Anticipating and considering customers’ flexibility demands in is outsourcing relationships

Stefanie Jahner  
Technische Universität München, jahner@in.tum.de

Tilo Boehmann  
Technische Universität München, boehmann@in.tum.de

Helmut Krcmar  
Technical University München, krcmar@in.tum.de

Follow this and additional works at: http://aisel.aisnet.org/ecis2006

Recommended Citation

Jahner, Stefanie; Boehmann, Tilo; and Krcmar, Helmut, "Anticipating and considering customers’ flexibility demands in is outsourcing relationships" (2006). ECIS 2006 Proceedings. 191.
http://aisel.aisnet.org/ecis2006/191
ANTICIPATING AND CONSIDERING CUSTOMERS’ FLEXIBILITY DEMANDS IN IS OUTSOURCING RELATIONSHIPS*

Jahner, Stefanie, Technische Universität München, Chair for Information Systems, Boltzmannstr. 3, 85748 Garching b. München, Germany, jahner@in.tum.de

Böhmann, Tilo, Technische Universität München, Chair for Information Systems, Boltzmannstr. 3, 85748 Garching b. München, Germany, boehmann@in.tum.de

Krcmar, Helmut, Technische Universität München, Chair for Information Systems, Boltzmannstr. 3, 85748 Garching b. München, Germany, krcmar@in.tum.de

Abstract

Information systems (IS) outsourcing relationships are determined by uncertainties and changing business environments for both client and vendor over a long-term outsourcing lifecycle. Although IS outsourcing arrangements have been widely researched, little attention has been paid to how changing business circumstances and resulting customer demands can be systematically assessed, considered, and integrated in adapted service offerings. In this paper we argue that flexibility and agility are the key to handle uncertainty in IS outsourcing and to achieve a continuous fit in the outsourcing relationship. However, the later clients and vendors identify changing requirements the more expensive it generally becomes to provide the necessary flexibility in outsourcing arrangements. This paper proposes an assessment instrument for a systematic identification of changing customer demands on a business level and resulting flexibility requirements on an IT level that clients and vendors can utilize to structure their discussions in an early phase of an outsourcing relationship. Based on a thorough literature review and a requirements analysis with qualitative expert interviews, relevant dimensions and parameters of customers’ flexibility requirements are derived. These dimensions are involved in the design of the assessment instrument. Managerial implications and directions for future research, especially on the applicability and evaluation of the instrument are discussed.

Keywords: relationship management, IS outsourcing, transformational outsourcing, uncertainty, flexibility, agility, assessment, customer demands.

* We gratefully acknowledge the funding for this research by the joint competence center “Dynamic Value Webs for IT Services” of Siemens Business Services and Technische Universität München.
1 INTRODUCTION

Information systems (IS) outsourcing has been widely practiced and researched over the last two decades (Lacity and Hirschheim 1993) and still continues to be an important issue on the agenda of corporate IT executives (Luftman 2005). However, the IS outsourcing market is changing and diversified approaches of outsourcing practices have been emerging. In the 90s, many organizations entered into long-term outsourcing relationships and started outsourcing substantial portions of their operations. Nowadays, facing an increasingly turbulent, unpredictable, and complex environment, organizations can often neither predict how their business circumstances will develop and change even in a few years nor estimate what technologies will be available and necessary at that time (Lacity, Willecocks et al. 1995). As a result, clients increasingly seek selective and often multi-vendor outsourcing arrangements. Lacity et al. (1995) propose such short-term outsourcing arrangements in order to maximize flexibility and competition. However, despite being offered an increasingly varied set of approaches to contracting IT services, many organizations have failed to gain the expected results in their outsourcing arrangements such as cutting costs, improved quality of IT services, or latest technology (Lacity and Hirschheim 1993; Willcocks and Lacity 1999). Still many outsourcing deals – whether long-term or short-term oriented – fail to live up their expectations.

Regarding these contradictory outsourcing experiences, researchers as well as practitioners have thus increasingly turned their attention to the relationship between client and vendor in IS outsourcing arrangements (Kern and Willcocks 2000; Kern, Willecocks et al. 2002; Kim and Chung 2003). Many deals do not fail because of the inability of the vendor to negotiate a contract, nor the inability to deliver IT services. In fact, part of the failures of outsourcing relationships can be traced back to a lack of flexibility and evolution in these relationships. Outsourcing relationships turn sour when they fall for the myth of the steady state: This fallacy claims that, once signed, the outsourcing contract and the relationship remains set for its term length instead of being continuously developed to anticipate and accommodate change. Also many clients and vendors believe that once they sign a contract the contract itself will manage the service. Most organizations do not plan adequately for the ongoing management of the relationship and the services provided (Cohen and Young 2005). Nor do they consider changing business circumstances that call for a flexible adaptation of these services.

Flexibility becomes an even more pressing issue if outsourcing vendors become an integral part of business transformation at the level of the enterprise (Linder 2004). To manage a continuous and successful fit between the expectations in such long-term partnerships, the IT vendor has to be responsive to the basic conditions and development of the client, considering client’s changing business requirements. A key to counter these challenges of the current evolution of IS outsourcing is thus a better analysis of flexibility requirements for outsourcing contracts implementing enough degrees of freedom that allow for adaptation when business circumstances necessitate it. Many customer demands to adapt contractual structures occur seemingly unpredictably although these demands could have been identified before. The ability to assess changes and necessary options thus may become an important part of relationship management competencies (Levina and Ross 2003).

Current research provides limited support for the analysis of flexibility requirements. Often, extant research focuses on the basic outsourcing decision rather than on the actual design of outsourcing services (Dibbern, Goles et al. 2002). Other researchers focus on governance practices of outsourcing relationships, rather than on providing instrumental support. Thus, tools and methods for systematically identifying business requirements and linking those to implications for the design of flexible IT outsourcing arrangements have not been researched exhaustively so far. To go about providing a decision support for designing flexible outsourcing arrangements this paper adopts a design-science approach motivated along the following research questions:

1. What are determining factors of dynamic and flexible relationships in IS outsourcing?
2. How can customers’ flexibility requirements systematically be anticipated and assessed?
To address these research questions the structure of the paper follows the research design shown in Figure 1. First a systematic literature review will put the research questions into perspective and identify significant prior research on uncertainty and (dimensions of) flexibility as determining factors of IS outsourcing relationships. Then a requirements analysis is conducted by gathering empirical data on customers’ current business challenges and expectations towards their outsourcing arrangements. Important dimensions to be considered in the assessment instrument are derived. An assessment tool for identifying customers’ flexibility requirements is designed and implemented in the next step. As this paper is still research in progress, the evaluation of use and benefit of the instrument is to be realized yet.

Figure 1: Research Design

2 LITERATURE REVIEW: THE ROLE OF UNCERTAINTY AND FLEXIBILITY IN IS OUTSOURCING RELATIONSHIPS

2.1 The impact of uncertainty

Arising from a turbulent, unpredictable and complex environment uncertainty is one of the most constitutive challenges for organizations and also a determining factor for IS outsourcing relationships (see e.g. Wang 2002; Kim and Chung 2003). The term uncertainty refers to the degree to which future states cannot be anticipated and accurately predicted (Pfeffer and Salancik 1978). Uncertainty emerges when insufficient, incomplete information is available to make precise and reliable specifications in an outsourcing arrangement. Williamson (1979) points out that environmental uncertainty impedes with specifying and monitoring contracts for both client and vendor. Uncertainty then becomes evident in difficulties of prescribing specifications, scheduling delivery dates and estimating costs at the contracting stage.

According to Kim and Chung (2003) three areas of uncertainty can be identified as relevant to IS outsourcing relationships: (1) technological, (2) measurement, and (3) demand (or volume) uncertainty. Technological uncertainty results from the adoption or introduction of new standards or functionalities. Measurement uncertainty arises from difficulties in evaluating and monitoring the quality of services or staff. At last, demand uncertainty comes from fluctuating demands of hardware, software, and so forth. A fourth area not mentioned by Kim and Chung is functional uncertainty. Hereby uncertainty is meant that arises from changes in business processes. Consequences in terms of demand uncertainty, uncertainty of scope or the need for functional adaptability of IT services might arise from such changes (Häberle, Jahner et al. 2005). The more outsourcing is linked to business processes (e.g. in transformational outsourcing) the more important this aspect becomes. Especially in transformational outsourcing arrangements that focus on producing change (Linder 2004) partners must design a business model that allows for a fluid structure and recognizes the dynamic process.

One approach of handling uncertainty is managing and enhancing the system’s flexibility in order to adapt to external changes (Ansoft 1976). In other words, while uncertainty arising from changing circumstances is the determining external cause of challenge for an organization, providing an organization with internal flexibility is the consequence to be able to cope with unforeseen changes and thus live agility as an underlying principle.
2.2 Flexibility as a result of handling uncertainty

Understanding and defining flexibility is a difficult issue as the term is manifold and used in heterogeneous contexts. Regarding the growing number of terms used synonymously to flexibility such as agility, adaptability, or resilience Evans (1991) shaped the expression “polymorphy of the concept flexibility”. Flexibility is widely understood as the ability or characteristic of a system to activate or enable a change potential when the demand for change arises either from the environment or from within the system (Gronau 2003). It refers to smooth alterations in practices and policies in the event of unexpected or changing conditions (Boyle, Dwyer et al. 1992). Thus, planning and adjustment are essential to cope with uncertain environments. Flexibility can then leverage uncertainty to business value. In IS outsourcing relationships, maintaining flexibility is an important goal and also a critical success factor (Kim and Chung 2003). Häberle et al. (2005) distinguish three types of options in IS outsourcing arrangements: (1) scale option, (2) scope option, and (3) exit/entry option. Scale is the possibility to adjust the actually used quantity of an IT service within a predefined time of delivery while the quality and functionality of the service remain unaffected. Scope refers to adjusting the functionality and/or the service quality within a predefined delivery time while the used quantity remains unaffected. An exit/entry option is the ability to end or to start a predefined service with a predefined delivery time. Flexibility is the consequence that results from internal and external change drivers and uncertainties of an organization and thus determines the management and design of adaptable IS outsourcing arrangements.

3 REQUIREMENTS ANALYSIS

In order to create a new and innovative artefact as postulated in design science, a crucial prerequisite is to understand the problem space in which reside the phenomena of interest (Hevner, March et al. 2004). In our context, designing an instrument that helps IT vendors to assess and understand their customer demands in a better way requires to (1) get an empirical insight into current business circumstances and challenges companies have to face in changing environments, (2) identify requirements and expectations of customers towards their IS outsourcing relationships and a flexible adaptability of their outsourcing arrangements, then (3) be able to derive consequences for the contract design and the delivery of flexible IT services.

In order to get a deeper insight into these requirements, we conducted 8 explorative, half-structured expert interviews with Chief Information Officers (CIOs) and other IT experts from a customer perspective. We also conducted two more expert interviews with vendors. In accordance with the requirements mentioned above, the interviews focused on two major aspects: (1) current business challenges and uncertainties that influence the IT of the client organization, and (2) flexibility requirements and expectations towards the IT service provider that result from these uncertainties. Table 1 summarizes the empirical findings described in the following paragraphs.

Business circumstances, uncertainties and drivers for change

All interviewed companies face a dynamic environment that requires continuous flexibility and adaptation of an organization towards external changes. Current external challenges at a business level mentioned in the interviews were internationalization, mergers and acquisitions, legal restrictions, new technologies and standards, and consolidation of the industry that force the IT departments to standardize their IT processes globally and align IT with the corporate strategy. One major challenge mentioned by customers in the banking and entertainment (TV homeshopping) industry were the fluctuating demands of their end consumers in terms of transaction volumes. The interview partners emphasized that the changing demands of the end consumer diffuse throughout the whole value chain, affect the IT in terms of sizing of the IT systems and also determine the expectations towards the IT service provider. Another interview partner in the banking industry mentioned a cut in the overall enterprise strategy: Then a local universal retail bank offering a broad variety of financial services the
bank transformed into an international specialized provider. This strategic change involved the abandonment of the then-core business as well as a merger and acquisition of an international bank. Discharge of labor and a reduction of business units were a major consequence as well as an expansion of international locations followed the strategic move. Beside external determinants the organizations were also confronted with internal changes such as product portfolio changes/expansion, organizational restructuring or consolidation of their IT. One of the interviewed vendors mentioned that one of the outsourcing customers planned to expand their product portfolio by developing and establishing an ASP offerings for the health care sector.

Summing up the current circumstances and challenges found in different organizations it becomes obvious that most challenges mentioned by the interview partners arise from the business, not from the IT level.

**Motivation for IS outsourcing, flexibility requirements and expectations towards the vendor**

In accordance with literature (see e.g. Willcocks, Lacity et al. 1998; Dibbern, Goles et al. 2002; Cohen and Young 2005) various reasons for IS outsourcing could be identified in practice. Most often reducing costs or switching them from fixed into variable costs is mentioned as a motive for outsourcing. However, the empirical results reveal that IT outsourcing is not an appropriate means for cost reduction if certain circumstances or capabilities are not given, such as internal IT competence. While cost reduction and access to state-of-the-art technology as motivations for IS outsourcing focus on “IT as a commodity” and emphasize the role of the IT vendor as a utility or solution provider, other clients expect the vendor to engage in a strategic or innovation partnership. Then the vendor is requested to share the risk of the customer’s business model or engage in a joint product or service development. For example, one client in the banking industry mentioned fluctuating transaction volumes in the end consumer business as the most determining factor and thus expected the IT vendor to engage in a risk sharing model with a pay-per-transaction price model.

Regarding the expectations of flexible adaptation most often scale options were named such as an increase of IT help desk members or more storage capacity. While it seems no problem to adjust capacities, overall changes such as adding completely new functions were quite difficult to deliver for the IT vendor. Also adjusting capacities to a higher level seems much easier to provide than downsizing. The interview partner in banking that went for internationalization and consolidation of their IT pointed out that downsizing the IT capacities was a major problem for the IT service provider. In general, contract structures are regarded as too rigid. Overall, many interview partners complained about the reactive behavior of the service provider and expected more transparency and active suggestions for process and costs improvement over the contractual relationship. Customers appreciate the initiative of the service provider to show options for action and develop a shared strategy.

<table>
<thead>
<tr>
<th>No.</th>
<th>Industry</th>
<th>Interview partner</th>
<th>Position of interviewed</th>
<th>Business challenges / uncertainties</th>
<th>Consequences on IT level / flexibility needs</th>
<th>Expectations towards IT vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transport / shipping</td>
<td>Customer</td>
<td>IT manager</td>
<td>Internationalization</td>
<td>Adaptation of IT to business strategy</td>
<td>Cost reduction, active suggestions</td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing</td>
<td>Customer</td>
<td>CIO</td>
<td>Internationalization, product portfolio expansion</td>
<td>Scale options</td>
<td>Cost reduction, active suggestions</td>
</tr>
<tr>
<td>3</td>
<td>Public / environment</td>
<td>Customer</td>
<td>IT manager</td>
<td>Changing legal restrictions</td>
<td>Scale options (also downsizing)</td>
<td>Cost reduction, active suggestions</td>
</tr>
<tr>
<td>4</td>
<td>Manufacturing</td>
<td>Customer</td>
<td>CIO</td>
<td>Internationalization</td>
<td>Consolidation of IT</td>
<td>IT as commodity</td>
</tr>
<tr>
<td>5</td>
<td>Banking</td>
<td>Customer</td>
<td>IT manager</td>
<td>Internationalization, consolidation</td>
<td>Expansion to international services</td>
<td>Adaptability in terms of scale and scope</td>
</tr>
<tr>
<td>6</td>
<td>Entertainment (TV home-shopping)</td>
<td>Customer</td>
<td>CIO</td>
<td>Fluctuating demands in end consumer business (purchases)</td>
<td>Peak sizing of IT systems</td>
<td>Adaptability in terms of scale and scope</td>
</tr>
<tr>
<td>7</td>
<td>Manufacturing</td>
<td>Customer</td>
<td>IT manager</td>
<td>Internationalization, legal restriction</td>
<td>International on-site-support. Adaption of scale and scope</td>
<td>Active suggestions, fit of delivery model, proximity to outsourcer</td>
</tr>
<tr>
<td>8</td>
<td>Telecommunications</td>
<td>Customer</td>
<td>CIO</td>
<td>Product portfolio expansion, online business</td>
<td>Scale options, price options, cost reduction, Transparency, proactive suggestions for improvement</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>IT services (customer in banking)</td>
<td>Vendor</td>
<td>Key account for banking</td>
<td>Fluctuating demands in end consumer business (transaction volumes)</td>
<td>Transfer risk emerging from end consumer to supplier</td>
<td>Innovation partner, risk sharing, pay-on-production</td>
</tr>
<tr>
<td>10</td>
<td>IT services (customer in health care)</td>
<td>Vendor</td>
<td>Key account for health care</td>
<td>Product portfolio expansion</td>
<td>Develop new IT services, offer ASP model</td>
<td>Innovation partner, risk sharing, joint service development</td>
</tr>
</tbody>
</table>

Table 1: Overview of the expert interviews
4 DESIGN OF THE ASSESSMENT INSTRUMENT

4.1 Methodological approach

Literature and practice show that understanding business circumstances first seems to be the key when designing flexible IT services and flexible long-term IS outsourcing arrangements. Thus, the assessment instrument is designed as a two-phase-approach:

1. **PAIN**: Problem Assessment and Identification of Needs

2. **CASpeR**: Configuration and Assessment of Specific Requirements

Phase 1 focuses on problems and circumstances on a business level in order to get an overall understanding of the customer situation and restrictions. The goal of this phase is to develop an understanding of the current flexibility requirement of the customer resulting from his business environment. Phase 2 provides a systematic assessment of concrete parameters of different flexibility dimensions and configuration options for IT elements. It serves as a preparation for the contract configuration and points out important dimensions to be involved in a contract. The methodological design of the instrument follows the method of morphological analysis (Zwicky 1969). Morphological analysis is a problem solving technique designed for multi-dimensional, non-quantifiable problems in order to reduce complexity and is also applied in the field of future studies. The idea of morphological analysis is breaking a problem into parts by identifying important dimensions that describe the problem and then defining value parameters for these dimensions.

4.2 Content design of the instrument

In accordance with the factors gathered in the requirements analysis the following dimensions were considered as important and thus included in phase 1 (PAIN) of the assessment instrument: (1) WHAT: Drivers for changes, uncertainties, (2) WHEN: time horizon, urgency of change, (3) WHO: participants of value network, who forces the change, (4) WHICH: focus of the business unit to be supported, (5) WHY: motivation of IS outsourcing relationship and expectation of IT vendor, (6) RESULT: resulting flexibility requirement. Figure 1 shows exemplary dimensions and parameter values of the assessment instrument.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Function/Parameter</th>
<th>Question</th>
<th>Solution alternatives / characteristics / parameter values</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHAT</td>
<td>CAUSE Drivers for changes at business and IT level / problem analysis</td>
<td>WHAT? What are current business challenges and drivers for changes in your business, environment, industry etc.? What is your technology vision?</td>
<td>Portfolio changes, Changes of the organizational structure, Changes in the value network, Cost reduction, Variabilization of costs, Expansion of alternatives (functionality), Speed of provision (adaptability), Innovation partnership (Transfer Risk to Vendor)</td>
</tr>
<tr>
<td>WHY</td>
<td>Motivation of the outsourcing relationship</td>
<td>WHY? What do you expect from the outsourcing relationship?</td>
<td>Expert Know How, State-of-the-Art Technology, Cost reduction, Variabilization of costs, Expansion of alternatives (functionality), Speed of provision (adaptability), Innovation partnership (Transfer Risk to Vendor)</td>
</tr>
<tr>
<td></td>
<td>Understanding of the vendor</td>
<td>WHY? In which role do you see the service provider primarily?</td>
<td>Utility Provider (commodity functions), Solution Provider, Innovation Partner</td>
</tr>
</tbody>
</table>

Figure 2: Selected dimensions and parameter values of phase 1 (PAIN)

The structure of phase 2 (CASpeR) is in analogy to phase 1 and includes the following dimensions that describe flexibility parameter derived from the resulting flexibility requirement in phase 1: (1) WHAT: extent of outsourcing, level and objects of outsourcing, (2) know how of service to be outsourced, (3) contract duration, (4) account review, benchmarking, (5) scope option, (6) scale
option, (7) price unit / price model, e.g. fixed price for agreed service, minimum volume (+ variable unit), on a time & material basis, pay per use (based on actual use of service object), pay on production (based on result (e.g. per transaction)) or result oriented (risk/benefit sharing).

4.3 Implementation and use of the assessment instrument

The assessment instrument we propose is to be regarded as one component in an overall set of measures in the outsourcing engagement lifecycle of the client-vendor relationship. Since most IT vendors already have various relationship measures and tools in use, the proposed instrument should be implemented and adapted to existing outsourcing measures. The assessment instrument can be regarded as a preparation instrument for assessing, considering and involving the important flexibility ranges in a contractual IS outsourcing arrangement. Hence, a prominent field of application could be involving the instrument in the pre-contract phase (sales) where the account team of the provider reviews and agrees on key information that has been developed by the proposal team. In this stage it is crucial to develop a fit between the expectations of the client and the delivery model of the vendor. The instrument supports a profitability check if expectations, capabilities, and resources of both match.

Over and above, the assessment instrument should not only be used in the very early (pre-contract) phase of establishing the client-vendor relationship. Outsourcing contracts and relationships must be developed to anticipate and accommodate change over time. Only then a successful renegotiation and renewal of the contract can be achieved. To continue a successful outsourcing arrangement the assessment instrument can help to maintain the fit once developed in the pre-contract phase during the whole lifecycle. It could be integrated in innovation workshops with clients, account reviews, or benchmarking events in order to adjust IT services to the actual customer situation.

5 CONCLUSION AND OUTLOOK FOR FUTURE RESEARCH

This paper extends prior research on IS outsourcing relationships and the need for flexible adaptation by introducing an assessment instrument that helps to identify and consider flexible customer demands in IS outsourcing arrangements. The proposed instrument supports assessing the customer situation systematically and completely in an early stage of the customer relationship and during an ongoing arrangement by deriving detailed flexibility requirements to be considered in a contract. It is designed to align business needs to IT needs and also provides decision support for estimating the fit of the delivery model of the vendor vs. expectations of the customer. Using this approach adequately might lead to a better understanding of flexibility options for customers and vendors that will eventually translate into better client-vendor relationships and thus, more successful outsourcing arrangements.

Although offering a promising approach for designing flexible IS outsourcing relationships some limitations have to be taken into consideration. This research follows a qualitative design and derives implications and design options from selected empirical data gathered in qualitative expert interviews. As the artefact is not derived from a theoretical model in a positivistic sense, we rather chose an inductive, interpretative approach. In future research a thorough content analysis and evaluation of the artefact need to be done on a large empirical basis in order to derive and substantiate dimensions of flexibility requirements. To prevent overloading the assessment tool, we also need to prioritize the aspects and dimensions included in the tool. The completeness and adequacy of these dimensions as well as the applicability, reliability and validity of the instrument will have to be validated empirically as well as usage and benefit of the artefact. From this substantiated basis developing a theoretical model of the fit between those requirements and relationship management in outsourcing will have to be developed. Such a theoretical model will also help to prioritize the dimensions.
References


