

Chapter 4

E-Business and ERP: A Conceptual Framework toward the Business Transformation to an Integrated E-Supply Chain

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ABSTRACT

The blending of Internet technologies and traditional business concerns impacts all industries and is the latest phase in the ongoing evolution of business. In this changing business environment, the most successful companies are those that leverage their investment in Web-based technologies by implementing e-business solutions supported by sound existing infrastructures based on well-functioning Enterprise Resource Planning (ERP) systems. Companies must also forge tighter links in the supply chain, from raw materials to customers and have increasingly turned to the Internet and Web-based technologies to do so. This paper presents a framework for understanding e-business opportunities within the context of a traditional enterprise and its infrastructure and examines the evolving relationship between e-business and ERP. These developments are moving businesses toward the concept of e-Supply Chain to achieve true supply chain integration. The issues and challenges faced by organizations in moving to such a complete e-business environment are discussed and suggestions are offered for businesses to navigate this challenging transformation.

INTRODUCTION

Traditional companies must embrace the Internet to survive, but, at the same time, pure Internet companies benefit from the assets and infrastructure of their “bricks-and-mortar” counterparts. The blending of Internet technologies and traditional

business concerns is impacting all industries and is really the latest phase in the ongoing evolution of business. Today, the Internet is driving the current industry goals of a shorter Order-To-Delivery (OTD) cycle, global reach and personalization. However, without connecting order delivery, manufacturing, financial, human resources, and other back office systems to the Internet, even companies with long track records of innovation

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are not likely to succeed. The most successful companies will be those that leverage their investment in Web based technologies by implementing e-Business solutions supported by sound existing infrastructures based on well-functioning Enterprise Resource Planning (ERP) systems.

Today companies need to forge tighter links up and down the supply chain, from raw materials to customers. Of late, companies have increasingly turned to the Internet and Web-based technologies to accomplish this. But what they have found is that without ERP software, sharing accurate information with their trading partners is impossible. Web-based technology puts life and breadth into ERP technology that is large, technologically cumbersome, and does not easily reveal its value. At the same time, ERP allows e-Business to come into full flower, putting real substance behind that flashy web page. While ERP organizes information within the enterprise, e-Business disseminates information far and wide. In short, ERP and e-Business technologies supercharge each other.

In light of the above, the objectives of this paper are to:

- Present a framework for understanding e-Business opportunities within the context of a traditional enterprise and its infrastructure.
- Examine the evolving relationship between e-Business and ERP, and to understand how companies can move ahead to gain competitive advantage by using ERP to leverage and take advantage of the business opportunities opened up by the Internet and e-Business.
- To examine and discuss the role of ERP today and in the context of new business models those are enabled by e-Business and associated technologies and that represent the next step in organizational evolution.
- To discuss recent developments in the area of e-Supply Chain and Supply

Chain integration and other technological developments.

- Understand the issues and challenges faced by organizations in moving to an e-Business environment.

This article will be useful to both the research academician and the practicing manager who are interested in understanding the issues, opportunities and challenges in the ERP and e-Business relationship and how these link to the e-supply chain transformation. More importantly, the paper provides a comprehensive discussion of the factors involved in the complete e-Business enterprise transformation and some suggestions as to how to navigate the same. The complete e-Business enterprise transformation involves leveraging web-based technologies (including web-based ERP) to manage the major enterprise business functions and in this case we specifically focus on the supply chain function.

This paper is organized as follows: In the next section, we provide a brief literature review of ERP and e-Business and how these are linked to a broader idea of the e-supply chain. In the following section, we discuss some of the key developments in the evolving relationship between e-Business and ERP followed by a discussion of “web-enabled” ERP. This leads to our discussion of “e-supply chains” and how ERP and e-Business technologies can be leveraged to achieve supply chain integration. The last section discusses the issues involved in moving towards an e-Business environment, followed by a conclusion.

Before we move on to a further discussion of the subject matter, it is important to clearly define what we mean by ERP and e-Business. A formal definition for the same is provided here:

ERP: Kumar and Van Hillegerberg (2000) define ERP systems as “configurable information systems packages that integrate information and information-based processes within and across functional areas in an organization”. In this sense, ERP systems are designed to integrate business

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