Commercialization of Web Portals

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INTRODUCTION

Portals may be defined as starting points on the Web for users which may lead them to e-business services (Adar & Huberman, 2000). Portals are part and parcel of e-business (Kappel, Werner, & Schroder, 1998) whose common goal is the electronic support of business or market transactions (Book, Gruhn, & Schope, 2000).

E-business affects the way businesses interact with consumers, as well as the way businesses interact with one another. Electronic interactions both increase the efficiency of purchasing and allow an increased reach across a global marketplace. Partially as a result of competition among various Web portals, a more open e-business environment is developing, which allows businesses to trade more flexibly with each other (Trastour, 2003).

In Germany, the e-business market is dominated by the business-to-business market, where German companies spend 2% of their annual earnings, on average, in developing their e-business capabilities. Their focus is on marketing, distribution, and services to other businesses. The motivation for this focus is that it generates the most sales compared to the business-to-consumer market, where the corresponding sales lag behind (Koeckeritz, 2003).

This article focuses on the commercialization (e-business) side of Internet portals involving some of their technical issues and some of the advantages of their use. Although business to consumer portals are discussed, business to business portals are focused on due to their relatively huge market significance.

RELATED WORK

This section discusses some of the technical issues involved in e-business such as standards for information interchange and integrating heterogeneous systems. The success/failure factors of business to consumer portals are provided along with reasons for the wider implementation of business to business portals.

Kappel categories e-business into three groups:

1. Workflow business management streamlines the business processes inherent within the organization(s) and incorporates them into a single, unified workflow management system that is made accessible through Internet portals. Many corporations use the Internet as a means of connecting and enabling disparate systems, which model business processes, in order to communicate and share information. One example would be a company that uses the Internet to allow its production facilities in remote locations to send its production data to a centralized headquarters.
2. Electronic product catalogues are provided, which although they are designed to serve mostly during the presales phase of the e-commerce process, also enable a company to market their services and products to a worldwide audience very cheaply.
3. Web-tracking and data mining is utilized in order to more effectively target a company's marketing efforts to desired customers (Kappel et al., 1998).

The first category deals mostly with business-to-business (B2B) e-business while the second category deals with mostly business-to-consumer (B2C) e-business. The third category deals with long-term management of B2C portals. In this section, some of the technical issues with B2B information exchange are discussed such as communicating information across heterogeneous systems as well as the development of the B2C portal.

The first category, workflow management on the Web, has technical issues which can be characterized by distributed, autonomous, and heterogeneous information sources, a wide range of users' abilities, and the various services that must be supported (Adams, 1998). A major challenge is to incorporate these disparate systems and various technologies into a common application framework (Kamath, Ramamrithan, Gehani, & Lieuwen, 1997; Muth, Weissenfels, & Weikum, 1998).

Because of the vast number of heterogeneous data stores and systems in e-business, many e-business integration efforts focused on centralizing and integrating disparate systems created through business consolidation. Mergers and antiquated management practices contributed towards the need for this e-business integration. Problems with this integration were exacerbated with Web-based application requirements such as common data views and a seamless transaction flow. As a solution to these requirements, various tools are available to integrate disparate legacy system data stores into a common accessible format and to connect different application systems with Web-enabled front ends (Ulrich, 2000).

Many papers, and industries, focus on various means to communicate information via Web portals, whether these portals supported the older standard of EDI/EDIFACT or the new model of XML (Book et al., 2000). Larger corporations adopted the older standard of EDI but the high cost of consulting, infrastructure, and maintenance of this interchange format prohibited its adoption among smaller companies. XML has the advantage in that it is platform independent, free, structured, and provides a way for companies, using XML's rules and conventions, to design, name, and organize their data descriptions, along with their data, for information interchange. XML provides a much cheaper and more expressive advantage than its counterpart, EDI (Fitzgerald, 2001). XML has additional advantages in that although it provides data and metadata, or a description of the data contained within it, there are no constraints on how this data should be processed. Furthermore, XML uses existing Internet protocols rather than requiring a special protocol of its own (Schmelzer et al., 2002).

Besides inter-communication, in response to the need to create new infrastructures to support high-level business-to-business (B2B) and business-to-consumer (B2C) services on the Web, an effort was made which concentrated on defining a new generation of electronic data interchange protocols, mostly based on XML, and on creating new types of e-business services such as agent-mediated B2B e-business and knowledge-driven customer relationship management systems (Trastour, Bartolini, & Preist, 2003).

The second category, product catalogues, focused mostly on B2C business. Companies were enamored to the idea of attracting a wider audience to their products at a much cheaper cost than conventional methods of product catalogues and telephone/mail ordering. Because these Web portals focused on the general consumer, they were characterised by the consumer-oriented nature of their content. Besides offering products online, many other companies began to offer specific services to the consumer such as online banking which offered the advantages of convenience and a greater range of hours than would normally be offered at bank branch locations (Rajput, 2000).

Several companies that started up with an idea to act as a commercial portal to consumers, but with an unproven business model, received large amounts of venture capital, during the late 1990s, but failed to become profitable. Eventually, their dissatisfied investors re-invested their capital elsewhere and these companies went bankrupt (German, 2005).

Several Internet-based companies failed while others succeeded depending on a number of factors, most importantly their business model. An example of an unsuccessful business model was Kozmo. A problem with delivery costs plagued Kozmo.com (1998-2001) which offered a large range of products to the consumer, all of which would be delivered free to your door within the hour. Although it at-tracted many customers, the profit margins gained from the sale did not justify the free delivery of a DVD and a pack of gum. Although a $10 minimum charge was instituted later, this change did not prevent Kozmo from closing its doors in March of 2001 (German, 2005).

Despite many of the failures of these early business-to-consumer companies, many established companies, such as banks, increased their business to consumer services. First Union Bank of the USA, with its 16 million retail and consumer customers, began offering its customers a method to receive and pay bills over the Internet in 2000. Other competing banks, such as Mellon, also offered services such as authorization of bill payment over the Internet (Fellenstein & Wood, 2000). In these instances, established companies provided a more convenient way to provide their services electronically without entailing a huge overhead of inventory and delivery costs.

Although initially the focus of Web portals was on B2C business, the amount of B2B business, in comparison, is much greater. According to the Gartner group in the U.S., consumer to business e-commerce was US$17 billion in 2003 compared to US$183 billion in business to business e-business. The motivation factor for the adoption of business to business e-business is both the timeliness of information (Fellenstein, 2000) and the cost savings. An example, it is estimated that the American real estate industry can save US$2 billion a year by using Web portals to handle its transactions and forms rather than its current manual system. Chevron, through automating its inventory system through Web portals which enabled its dispersed gas stations to order their inventory online through its Web portal, saved US$50 million in its first year of operation (Carroll & Broadhead, 2000).

BUSINESS TO BUSINESS E-BUSINESS

The goal of the business world in e-business is to scale business solutions and to enable global interactions among businesses without increasing complexity to unmanageable levels. One of the results of this refocusing of Web portals from business-to-consumer to business-to-business was the change of Web portal nature to that of electronic information interchange. Web portals, by providing a common language for business to business e-business, through such means as XML, and by addressing the issues of complexity and costs, promise a solution to this goal. Some of the early adapters of electronic document exchanges have been the finance industries of banking, accounting, securities trading, research and reporting, and economics which require timely, accurate, and critical access to information. Even in corporations in other fields, there are often many disparate business information systems, such as Customer Relationship

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