



The Evolution of B2B E-Services from First Generation E-Commerce Solutions to Multichannel Architectures

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ABSTRACT

Although e-services have been recognized for their contribution to strengthening customer relationships and fostering customer loyalty, prior research is heavily skewed toward the field of business-to-consumer interactions and online retail channels. This article explores the evolution of e-services in the business-to-business domain. Based on the case study of ETA SA, a Swiss manufacturer of watch movements and components, it identifies three stages of increasing electronic interaction with customers. The company pioneered online ordering of watch spare parts based on a first generation e-commerce solution and subsequently introduced a comprehensive customer service portal. Our research suggests that moving from the e-commerce solution to the customer process portal involved a significant extension of the e-service portfolio (service innovation), whereas the subsequent stage introduced an additional electronic channel (channel innovation). Every stage in this evolution path forces companies to substantially re-architect their interorganizational process and system linkages. From the experiences of ETA SA, we conclude that a service-oriented multichannel architecture makes it easier to cope with the growing number of e-services and the complexity of serving multiple electronic channels.

Keywords: *business-to-business (B2B); case study; customer process portal; customer service; e-services; e-shop; electronic business; electronic commerce; multichannel architecture; Web-based systems*

INTRODUCTION

Progress in information technology (IT), and more specifically the emergence of the Internet, is considered a major accelerator in realizing closer forms of collaboration between business

partners. On the customer side, the electronic channel has proved valuable in offering supplementary self-services that are information-based and need not be colocated with the product (e.g., Day & Hubbard, 2003; Piccoli et al., 2004). In

fact, many companies report closer customer relationships and improved operational efficiencies in their customer-facing or downstream processes (Chen & Chen, 2004). While the literature on electronic services is heavily skewed toward the business-to-consumer (B2C) field and focuses on online retail channels (e.g., Madlberger, 2006; Palmer, 2000; Piccoli et al., 2004), the specificities of business-to-business (B2B) interactions have attracted less attention so far. These interactions tend to be more complex in nature because they often imply trading sophisticated bundles of goods and services in mid- to long-term business relationships. Thus, traditional mechanisms for customer service in industrial markets such as large (and expensive) field forces and customer support centers will tend to be complemented rather than replaced by self-service strategies (e.g., Archer & Yufei, 2000; Merrilees & Fenech, 2007; Wilson & Daniel, 2007).

In the literature, the term "e-services" is sometimes used as a synonym for Web sites (van Riel, Liljander, & Jurriens, 2001), and many studies assess e-service quality based on factors like Web site esthetics, accessibility or reliability. Recent studies (Otim & Grover, 2006; Piccoli et al., 2004) adopt a more differentiated view and distinguish several functional classes of Web-based services. In the context of our research, e-services denote services which are delivered using electronic channels, most frequently the Internet. Interestingly, many e-services that once were a source of differentiation, like online product configuration or parcel tracking, become state-of-the-art functionality over time. This phenomena has been described as the emergence of a dominant design by Piccoli et al. (2004). However, little research has explored how the preferences for e-services and electronic channels change over time as a result of developing technology and evolving customer requirements. Previous studies in this field, for example, by Yeung & Lu (2004) and Piccoli et al. (2004), focus on the evolution of commercial Web sites. They do not take other electronic interaction channels into account which are of particular relevance in industrial

markets. This article takes on the particular challenges of business-to-business e-services and explores the following questions:

1. How does the e-service portfolio as well as the nature of electronic interaction evolve over time?
2. In which way does the evolving e-services portfolio impact the process and integration architecture of an enterprise?

Because there has been little conceptual and empirical research on the evolution of e-services and the implications for organizational and IS design, our study is exploratory in nature. We adopted a case study research method which is particularly suitable for understanding phenomena within their organizational context (Benbasat, Goldstein, & Mead, 1987; Eisenhardt, 1989; Yin, 2002). As case site, we chose ETA SA, a manufacturer of watch movements and components, which launched one of the first e-shops targeted at B2B customers in Switzerland and today is successfully interacting through electronic channels with 80% of its global customer base. Based on a longitudinal case study, we explore different stages of electronic interaction with customers and deduce the future need for offering electronic services using both direct and portal-based electronic channels.

This article is structured as follows: Following an introduction to e-services and the role of electronic channels, this article goes on to outline typical issues in implementing higher levels of process integration with external partners and the convergence of internal and external integration technologies. Then, the research approach and the research methodology are discussed. Next, the case of ETA SA is introduced: The firm is successfully offering e-services through a customer process portal, but is confronted with some class of customers demanding higher levels of process integration. In order to offer electronic services via different channels and to satisfy the requirements of each customer segment, ETA conceives a multichannel architecture, which is presented in detail. The final part of the article identifies

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