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Dynamics of service definitions—An explorative case study of the purchasing process of professional ICT-services

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ABSTRACT

Recent studies on buying services have shown that service specifications and agreements present an ongoing process in which service definitions evolve through buyer-service provider interactions. In the case of professional ICT services this interaction process is far from clear. Many organizations have been confronted with failing ICT projects, financial losses, and less-useable software and services. We investigated the procurement of professional ICT services in which stabilization and destabilization of specifications contributed to a successful sourcing process. We find that service definitions change during the purchasing process, induced by dissatisfaction about the current supplier, by new information from suppliers (market consultation), and by the need to clarify specifications for potential suppliers. Changing service definitions can be seen as 'business as usual' with collaborative suppliers. The results of this study indicate that relational governance plays a critical role in the purchasing process, supplemented by contractual governance. Contracts explicitly allow for adaptations of specifications within the agreed framework, stimulating and facilitating innovations and improvements by suppliers. This study challenges overoptimistic confidence in contracting, particularly performance-based, since specifications (including outcomes) cannot be agreed upon up-front in the case of professional ICT services.

1. Introduction

ICT projects are often frustrated by the well-known and rising problem of 'shelfware', which refers to under-utilized or abandoned software (McCafferty, 2013). Consequences of IT project failure include disruptions to daily operations and significant financial losses. Industry surveys claim that only half of all ICT outsourcing projects are successful (Gefen et al., 2008). Many large public sector IT projects have cost too much, taken too long, or failed to deliver the promised benefits (Budzier and Flyvbjerg, 2012). A study of 1,355 public sector projects indicated that ICT projects are particularly risky (Budzier and Flyvbjerg, 2012). A failure to focus on users and attempts to build a 'perfect' system are responsible for much of the waste. These alarming figures underscore the need to give due attention to ICT services requirements and the appropriate selection and management of ICT suppliers.

Different ICT services require different purchasing strategies (Fink et al., 2013). The procurement of software-based ICT services is relatively easy compared to the procurement of knowledge-based ICT services. The focus of our study is on the troublesome knowledge-based ICT services i.e. professional ICT services. As with other professional services, they are complex and entail a high level of risk and uncertainty for the customer (Homburg and Stebel, 2009). Buyer–supplier interaction plays a critical role in defining professional ICT services (e.g. Frey et al., 2013). However, service definitions are traditionally restricted to the specification stage (e.g. Fitzsimmons and Fitzsimmons, 2010). Still, buyer firms are not always in the position to define their services up-front (e.g. Ellram et al., 2007). Recent studies have acknowledged the dynamics in developing service definitions (e.g. Selviaridis et al., 2011; Selviaridis and Spring, 2010; Van der Valk and Rozemeijer, 2009). Service definitions seem to change according to a cyclical process of becoming destabilized and then being stabilized again (Lindberg and Nordin, 2008). Selviaridis et al. (2011) have investigated when, how, and why service definitions destabilized and stabilized again in a specific service industry (logistics). Similar dynamics are likely at play during the specification of professional ICT services. Moreover, allowing the (de)stabilization of these services might contribute to the usability and quality of these professional ICT services.

In order to describe and explore the (de)stabilization of professional ICT service specifications, a case study has been conducted on the purchasing process of professional ICT services in the Netherlands. We examined the changing of service specifications over time by ProRail, a public service for rail transport. The case study involved semi-structured interviews with key respondents, which were employed by the buying company, the supplier, and independent consultants. Furthermore, this study draws on extensive

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documentation (78 documents). The leading research question is: how, why, and when are professional service characteristics (re) defined during the sourcing process? The study links contractual and relational governance to the process of (de)stabilization of professional ICT service specifications. The study intends to contribute to our understanding of the interplay between contractual and relational governance in the procurement of professional ICT services.

This paper is organized as follows. First, we present the results of the theoretical background of our study that is based on the developing theory on service definition dynamics (e.g. Selviaridis et al., 2011), and contractual and relational governance (e.g. Poppo and Zenger, 2002). Then, we discuss the research methodology, followed by the presentation and discussion of the results of the case study. The final section presents the conclusions and implications.

2. Literature background

2.1. Professional ICT services

Professional services are complex, and accompanied by many uncertainties (Homburg and Stebel, 2009), which requires an ongoing buyer–supplier interaction (Van der Valk and Rozemeijer, 2009). Professional services include many different areas, such as accounting, consulting, advertising, engineering, legal issues, and ICT services. The procurement of professional ICT services is especially troublesome, considering the well-known problems and failures of many ICT projects. The buying company might not have the expert knowledge to formulate the specifications of the required professional ICT services. Organizations may not recognize their own needs regarding business ICT services, due to the lack of adequate expertise inside the organisation (Hirvonen and Helander, 2001; Von Nordenflycht, 2010).

Services differ from goods in four generic characteristics: intangibility, heterogeneity, inseparability of production and consumption (simultaneity), and perishability (Zeithaml et al., 1985). Professional services are services based on the knowledge and expertise of a professional (Von Nordenflycht, 2010; Hirvonen and Helander, 2001). Professional services need to be delivered by (individual) experts with adequate knowledge and experience, which is critical to the quality of the service, as is the case with professional ICT services. Diagnosing the problem and formulating goals are part of the service provision (Gummesson, 1978). Professional work and complex service work tend to have discretionary task completion (Hopp et al., 2007). Professional services require judgement to determine how a task can or must be completed. The management and control of professional service raises important questions, such as 'what are appropriate measures of productivity?' and 'how do learning and collaboration affect performance?' (Hopp et al., 2009).

2.2. Purchasing professional ICT services

Purchasing professional services is typically represented by means of a process model which prescribes specific stages in a certain sequence. This service sourcing process starts with the step 'service specification', followed by 'supplier selection' and 'contract agreement (with service delivery)'. These initial stages are also known as tactical purchasing. The service sourcing process is completed with 'service implementation' and 'service measurement' (Fitzsimmons et al., 1998). The stages are very similar to the generic purchasing process model in which activities are ordered and labelled as specification, supplier selection, contracting, ordering, expediting, follow-up and evaluation (e.g. Van Weele, 2010). Much of the literature restricts service definition tasks to the specification stage of the purchasing process (e.g. Selviaridis et al., 2011; Ahlstrom and Nordin, 2006, Fitzsimmons and Fitzsimmons, 2010). Apparently, developing service definitions is restricted to the first stage of this process model. Up-front specifications are believed to facilitate performance evaluation (Ellram et al., 2007). A comparable reasoning can be found in advocates of performance-based contracting. Performance-based contracts specify the desired outcomes, while renouncing interference on how the services should be delivered or which resources should be used (Kim et al., 2007). The main benefit of such incomplete contracts are the flexibility and the responsibility that are rendered to the supplier. Performance-based contracting appear to be increasingly adopted by practitioners (e.g. Hypko et al., 2010; Sumo et al., 2014). A recent literature review on performance-based contracting seems to confirm the trend towards performance-based contracting and a growing number of scientific publications on the topic (Selviaridis and Wynstra, 2015).

The traditional purchasing process model marks a sharp distinction between the specification phase and the phase of selecting a supplier. The implication is that, once a supplier is selected, based on the decisions about the specifications, the specifications will not change after completing the specification phase. Only those aspects of the service definition that are necessary for selecting a service provider will be included in the contract. However, buying firms may be unable to come up with detailed and complete specifications (Ellram et al., 2008). In cases of professional services the specification phase requires frequent interaction (Van der Valk and Rozemeijer, 2009). We theorize that certain aspects of the service definition can only be meaningfully addressed after the selection of the service provider.

2.3. Service definitions dynamics

Service definitions can be described as input-oriented definitions (supplier's resources and capabilities), process-oriented definitions (how the service is produced), function-oriented definitions (service functionality and output), and outcome-oriented definitions (economic value in monetary terms) (Axelsson and Wynstra, 2002). Considering the problems with developing complete specifications, many purchasing professionals prefer more result-oriented procurement strategies, such as performance-based contracting (Kleemann and Essig, 2013).

Creating detailed specifications can even be considered undesirable, especially as the requirements may change during the project period. A major consideration in selecting and contracting is the extent of expected changes in specifications. A well-known risk in ICT projects are the unforeseen contingencies related to changes and additions to the original specifications during the project (e.g. Gefen et al., 2008). Extant literature suggests that much buyer–supplier interaction is needed for the specifications of professional services, including ICT services. Initial service definitions are likely to be refined through the specification and selecting stages of the purchasing process model (Van der Valk and Rozemeijer, 2009). Service specifications are temporarily stabilised and destabilized through buyer–supplier interactions (Lindberg and Nordin, 2008; Selviaridis and Spring, 2010; Selviaridis and Norrman, 2014). A service might be defined in an iterative process, where the specifications are temporarily stabilised in the contract, but are again destabilised as business requirements evolve (Selviaridis and Spring, 2010). In their study on logistics services, Selviaridis et al. (2011) found that service definitions are adapted continuously during the purchasing process through a cyclical process of defining and redefining the services. In addition, the focus varies between different features (functions, processes, outcomes, resources required) of the services. Service definitions appear to be initially relatively open or unstable and become gradually more closed and stable at specific times during the purchasing process. We expect