

Chapter 7

Collaborative Business Service Modelling and Improving: An Information–Driven Approach

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ABSTRACT

In the context of globalization, the competitive advantage of each service enterprise depends greatly on the ability to use network architectures to collaborate efficiently in business services. The chapter aims at introducing an information-driven approach that provides a conceptual foundation for modelling effectively and improving incrementally collaborative business services. The chapter begins by presenting the necessity for and principles of the information-driven approach. Then it presents the business service foundation for the proposed approach that consists of three different dimensions: 1) service proposal, corresponding to the service value creation network level, 2) service creation, corresponding to the service system level, and 3) service operation, corresponding to the service level. The chapter continues with a discussion and review of the relevant literature, followed by the conclusion and suggestions for further research.

INTRODUCTION

Lately, the service sector has dominated modern economies and has grown rapidly worldwide (Spohrer *et al.*, 2007). Services mean opportunities, but enterprises that have been leading the

charge still lack a strong foundation for their work. In particular, there is still little research addressing the challenges of service design and innovation (Bitner *et al.*, 2008).

In order to succeed in a competitive world, enterprises need to transform from traditional businesses into networked businesses to become more competitive and effective in providing better

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products and services. One of the challenges faced by a network of enterprises today is the integration of its members, which is highly correlated to the ability to use network architectures to collaborate efficiently in business services.

Therefore, it is important to develop a thorough understanding and innovative approaches for designing, managing and improving collaborative business services (Le Dinh & Pham Thi, 2012).

As a matter of fact, traditional methods of service design often focused on designing services inside an enterprise (Bitner *et al.*, 2008; Gusta & Gustiene, 2013). To our knowledge, there is little focus on service design in the context of a business network that takes into account all the dimensions of service science. For this reason, our research focuses on providing a conceptual foundation for modelling and improving collaborative business services in a network of enterprises. We consider that information plays a crucial role in service systems and networks of service systems. In the service development process, information could be transformed into knowledge and this knowledge could be used and applied to provide added value to customers. For this reason, this paper proposes an information-driven approach based on shared information between and within service systems. The main contribution of the paper is to provide concepts and guidelines to facilitate the use and adaptation of service description languages and to specify different dimensions of collaborative business services.

This paper is structured as follows. First, the background and principles of the information-driven approach are presented. Thus, the paper

explains the information-driven approach according to its three dimensions:

1. Service proposal, corresponding to the service value creation network level,
2. Service creation, corresponding to the service system level, and
3. Service operation, corresponding to the service level.

A running example of collaborative business services in a travel and tourism network is explored. The paper continues with a discussion and review of the literature, followed by the conclusion and suggestions for future research.

INFORMATION-DRIVEN APPROACH

Background

Table 1 presents the concepts of the information-driven approach. In the proposed approach, service modelling starts with the service proposal stating *what* is offered by whom, and then continues with the service creation and service operation describing *how* these offerings are created and operated (Gordijn *et al.*, 2012).

There are three principal viewpoints: the *strategic viewpoint* focusing on value proposition and exchange of services and carrying out the service proposal; the *organizational viewpoint* focusing on information and carrying out the service creation; and the *technological viewpoint* focusing on knowledge and carrying out the service operation.

Table 1. The concepts of the information-driven approach

Viewpoint	Focus	Objectives	Dimensions	Level
Strategic viewpoint	Value	Service proposal	Management	Service value creation network
Organizational viewpoint	Information	Service creation	Science	Service system
Technological viewpoint	Knowledge	Service operation	Engineering	Service

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