context

Several specific characteristics of the history and context of LISA influenced the risk mitigation undertaken. These are subsumed into Table 1, but emerged as sufficiently significant in the case to merit separate comment. The first is the public sector context. In earlier research, Willcocks (1994); Willcocks and Currie (1998) pointed to distinctive risks in public sector contexts. In the present case, the classified nature of the work for military establishments led to the IT work being carried out on site at Bicester. This mitigated risk in permitting greater daily overseeing and control of vendor performance, as well as the development of closer relations between staff. Human resource issues were also always going to be sensitive, not least due to the Bicester area not offering opportunities for alternative employment, and the fact that the workforce had a strong voice through a recognised trade union. Siting of the work at Bicester, and the choice of a vendor able to deal with sensitive human resource issues and offer wider career opportunities helped to mitigate the risks of staff hostility, demotivation or exit. The government’s continued ownership of assets and of the intellectual property rights of future developed systems and software was also a public sector requirement that in fact served to mitigate LISA’s risks in the outsourcing arrangement, by reducing potential switching costs in the event of dissatisfaction with the deal, and by securing rights to possible future revenues.

At the same time, the public sector in this period represented a volatile and uncertain environment in which to carry out a long-term total outsourcing deal, not least because of a range of management initiatives (for example quality improvement, Agency status) coupled with perennial, more traditional inflexibilities (for example, Treasury rules on funding, and its Long Term Costing (LTC) plans) impacting on the conduct of any outsourcing arrangement (Willcocks and Currie, 1998). Some comment on how these risks engendered by change and uncertainty were mitigated has already appeared above. All this made any mutual flexibility developed within the Partnership Contract a critical risk mitigating feature. As one example Treasury rules would require cash revenues generated from the EDS–LISA deal to be netted against LISA’s annual cash provision from Treasury. The impact would be to reduce that cash provision. LISA wished to work
with EDS to secure payment in kind so that a greater application of resource would benefit the LISA customer at no increased cost to the taxpayer. In practice such mutual flexibility, like the relationship itself, was reliant for its development on co-dependence of the parties. Co-dependence was generated in several ways. Thus, because of tranching, EDS was reliant on LISA for future, additional, possibly more profitable work. LISA for its part had to answer to its business customers for delivering IS requirements at a competitive price—something it could not do without the contracted supplier. Thus, LISA needed to motivate EDS and actively secure work for it while trying to ensure that its future margins were attractive. At the same time LISA could be squeezed out over time as the ‘middle man’, with EDS going straight to the end customer for work. In this respect, it was important for LISA to secure a contractual and physical position that ensured it added value to both customers and EDS by its very presence. In so far as these built-in elements create mutual dependence, they represent risk mitigating features of the outsourcing arrangements. However, by 1999, there were some question marks about the degree of co-dependence. By then, EDS had achieved almost a monopoly on public sector military logistics IT outsourcing (see below). Moreover, army logistics had committed itself to high dependence on EDS for building infrastructure and networks from 1998, with very high switching costs and no practical alternative, given its time-scales and urgent need. In these ways, the wider public sector context for IT outsourcing as it was created in the 1990s, together with public sector operational inflexibilities developed distinctive risks in the LISA–EDS outsourcing arrangement.

3.7. Distinctive risks (2) supplier long-term market strategy

A related risk area needs to be highlighted, namely the broader market strategy of the supplier, an issue highlighted in an earlier study by Kern and Willcocks (1996). One feature of EDS’ business strategy in the mid and late 1990s has been to attempt to dominate vertical markets. One of these has been military logistics. Thus, in the UK, with the conclusion of the LISA–EDS deal, as at 1997, EDS had the main IT outsourcing contracts for logistics support in all three services—Army, Navy and Airforce. In one respect, this may result in a logical development that could have been countenanced by the in-house logistics teams. EDS could be in a position to secure the economies of scale and efficiencies for the military services that some believe should have been achieved by earlier consolidation of the three in-house IT functions. In this way, the previous barrier to consolidation—essentially the separate traditions and loyalties of the three Services—could be set aside and the risk of continuing undue expenditure mitigated.

Given that EDS might have broader strategic reasons for entering into and supporting the LISA–EDS contract, it might well be that this has been the overriding risk mitigation factor throughout the whole case. In this respect, one could argue that many of the risk mitigation features implanted by LISA management were, perhaps, not that necessary. With broader objectives, EDS might not be too concerned about 5–7 year profit margins in this specific case. There may well be few pressures militating against the development of good relationships between LISA and EDS, simply because the longer EDS stayed in the contract, the more likely it was for the switching costs for LISA to rise to prohibitive levels—as indeed did happen. This has especially been the case where EDS also secured
most, if not all future contract work, firstly through ensuring its bids were competitively priced, then subsequently pursuing a strategy of bidding innovatively for all future development work, the attraction being it would be paid not immediately but out of subsequent business savings. On this scenario, EDS price and delivery would remain satisfactory, at least during the first few years. Its broader strategic objective to dominate a vertical market would, in that period, secure an effective outsourcing arrangement for LISA, while EDS itself would begin to gain, as it did, valuable margins from the work and sales outside the base service offered.

There is a potentially longer term and bigger risk for LISA involved in all this, however. As EDS has become a near monopolistic supplier of IT services in the UK military logistics field, it becomes very difficult to dislodge. As Williamson (1996) points out, sitting suppliers have the advantage over new bidders of knowledge of and relationships with their customers. Moreover, in the IT field switching costs can be highly prohibitive (Lacity and Hirschheim, 1993; Lacity et al., 1995, 1996). Switching costs become even more prohibitive when it is realised that there are no suppliers with anywhere near comparable experience and expertise in the military logistics market that EDS would have dominated for such a long period. One alternative might be to rebuild the in-house IT delivery function—again a very costly and time consuming process. On the other hand, EDS as a near-monopolistic supplier would not necessarily result in higher prices and lower quality delivery; it might well be satisfied with securing steady long-term profit margins rather than profit maximisation. However, the problem for LISA remains that there are risks to it in all this. As suggested by Cross (1995), Currie and Willcocks (1998) and Lacity and Willcocks (1998) in this respect, the real risk mitigation factor at LISA may well be to retain EDS’s competitiveness by adopting a multi-vendor strategy, something its existing contractual arrangements could still make possible.

4. Implications and conclusions

The paper has presented an exploratory study of risk issues and their mitigation in a long-term total outsourcing arrangement in a UK public sector context. The case study work uncovered overall what might be considered an effective set of arrangements established for the first two years. However, an advantage of the contextual and longitudinal approach adopted in this research has allowed us to pinpoint features, subsequent developments and risk factors whose risk mitigation might not be so easily contained by those initial arrangements.

We uncovered a range of risks relating to outsourcing type and scope, vendor selection criteria and processes, the contract terms, retained capabilities and management processes, and vendor–client partnering. The analytical framework proved once again to be sufficiently comprehensive to enable us to make sense of much of the rich data, while also allowing further in-depth qualitative, complementary analysis. The research approach enabled the further identification of two distinctive risk areas. The public sector context of the 1990s and the supplier’s long-term market strategy emerged as significant distinctive risks. In terms of developing the analytical framework, the evidence from our case analysis is that supplier capability and long-term market strategy could be usefully added as a further distinctive risk area, as could external and organisational contexts for the
period contracted for. Both would receive endorsement from earlier work on IT project risks by Willcocks and Griffiths (1996).

In this paper, we have delineated the ways in which many of these risks were mitigated either by conscious management planning and action or by a combination of circumstances and features. We also pointed to a range of new risks emerging as the outsourcing arrangement, staffing and context shifted over the three years examined. In particular, we flagged the importance of a longer term risk feature in the LISA–EDS deal. This related to the broader vendor strategy of dominating vertical markets, in this case IT, and possibly wider, services to the UK defence logistics sector. We suggested that a multi-vendor strategy may be one of the ways of mitigating this long-term risk, though multi-vendor strategies, of course, themselves incur their own risks (Cross, 1995; Currie and Willcocks, 1998).

The implications of this research for practice are several. Firstly, we have utilised productively an analytical framework, that has, as a result of the case, been expanded into a twelve factor generic framework. The research supporting the gestation of this framework is now sufficiently strong for its use to guide practice at the start of and during the course of IT outsourcing arrangements. In Fig. 3, we put together a distillation of previous and current findings on the risks in IT outsourcing that have been emerging as distinctive and significant, as a possible guide for practitioners and for further research.

Secondly, how far are LISA’s risk mitigation tactics replicable in other IT outsourcing situations? Table 1 indicates that many of the tactics were highly useful, especially in the first two years, but as circumstances, demand, and personnel shifted, so there emerged a constant need to reexamine the nature of risks and how they combine, and respond accordingly. There is some evidence in the case that LISA management were slow in doing this, and that emerging risks were both escaping their attention and also eroding their ability to respond. This suggests that in all IT outsourcing risk mitigation needs to be constantly revisited, but also that if understanding supplier long-term market strategy is as widely neglected as some authors suggest (Michell and Fitzgerald, 1997; Kern and Willcocks, 2000) it nevertheless emerges once more as a vital, risk mitigating task.

Thirdly, a key risk mitigating factor emerging from the case is that of building and retaining in-house distinctive core human resource capabilities. The capability to elicit and deliver business requirement, ensure technical capability, manage external supply and coordinate these to ensure control over the organisation’s IT destiny for business advantage emerges from the case as difficult to achieve, not least because of its public sector context. Feeny and Willcocks (1998) argue for high performers, constant rebuilding of the human resource capabilities needed, succession planning and human resource policies flexible enough to underwrite these requirements. What is observable in the case is that these capabilities need to be present before an outsourcing contract is signed if they are to be alive to risks and how they can be mitigated. Moreover, it becomes critical not to allow subsequent events and supplier strategies to cut across these capabilities and cause them to be eroded, as was, in our analysis, beginning to happen by early 1999 in the present case. Retention of these capabilities provides the primary means by which developing risk can be identified and assessed, and risk mitigating practices devised.

Finally, and relatedly, there may well be common links between risk assessment for major IT projects and IT outsourcing, certainly where the latter also embraces new
systems development, as in the LISA case. The issue received some discussion above (see section headed Outsourcing: type and scope). Invariably these days, external suppliers become involved in large IT projects, and the question is: are there any sourcing principles that can guide how and in what such suppliers should be involved? The basic premise emerges once again from the present case: the lower risk approach is to outsource only mature IT activities that you can write a detailed contract for provided that the vendor is motivated, capable, stands to make a reasonable profit, and can be sufficiently monitored and supported. Furthermore, an organisation needs to retain in house the nine core IS capabilities, together with project management capability (as discussed by Feeny and Willcocks, 1998; see also above). In the LISA case, this was certainly the early intention, but by 1998, with EDS taking over major development work, there could be increasing risks being generated as retained in-house capability becomes distanced from such development, and may even become eroded over time as EDS gets involved in more tasks and concerns in 1995 defined as ‘core’ and in-house.

The study has been necessarily an exploratory one but does illustrate the richness of the subject of risk and its mitigation in IT outsourcing arrangements. Hopefully, the work here will stimulate other researchers to pursue this under-developed, but for both academia and practice, highly important field.

References


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