# Chapter 2.25
# Understanding the Development of Free E-Commerce / E-Business Software:
## A Resource-Based View

**Walt Scacchi**
*University of California, Irvine, USA*

## ABSTRACT

This study examines the development of open source software supporting e-commerce (EC) or e-business (EB) capabilities. This entails a case study within a virtual organization engaged in an organizational initiative to develop, deploy, and support free/open source software systems for EC or EB services, like those supporting enterprise resource planning. The objective of this study is to identify and characterize the resource-based software product development capabilities that lie at the center of the initiative, rather than the software itself, or the effectiveness of its operation in a business enterprise. By learning what these resources are, and how they are arrayed into product development capabilities, we can provide the knowledge needed to understand what resources are required to realize the potential of free EC and EB software applications. In addition, the resource-based view draws attention to those resources and capabilities that provide potential competitive advantages and disadvantages to the organization in focus.

## INTRODUCTION AND BACKGROUND

Many companies face a problem in determining how to best adopt and deploy emerging capabilities for e-commerce and e-business services. This study employs a *resource-based view* of the organizational system involved in developing open source EC/EB software products or application systems. This chapter examines the

GNUenterprise.org (hereafter GNUe) project as a case study. The analysis and results of the case study focus attention on characterizing an array of social and technical resources the developers must mobilize and bring together in the course of sustaining their free EC/EB software development effort. Free EC/EB results from applying free software development concepts, techniques, and tools (Williams, 2002) to supplant those for open source software supporting EC and EB (cf. Carbone & Stoddard, 2001).

This study does not focus on the software functionality, operation, or development status of the GNUe free EC/EB software, since these matters are the focus of the GNUe effort, and such details can be found on that project's Web site. Similarly, it

does not discuss what EC/EB application packages are being developed or their operational status, though the categories of software packages can be seen in Exhibit 1, presented later. Instead, the resource-based view (Acedo et al., 2006; Barney, 2001) that is the analytical lens employed in this chapter helps draw attention to a broader array of resources and institutionalized practices (i.e., resource-based capabilities) (Oliver, 1997) that may better characterize the socio-technical investments that provide a more complete picture of the non-monetized costs associated with the development of free/open source software (FOSS), as well as possible competitive advantages and disadvantages (Hoopes et al., 2003). Such a characterization might then eventually inform other

*Exhibit 1. Overview of the GNUe and its GNUe software (Source: Retrieved April 2006, from http://www. gnuenterprise.org/)*

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