Sourcing Requirements and Designs for Software as a Service

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ABSTRACT

Software as a Service (SaaS) has become an important pragmatic in the world of enterprise software and business services markets. SaaS supports the concept of outsourcing where business processes are offered under a service level agreement for a given price. However, sourcing SaaS may not always involve outsourcing with respect to the transfer of internal activities and resources to external service providers. Users of SaaS need to know what strategies to use when determining sourcing requirements. In this paper, the authors develop a classification for sourcing SaaS based on Kraljic’s matrix and a mapping of SaaS services to the sourcing structures. Further, they evaluate the proposed sourcing models against two real world case studies.

KEYWORDS

Kraljic’s Portfolio Approach, Software as a Service, Sourcing, Sourcing Models

1. INTRODUCTION

Traditionally Software is perceived as a product. The transition from software-as-a-product to software-as-a-service is reflected in the distribution of software (Spohrer et al. 2007). SaaS is a software delivery model in which an application is offered as a service to customers delivered through the Internet (Dubey and Wagle, 2007; Gold et al., 2004). SaaS offers opportunities for organizations to shift the risks of software acquisition, and to move IT from a reactive cost centre to being a proactive, value-producing part of the enterprise (Carraro and Chong, 2006). The adoption of SaaS means that the business and IT functions have to deal with external service providers. This requires making sourcing decisions and the involvement of the purchasing function (Benlian and Hess, 2010). While external sourcing of services and IT is not new (for example, helpdesk support), the external sourcing of software services is. This raises the question to what extent existing sourcing approaches can be used for SaaS and what are specific sourcing requirements for SaaS. Moreover, to benefit from SaaS, the sourcing has to be performed in an effective and efficient manner. This requires a close cooperation between the IT function and the purchasing function (Venkatachalam et al. 2012). This means a thorough understanding of SaaS by the purchasing function, in particular the sourcing requirements for the specification. It also requires more informed IT functions with respect to the different sourcing design options. It is too simple to assume that software services are sourced fully from arms-length providers, that is, in a context where the parties to the transaction are independent and on an equal footing.

Today, business software is no longer developed as a single system, but rather as a smart combination of so-called software services. Each of these provides a self-contained, specific and
relatively small piece of functionality, which is typically accessible through the Internet from internal or external service providers. This raises the issue of sourcing these services. Further, users of SaaS need to know what strategies to use when determining sourcing requirements.

To the best of our knowledge, there are no standards or models for dealing the sourcing process in SaaS. In this paper, we propose a classification for sourcing SaaS based on Kraljic’s matrix (1983). It is our belief that this framework allows us to map different sourcing models for services. The salient contributions of this paper are as follows.

- A classification for sourcing SaaS based on Kraljic’s matrix
- A proposal of sourcing structures for SaaS in strategic, tactical, and operational levels
- Mapping of SaaS services to the sourcing structures

The remainder of this paper is organized as follows. In Section 2, we present the adopted research methodology. Section 3 describes the sourcing requirements for SaaS, and associates key characteristics of SaaS with these sourcing requirements. Section 4 discusses related work in the field of procurement and sourcing in general and compares that with SaaS sourcing. In Section 5, we describe a classification of SaaS model based on Kraljic’s matrix and map it with different sourcing models for services. We evaluate the proposed sourcing models against two real world case studies in Section 6, followed by conclusions in Section 7.

2. RESEARCH METHODOLOGY

The rise of Software as a Service affects the sourcing processes and decisions on a number of aspects, including functionality, cost, quality, and others. In order to supply organizations with tools to cope with SaaS, it is important that we search for guidelines to source these services. Since procurement and sourcing are well-established fields of research and practice, we tried to find suitable guidance and tools from these fields for sourcing SaaS. As there were no suitable sourcing models of SaaS available, we reuse and adjust existing tools to fit the requirements of SaaS.

In the first phase of our study, we analyze the distinctive features of SaaS and the way these impact sourcing. The analysis leads us to conclude that existing instruments, such as Kraljic’s matrix (Kraljic, 1983), require enhancements in order to be used for sourcing SaaS.

In the second phase, we evaluate our proposed model based on multiple case research approach (Yin 2013). The research is based on studies made over sourcing SaaS at two organizations: SmartCell and ABC Bank. A uniform and standard data collection methodology was adopted in each case which included a standard questionnaire, review of projects documents (to confirm and complete gaps) and key staff interviews (2-3 key personnel at different designations including General Manager, Consultant, and Chief Information Officer). Interviews were conducted face-to-face, in the regular setting of the respondents. Based on interview transcripts a case study report was developed. The case study report was distributed and discussed with the interviewees to gain feedback and verify the correct understanding. Thereafter, data filtration was being performed according to the validity and relatedness of the collected data to the research objective. These case-studies carefully examine the different settings of sourcing policies and practices for SaaS in diverse setups.

3. IMPLICATIONS OF KEY CHARACTERISTICS OF SAAS FOR SOURCING REQUIREMENTS

The SaaS approach may be viewed as a combination of the concepts of application service provision (ASP) and outsourcing (Laplante et al., 2008). Although SaaS appears similar to ASP (renting software applications from another organization), it differs in the provision granularity and tenancy.
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