Chapter 2
E–Marketplaces: Taxonomy of the New Collaborative Information Platform

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ABSTRACT

This chapter provides a review of the historical evolution and development in the field of Electronic Marketplaces (EMs) and explores the classifications of EMs. The authors employ a systematic approach to propose a comprehensive definition of EMs and their application with reference to recent advances in the study of EMs. Based on the review of the most cited definitions of EM in the literature of the past three decades, we propose a comprehensive definition of EM in this chapter. This chapter also identifies several classifications of EMs. There is a gap in the literature for a multi-dimensional classification system of EMs. Therefore, for the purpose of further exploration of the notion of EMs, this chapter provides an explicit review of the different classification models of EMs and presents a nine-dimensional taxonomy of EMs. The chapter concludes with a discussion of the future trends in the field of EMs and a chapter summary.

INTRODUCTION

The development of Electronic Marketplaces (EMs) is tightly linked with the advancements in telecommunication technologies and collaboration platforms. The roots of EM can be traced to the mid-1940s when an EM known as Selevision was founded for Florida citrus fruit (Cassidy, 1967). From the very beginning, the EM assisted in the purchasing functions as a communication platform for vendors. However, the EMs did not receive much attention until the development of a tele-
phone auction for butcher hogs in Ontario, Canada, during the early 1960s. This auction operated manually and the market used as a clearinghouse. During the 1960s, thanks to the development of Electronic Data Interchange (EDI) systems, Schrader et al. (1968) proposed a computerized egg exchange market, which received much attention in 1978 when the U.S. Department of Agriculture financed a pilot project for the first computerized EM (Peer, 1976; Henderson, 1984). During this time, agricultural economists such as Bailey and White (1974) proposed the application of such a technology in other markets (Berglund, 1977). For example, Felton (1970, 1974) proposed the use of this technology in car market using teletype (Berglund, 1977).

In recent decades, with the advancements in communication technologies, EMs have been implemented in a more advanced communication platform and with more integration. Figure 1 shows the historical evolution of the developments in organizational electronic networks. EDI systems of the 1960s were the first electronic information platforms widely used in organizations. With advancements in the computation, communication, and data storage technologies, Enterprise Resource Planning (ERP) systems were widely employed during the 1990s. It is important to mention that the new technologies in this evolution process do not replace the previous information platforms, rather the new technologies use the previous platforms to advance the organizational electronic networks. During the 1990s, the organizational electronic networks expanded beyond organizational boundaries, and web-based trading exchanges started to be employed for promoting inter-organizational integration. During this time, internet-based collaborative systems – including EMs – attracted the attention of many businesses and scholars.

The growth of the Internet as an e-business platform has highlighted the use of EMs. The application of EMs has been expanded from “baseline interaction and directory services to specialty market services, such as dynamic trading, [and] cooperative supply-chain integration and management” (Ghenniwa, Huhns, and Shen, 2005). In recent years, the notion of EM has evolved through the exploitation of intelligent agents. Several authors have considered Kasbah as one of the first agent base EMs. The MIT media lab first introduced Kasbah in October 1996 (Chavez and Maes, 1996; Maes et al., 1999; Lau, 2007). Many researchers have highlighted the role of software agents on the effectiveness of EM (Lau et al., 2008). These agents can identify the need for transaction, conduct negotiations, and finalize the transactions without human intervention (Louta et al., 2008).

During the late 1990s, the number of new EMs grew rapidly, and by late 2001, the operation of 2,233 EMs was reported worldwide (Laseter et al., 2001). However, the EMs faced significant challenges in regards to adoption of the new technology, “plugging in suppliers and customers,” and “compliance and performance” (Willcocks et al., 2002). Consequently, many of these EMs faced significant challenges in the first few years of the twenty-first century. White et al. (2007) reported that by mid-2006 only 750 active EMs were registered in the directory of the eMarket Services trade organization. This number declined to 630.

Figure 1. Development of organizational electronic networks

Adapted from McNichols and Brennan (2006), and modified by the authors of this chapter