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A Framework for Enabling Service Configuration Decisions: the Case of IT Outsourcing Providers

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Abstract

Outsourcing has received extensive attention over the last several years, as a key business trend enabled by businesses’ financial pressures, advancements in information technology, and new organizational orientations. Information Technology (IT) outsourcing, in particular, has emerged as a vital option for cost control for many organizations that cannot afford the required resources and capabilities for managing IT platforms in-house. Hence, a successful IT outsourcing provider is one that can organize its resources/capabilities into tailored service configurations that are valuable to its clients. By combining basic principles of Service Science, Resource-based Theory and Dynamic Capabilities Theory, we developed a conceptual framework for classifying IT outsourcing configurations (i.e. service offerings) in order to help IT outsourcing service providers make informed decisions about which capabilities to develop or improve upon, for different client needs, which inevitably results in different value creation processes. The framework is presented as a 2x2 classification matrix of outsourcing configurations, along with details for one of these, by using the e3-value ontology. We conclude this paper by discussing a practical application of our approach and briefly describing our future research directions.

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Keywords: Service Science; service configuration; service value co-creation; IT outsourcing services

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1. Introduction

Outsourcing has received extensive attention over the last several years as a key business trend, enabled in part by businesses’ pressures for cost control, advancements in information technology, and new organizational structures.

Information Technology (IT) outsourcing, in particular, has been in the spotlight, but not always in positive terms. Contract renegotiations (and even terminations) for such services are not a rare event. Beyond case-by-case business reasons, (Lacity et al., 2009) indicate that there are certain common issues that arise in problematic IT outsourcing situations, such as the difficulty for IT outsourcing providers to define the right combinations of resources and capabilities that can lead to successful service configurations.

The task of formally understanding services and service configurations has recently been the focus of a new academic field: Service Science. This emerging discipline considers organizations to be dynamic service systems that integrate acquired resources with their own, in order to create service offerings. In the IT outsourcing realm, this implies that an IT outsourcing provider (a service system) exchanges resources, skills and competences with partners and suppliers (other service systems) in order to deliver an integrated service offering to a client. These co-production activities result in value co-creation for all parties involved, as captured by the configurations of resources and capabilities.

Our research efforts are rooted in the Service Science logic and aim to address a number of questions related to key business decisions: what are the drivers for configuring the services that an organization offers? How can then resources and capabilities be combined? In order to address these questions, we aim to conceptualize how different classes of capabilities relate to different outsourcing configurations and which matches have the potential to act as sources of competitive advantage. The end goal is to develop a framework for different resources/capabilities configurations (i.e. service offerings) for helping service providers make an informed decision on which capabilities to develop or improve for different client needs, which inevitably results in different value creation processes.

Such an approach can be of particular interest to IT outsourcing providers as it relates to key business decisions they should make. As an application field of our research, IT outsourcing providers may benefit by gaining a better understanding of their value propositions to clients, allowing them to tailor their capabilities to the specific requirements of the various sourcing projects they are engaged in.

The remainder of this article provides details of our thinking and our initial research findings. In Section 2, we review research efforts that relate to key fields that form the basis of our work: a) Service Science; b) Resource-based Theory (RBT) and theory of dynamic capabilities; and c) IT outsourcing. We then describe our proposed framework (Section 3), along with an indicative application scenario for an IT outsourcing provider (Section 4). Finally, in Section 5, we provide key conclusions and comment on future research directions.

2. Literature Review

2.1. Service Science

Service Science’s key concept is the service system: a dynamic configuration of people, technologies, and resources connected to other service systems through value propositions (i.e. services). Hence, a service offers access to a service system’s resources. This implies that service systems are resource integrators that transform internal and market-acquired resources (knowledge and skills) into service offerings that have value for themselves and others.

(Vargo et al, 2008a) take this statement a step further by defining service system-based value in terms of a system’s adaptiveness or ability to collaborate through value propositions. In other words, value creation in service systems is a co-creation process characterized by recursion and collaboration.

Recursion is exhibited by the following activities:

- A service system develops and offers services (i.e. value propositions)
- Value propositions are acquired by other service systems, defined as service users (value-in-exchange)
- Service users consume these external, acquired resources and combine them with internal resources for use in their own value creation processes (value-in-use).
Beyond understanding the concept of value co-creation, the challenge is how to best manage the value co-creation process. (Chen et al, 2008) identify and analyze three factors that are critical to managing this process: the instilling of the value co-creation concept in the service system; the balancing of innovation and commoditization dynamics; and the configuration of core resources in the service system (i.e. people, technology, organization and shared information).

Hence, the model of competition within the context of service science is linked to efforts made by service providers to improve the management of the value co-creation process better than other service providers can do (Mele & Polese, 2011). Within this logic, the ability of an IT outsourcing service provider to create value for its clients does not only arise from its core and distinctive resources but also from its capabilities to match these resources with acquired ones, in order to create new service offerings by exploiting different resource configurations (Joshi & Chebbiyam, 2011). At the same time, IT outsourcing client involvement, even in the simple form of merely selecting an outsourcing service offering, is equally important for value creation in a B2B contract.

2.2. Enterprise resources and dynamic capabilities

In business management literature, the resource-based theory (RBT) of the firm has been proposed for explaining an enterprise’s ability to stay ahead of competitors in turbulent and uncertain environments by looking at unique configurations of resources inside and outside the firm (Rolland et al., 2009) (Seppanen & Makinen, 2010).

The RBT argues that enterprises can achieve a competitive advantage as long as these resources fulfill the VRIN conditions, i.e., they must be valuable, rare, imperfectly imitable and non-substitutable (Barney, 1991). Other scholars build on this conceptualization and argue that resources are “a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness” (Rolland et al., 2009). However, a mere focus on the VRIN conditions is not sufficient in dynamic market environments. Hence, enterprises need capabilities that enable them to sustain and adapt their interoperability value propositions. These capabilities are called dynamic capabilities and can be drawn from the Dynamic Capabilities Theory (DCT) (Winter, 2003) (Teece, 2007).

Dynamic capabilities are the abilities of an organization to integrate, build and reconfigure existing capabilities and resources as well as external competences to address rapidly changing environments (Eisenhardt & Martin, 2000). Other authors define a dynamic capability as the capacity of an organization to purposefully create, extend, or modify the tangible, intangible, and human resources which an enterprise owns, controls or has access to (Helfat et al, 2007). Thus, dynamic capabilities include the capacity to identify the need or opportunity for change, formulate a response to such a need or opportunity, and implement a course of action (Helfat et al., 2007) (Teece, 2007).

2.3. IT outsourcing

There are several approaches for classifying IT outsourcing relationships, as defined in the relevant research literature. (Kern & Willocks, 2002) defined four main types of IT outsourcing relationships along two dimensions: “strategic intent” and “technical capability.” The resulting possible relationships are: Technical Supply Relationship, Business Service, Business Alliance and Technology Partnering.

Based on the notion that outsourcing relationships are not static but change and evolve over time, (Kishore et al, 2003) classified outsourcing relationships into four types: support, alignment, reliance, and alliance. Such a classification can be used to depict both static and dynamic aspects of client-provider relationships, as well as examine an organization’s changing outsourcing relationships over time within or across the four relationship cells.

These classification approaches although useful for a more systematic understanding of outsourcing arrangements are single-sided, as they classify outsourcing arrangements from the client’s perspective only. As the field of IT outsourcing has become more diversified, it becomes necessary to highlight both the service provider’s perspective as well as the capabilities it needs to possess to comply with the needs of its clients (Lacity et al, 2009). Overall, it is access to these capabilities and the service provider’s service configurations that influence a client’s decision to engage in an outsourcing contract (Joshi & Chebbiyam, 2011).
3. Our proposed framework for service configuration decisions

Based on its definition, a service system is characterized by: a) the capability to acquire, process, integrate and, in general, exploit own and acquired resources; b) the properties of these resources (e.g. functional dependencies, usage rights, etc.)

These characteristics led us to the development of an initial version of our service configuration framework, shown in Fig. 1.

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<thead>
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<th>Capabilities</th>
<th>Combined resources</th>
<th>Dependent resources</th>
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<td>Dynamic capabilities</td>
<td>Coordination-focused</td>
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<tr>
<td>Commodity capabilities</td>
<td>Project-focused</td>
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Fig. 1. Our proposed framework for enabling service configuration decisions

In terms of capabilities, we adopted the relevant research findings of (Cepeda & Vera, 1007) and (Palvia et al., 2010). We then defined two capability categories: commodity and dynamic. Commodity capabilities are capabilities needed for the day-to-day operations of an offered service, and thus they are easy to replicate or imitate. On the contrary, dynamic capabilities relate to the creation of unique advantages for an organization, are more strategy-focused, and may be more difficult to replicate.

Regarding resources and resource properties, we focused initially on the degree of functional dependencies among resources managed by a service system (i.e. service provider), which can be a good indicator for the uniqueness of a service configuration. We defined two resource categories: combined and dependent.

Combined resources are resources that are not functionally dependent among themselves. This means that a service configuration can be easily developed by selecting among similar resources from a multiplicity of sources. This flexibility, however, may come at the expense of differentiation in the market. On the other hand, dependent resources are functionally dependent among themselves. Their pros and cons are the opposite of those characterizing combined resources.

In our model, service configurations stem from the approach that the service provider selects, based on:

- combinations of the above categories of capabilities and resources
- forms of value co-creation, based on these combinations.

As a result, there are four generic types of service configurations/service provider approaches: project-focused, coordination-focused, customization-focused, and new service development-focused.

In a project-focused service configuration, the service provider (a service system) contributes and acquires resources on an ad-hoc, transactional basis. Contracting costs, partner coordination costs and structural risks are minimal, as service configurations in this category correspond to an assembly of resources for developing a basic or commodity service. Specific investments in value co-creation processes or development of proprietary resources are kept at a minimum, as switching costs for all service systems involved are minimal. As a result, the main value co-creation parameter that drives this category of service configurations is revenue sharing.
Coordination-focused service configurations signify an assembly of resources that is complemented by cooperation among service systems for better fit of resources, for joint marketing of the service configuration, etc. This implies that value co-creation is not simply about revenue sharing; it further includes minimal process coordination and agreed rules of engagement among service systems participating in the development of such a service configuration. Unlike the previous category, a single service system may take a leading role, as a coordinator, thus defining the terms of process coordination and the goals of the design, implementation and operation of the service configuration. Similar to the previous category, the focus of developing such a service configuration is primarily on optimizing internal goals and operational costs.

Service providers that engage in customization-focused service configurations aim to capitalize on own and acquired resources that can be integrated, leading to functionally dependent resources that address specific customer needs. The resulting service configuration is thus heavily driven by external needs and requires flexibility, quality orientation and a higher sense of cooperation among service systems involved in its development. In this category, value co-creation implies a potentially high cost of resource integration and a more sophisticated mechanism of revenue sharing (compared to project-focused service configurations).

Finally, for New Service Development-focused service configurations, service systems engage in value co-creation activities for innovating through knowledge acquisition and transfer, joint product and service development, and access to highly skilled personnel and competences. For developing such service configurations, it is inevitable to exploit economies of scale, since partners have to address various organizational and managerial constraints on cultural differences, team building and the development of contractual agreements. Value co-creation opportunities in this category can be exploited to their fullest, by enabling mutual access to best-of-breed competences and resources of all involved service systems. To ensure proper alignment and avoid opportunistic behavior, one or more service providers may have a leading role, e.g. in developing formal policies or guidelines for engagement in value co-creation activities.

4. Our framework in action: the case of IT outsourcing

For illustrative purposes, we present below a New Service Development-focused outsourcing configuration example (see Fig. 2). As part of our research work, we used the e3-value ontology (Gordijn & Akkermans, 2003) for formally depicting value co-creation activities.

The IT outsourcing service provider offers the business service Manage Client Application, which provides a highly specialized and tailor-made software application (e.g. knowledge processing application). The service provider’s strategic intent is to work with partners on contracting, SSL certificate provision and ISP provision, while maintaining its distinctive resources in-house (such as hardware platforms, software applications, billing and customer service management). To achieve that, integration of partner resources is needed, along with necessary interfaces to clients that want to use the specific service.

For the service provider, the Manage Client Application offering reflects a New Service Development-focused configuration, as it results from a unique combination of specialized resources provided through value co-creation activities between the provider and its partners (i.e. access to specialized resources and competences, mutual trust, long-term agreements). The service consumer receives the co-created value of the integrated solution that results from the service partners’ value co-creation activities. In turn, the service consumer becomes part of the value co-creation activities, by engaging through customer feedback for improving the new service, by establishing long-term service agreements, thus exploiting to the fullest the service provider’s specialized integration of partner competences. All partners control the architecture of the configuration as a “decentralized offering”, while allowed to access each other’s knowledge, skills and competences. Switching costs for the IT outsourcing service provider are high, given the structural dependency with the resources of its partners.
Levels of commitment and trust are also high, which inevitably requires experience and leadership on the service provider side, along with formal policies for educating its partners for successful value co-creation. As partners work together, mutual trust and access to shared capabilities become key success factors to ensure that the service provider’s and its partners’ needs are aligned. For assisting trust development and successfully managing the long-term value co-creation activities with its partners, the service provider has established a specialized business unit called Partners Management.

5. Conclusions

Deciding about service configurations is a significant task for every service provider. The complexity of this task is compounded for business organizations that need to engage multiple partners for creating service offerings, such as IT outsourcing service providers. Our work is focused on exploring this complexity and its business implications. Our research effort capitalizes on back-to-basics thinking on resources and capabilities (resource-based theory, theory of dynamic capabilities), combined with leading-edge concepts from the emerging discipline of Service Science.

The initial result is the development of a generic framework for categorizing service configuration decisions. The key differentiator for each category is how value co-creation is managed. In project-focused configurations, value co-creation is limited to transactional exchanges of resources and revenue sharing from the offered service. In
coordination-focused configurations, a leading partner assumes a coordination role for minimal process cooperation. In both these categories, the focus of value co-creation is on optimizing internally imposed operational goals.

On the contrary, the two remaining service configuration categories are externally driven. Customization-focused service providers capitalize on own and acquired resources, thus highlighting resource integration as a key value co-creation task. New Service Development-focused configurations take this concept further, requiring that a service provider engages in value co-creation activities with other service systems for innovating through knowledge acquisition and transfer, joint product and service development, and access to highly skilled personnel and competences.

In terms of future work, there are a number of research directions that we are exploring in order to expand and enhance our current state of progress. A key issue to understand is the characteristics of resources that may affect the value co-creation process (beyond the functional dependencies, which our model currently accounts for). One such important characteristic is access rights: when service system A contributes resources to service system B, then A may impose certain restrictions or prerequisites on B for using its resources. For example, B may not be allowed to alter A’s resources in any way. Or, it may be required to pay royalty fees every time A’s resources are used. This, in turn, can have a significant impact on B’s decisions regarding the business viability of service configurations that it tries to create. Our work is currently exploring enhancements to our model, in order to account for usage rights.

In addition, we are working on the practical implementation of our model, by formally describing service configurations and related value co-creation processes. This necessitates the use of a standard service description language that captures service requirements in a uniform way. To that extent, we started using USDL (Unified Service Description Language) (Cardoso et al, 2009) for describing the resources that partners employ in different IT outsourcing configurations.

References


