Chapter VI

Potential Roles for Business-to-Business Marketplace Providers in Service-Oriented Architectures

Markus Lenz and Markus Greunz
University of St. Gallen, Switzerland

ABSTRACT

The chapter introduces the concept of a service-oriented architecture and assesses its applicability to business-to-business (B2B) marketplaces. In order to provide substantial value to their members, marketplaces have to offer a comprehensive service offering which aims to support all phases of the transaction process. Building up such a service offering is not a one-time effort; electronic B2B marketplaces will have to evolve their service offerings continually and adapt them to the ever-changing needs of the companies they serve. Therefore, instead of trying to create such an extensive service offering on their own, we argue that B2B marketplaces have to make use of partnerships with specialized service providers.

They can make use of the speed and scale of such a collaboration of specialists only by partnering (Ernst et al., 2001). This view of B2B marketplaces as integrators of services from multiple parties puts some new demands on architectural issues of the marketplaces. A service-oriented architecture may help to cope with these new demands. To test this view, a survey among European B2B marketplaces has been conducted in order to match their service development and their needs with the characteristics of a service-oriented architecture and the potential roles that marketplace providers can play in such a concept.

INTRODUCTION

Currently, B2B marketplaces are expanding the scope of their services. While the core matching services that were at the center of attention in the beginning of the evolution of B2B marketplaces are still relevant, they have to be supplemented with services from such diverse areas as logistics, finance, collaborative design or quality assurance. A technological infrastructure that enables the necessary alignment of business needs and technological requirements will be critical for the success of B2B marketplaces (Alt & Fleisch, 1999). From this, we derive two main hypotheses. First, B2B marketplaces will rely heavily on specialized service providers, in order to be able to provide this wide array of services. In addition, they will have to redefine their own role. To examine this hypothesis, we surveyed a large number of European B2B marketplaces in mid- 2001, and have been asking them about their use of service providers in key service areas.

Second, a service-based architecture — built upon standards as envisioned by the Web services concept — is required for marketplaces to coordinate and integrate services from multiple service providers into a flexible and extensive service offering (Gottschalk et al., 2002). This allows marketplace providers to define their roles in a new way. This hypothesis has been tested by analyzing the current body of literature on service-based architectures and by examining its applicability for B2B marketplaces.

THEORETICAL FOUNDATIONS

According to Schmid (1999), electronic markets are media that foster market-based exchanges between agents in all transaction phases. He distinguishes information services, intention services, contracting services and settlement services. These service areas must be subsumed under the umbrella of a shared context, or "logical space," outlining the roles and protocols of the interacting parties. In a similar way, Bakos discerns three main functions of a market: matching buyers and suppliers, facilitation of transactions, and the institutional infrastructure, which

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