Chapter 17
A Structured Test Approach for Service Concepts

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ABSTRACT

To assure new services attain a certain level of quality, services should be developed and tested systematically like products or software. In practice, this is rarely the case, especially in regards to the testing of service concepts due to appropriate solutions, processes, and methodology seem to be missing. In this paper, the authors propose an approach to how service testing can be realized in practice and present supporting processes, methods, and technologies for testing services in laboratory environments.

INTRODUCTORY REMARKS ON THE DEVELOPMENT OF NEW SERVICES

It is not unusual to come across a wealth of ideas for new services in companies. Where problems tend to arise is in deciding whether and how such ideas can be converted into competitive service products. Many service providers find themselves confronted with the particular problem to find suitable processes for the development of complex and professionally delivered services. The question arises in particular as to which specific activities need to be tackled during the development phase and what methods are available for this purpose.

New service development and service design began to find their way into the Anglo-American research literature in the 1980s, albeit at a somewhat rudimentary level. This situation has only recently changed as the topic has acquired growing practical significance (demonstrated by the increasing number of publications in this field, such as Edvardsson, Gustafsson, Kristensson, & Magnusson, 2006; Edvardsson, Gustafsson, Johnson, & Sandén, 2000; Fitzsimmons & Fitzsimmons, 2000; Cooper & Edgett, 1999). In parallel to this work, the term service engineering was coined in

the mid 1990s. In contrast to marketing-oriented new service development, service engineering entails applying the appropriately modified engineering know-how established in the field of classic product development to the development of services. Service engineering can thus be defined as the systematic development and design of services using suitable models, methods and tools. Since the first mention of service engineering, a wealth of experience has since been accumulated with proven methods and instruments (Salvendy & Karwowski, 2010; Spath, Bauer, & Dangel-maier, 2008; Scheer & Spath, 2004; Bullinger & Scheer, 2003).

In the area of developing new services, initial work focused narrowly on the creation of process models and methods. This entailed describing processes – often along the same lines as in traditional product development and software engineering – through which services could be developed from the original idea through the conceptualisation phase to market launch. Methods of achieving seamless customer integration, for example, or software platforms designed to support service development proved to be particularly interesting. Till today, most of the existing models for the development of new services are still on a more or less generic level without any descriptions of detailed activities necessary for a successful development (Kim & Meiren, 2010).

TESTING OF SERVICES

When looking at processes for new service development, it can be observed that models discussed in the literature mostly include elements such as opportunity identification (e.g., idea generation and evaluation), customer understanding (e.g., requirements collection), concept development (e.g., definition of service levels, processes and resources), refinement and implementation (e.g., training, market launch) (Kim & Meiren, 2010). It becomes obvious, that only a few models include

special steps for testing new services before their market introduction and a study among 202 German companies reveals that concept development is typically the most time-consuming activity and only less than 15 percent of developing time is spent for testing new services (Meiren, 2010). This is remarkable in view of the fact that systematic testing offers a good opportunity to integrate a last feedback of stakeholders (customers, management, employees, etc.) and to make important final adjustments before going public with new services.

As in product or software development, an extensive test phase could be seen as a relevant factor for market success in service development. A proficient development process which ensures proper adjustments before market launching is considered as one of the major success factors in new service development (Jimenez et al., 2006). Moreover, it is well known that the costs associated with testing and adjustment after market launching is much higher than those before market launching. In the case of physical products, the former is estimated to be about one hundred times higher than the latter (Evans & Lindsay, 1993).

However, if one looks for detailed descriptions of the testing of services, it quickly becomes apparent that there seemed to be nearly a complete lack thereof. The main reason cited for this discrepancy is that the immaterial characteristic of services offers comparatively few starting points for testing on a large scale. A glance at business practice confirms that service testing tends to be neglected, even though several examples can be found of methods employed by a minority of companies to overcome this problem (Meiren & Barth, 2003).

- Conceptual tests: The company verifies the consistency and plausibility of the service documentation (e.g., business plans, process models, training material). Apart from a few exceptions (e.g., process simulations), these activities are usually restricted

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