Chapter 66

Replacing Proprietary Software with Open Source Software:
Implications

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ABSTRACT

Most companies face high expenditures and numerous challenges in today's competitive industrial environment where cost of technology can be an extra burden. To address these challenges, businesses can use Open Source Software (OSS). Even though OSS provides many benefits, including high-quality software and substantial profit (Sohn & Mok, 2008), OSS also has a number of disadvantages. In several countries, governments have begun to recognize the importance of OSS and have started to adopt explicit policies on OSS (Cook & Horobin, 2006). Open Source Software holds several compelling benefits for businesses. Information on wide-ranging use and examples of OSS in organizations are scattered and sometimes skewed to a few OSS. The chapter identifies different OSS that are currently used or have the potential to substitute other proprietary software packages in business; how organizations share information and how OSS is used globally by organizations and governments and their implications thereof is reviewed.

INTRODUCTION

Interest in Open Source Software (OSS) is increasing globally and technology providers are not only expanding their support but also increasing deployments (Moran, 2003). Open source software provides wonderful opportunities however before it is adopted or downloaded, it is important to recognize the philosophies, implications, and responsibilities of its use (Freedom or Nightmare, n.d.). Commercial suppliers are broadening their support and deployments are increasing across a broad array of ICT initiatives. At the same time, critics claim that the open source "eco-system" is immature and incomplete (Dravis, 2003, p.22).

In recent times, throughout the world, the growth of information technologies has rapidly transformed performance of business and its related activities (Li, Yang, Sun & Sohal, 2009). ICT tools and advanced internet infrastructure have facilitated communication thereby transforming the conduct of business in ways that make it more reliable, quick, efficient and effective. Today's commercial atmosphere requires that most

business processes operate more efficiently and effectively (Solimana & Janz, 2004). Before the advent of using ICTs in business, checking stock status took considerable time and workforce, but ICTs engagement has reduced process times to just a few minutes. Reports can now be customized quickly according to need. In the past, when ICTs were not used, business processes had difficulty monitoring products running out, but with the help of ICTs and computer software, managers and/or job owners can setup alerts. Smaller companies often experience increased pressure from multi-store firms and supply chain firms. On the other hand, a small company working with a big supplier can be at an advantage; smaller companies can get latest products as soon as a product is available and often receive special discounts from the supplier. To compete in competitive business world and to cope with the pressure coming from local, national and global firms, a firm should customize innovations and should improve featured sides (Hong, 2002).

Companies adapt and use information technologies (ITs) in their businesses to communicate between their staff and with other firms. Information and communication technologies (ICT) affect companies' communication, transaction, buying and selling procedures (Nurmilaakso, Kotinurmi & Laesvuori, 2006). Information sharing has become an important component of many organizations. Integration of information systems in organizations accelerates information sharing, thereby improving organizational flexibility and receptiveness while minimizing risk and inventory costs (Hartono, Li, Na, & Simpson). Computer and Internet aided communication systems (e-mail, chat, document sharing etc.) improve quality of communication and improve information-sharing options within the organization and between the organizations (Jarvenpaaa & Staples, 2000). Computer and internet-aided communication systems bring many alternatives to individuals and companies. While individuals just use communication tools, companies can customize these tools. For

example, multi-branch companies that are located in different locations can hold the managerial meetings over internet, and managers can share document via e-mail or file sharing systems. Most companies use proprietary software to achieve these demands. Most often, there are free Open Source Software that replace the traditional more expensive proprietary software.

This chapter is organized into the following sections: Inter-organizational information system (IOIS) - a well-known means of communication between organizations, definition and standardization problems in (IOIS). Open Source Software (OSS) and its uses in business will be studied. Examples of Open Source Software that is replacing proprietary software will be examined. Furthermore the implications of open source software deployment will be studied. Summary and future research directions conclude the paper.

This chapter will examine the Inter-organizational Information System (IOIS), Open Source Software (OSS), replacing proprietary software with OSS, examples of OSS, implications of OSS deployment, and a suggestion for future research.

INTER-ORGANIZATIONAL INFORMATION SYSTEM

Inter-organizational information system (IOIS), is a system in which two or more independently managed organizations communicate in a computer memory-to-memory fashion, without the transfer of physical media" (Suomi, 1994, p.152). Inter-organizational Information Systems (IOIS) are computer-based systems that help to share information, connect the units of one organization or organizations and IOIS help organization to exceed their borders (Reimers, Johnston & Klein, 2008; Wilson & Vlosky, 1998).

IOIS provide environment not only in organizational settings but also inter-organizational settings. An organizational department can share their departmental information with other departments;

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