Chapter VII

A Methodology for Model-Driven Service Engineering Based on IDEF

Introduction

Chapter II introduced universal service concepts (i.e. concepts that apply to any type of organization and service). In that chapter, we argued that services are so ubiquitous, that it is hard to think of any organization that does not offer services of some sort to internal (i.e., its own departments, divisions, employees) or external consumers (customers, partners). Yet, despite its ubiquity, a service is often hard to pinpoint and describe, even by its own providers. There are several reasons for this apparent difficulty to conceptualize a service, such as:

• Services are not tangible; unlike physical products, there are usually no tangible deliverables in a service.

• A service description is often intertwined with those of its constituting ingredients (i.e., the resources that are consumed by the service and the processes that deliver it). Nevertheless, services are conceptually distinct from both processes and resources as we shall see later on in this chapter.
• There are usually multiple organizational departments, staff roles, and other company actors that collectively deliver the service. Often though, none of them has a complete and accurate picture of the service.

• External resources or services may be employed as part of the overall service. This makes the service even harder to understand and describe due to these external dependencies.

Of course, one might question the need to have formal models of services. Without a doubt there are many organizations that deliver services to customers successfully, without ever having to create formal models of their services. This question essentially leads to a more general one: what is the use and purpose of formal business models and more precisely, computer-based formal business models.

Since the early days of computing, computer models of businesses with varying scope, granularity, and utility have been proposed. From the original data-processing applications to subsequent sophisticated material requirements planning (MRP), and then to enterprise resource planning (ERP) systems, computer models have been used to describe and automate the essential functions of an organization. Historically, modeling emphasis shifted from data processing to the modeling of the data itself, next to combined modeling of functions and data as objects and finally, to the modeling of complete sequences of business operations that together make up business processes. Methods such as SSADM, information engineering, the various dialects of object-oriented modeling and recent business process modeling languages such as BPN are the historical records of attempts to create computer-based organization models.

Business engineering is a term coined to describe the use of information technology as a tool to engineer an organization. Business engineering is inextricably linked to the creation and use of (formal) computer models of the business. Advocates of business engineering have proposed a variety of business-modeling methods and notations, with each approach offering unique strengths and weaknesses. Today, there exists a plethora of models, notations and methodologies for business engineering offered by software houses, IT, and business consultants. Some of them are an integral part of the software solution offered by the particular vendor. Others are more generic and can support several software tools and IT systems. This situation naturally begs the question as to which is the right model/method for business engineering.

In the context of this book, this question can be rephrased as “which is the right model/method for engineering a service-oriented organization” (i.e., for realizing its business services using IT).

Progress in business services engineering has taken place in a bottom-up fashion with the advent of technologies first for (Internet-based) e-services, which where then followed by the more standardized technologies of Web services (as discussed
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Michael Thieme (2013). Best Practices and New Perspectives in Service Science and Management (pp. 237-244).

www.igi-global.com/chapter/service-oriented-innovation-management/74996?camid=4v1a