Chapter 6
An Exploratory Investigation of the Barriers to the Adoption of Open Source ERP by Belgian SMEs

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ABSTRACT

Notwithstanding the increasing interest in open source ERP (OS-ERP) products in the past few years, their adoption by Belgian organizations is still very limited. To gain more insight into this phenomenon, we performed an exploratory investigation of which barriers inhibit the adoption of OS-ERP by Belgian SMEs. Based upon our previous research, we identified two main barriers, namely a lack of functionality and a lack of support. Next, we performed a screening of the Belgian OS-ERP market to investigate the functionality and support offered by various OS-ERP products. This allowed us to determine how the perceptions of organizations compare to the actual market for OS-ERP in Belgium. Our results provide more insight into the barriers to the adoption of OS-ERP by Belgian SMEs and provide various avenues for future research.

INTRODUCTION

In the past decade, open source software (OSS) has evolved significantly and has become a viable solution for organizations. The adoption of OSS has taken place in three different waves. The first wave of OSS adoption was focused on server-side applications such as Linux and Apache. This can be explained by the fact that most OSS development initially focused on horizontal domains such as Internet applications, developer tools and technical tools (Fitzgerald, 2005). As a result, server-side applications were the most mature OSS products available and were among the first OSS products to be adopted by organizations. Thanks to the increasing involvement of commercial software

vendors in OSS development, many mature OSS products have appeared in other domains as well (Fitzgerald, 2006; Brydon & Vinning, 2008). The second wave of OSS adoption seems to be centering around the adoption of open source desktop software, such as OpenOffice.org and Firefox. Public administrations in particular have been rather active in exploring the possibilities of migrating towards OSS on desktop computers (Ven, Van Nuffel, & Verelst, 2007). Lately, several OSS products have become available in the enterprise application domain such as Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relationship Management (CRM), and Enterprise Content Management (ECM). Hence, the OSS phenomenon has been gradually penetrating the whole software stack, going from the infrastructural level to the business application level. It has been argued that some OSS products may have the potential to gain entrance to and disrupt the commercial enterprise software market (Brydon & Vinning, 2008). The third wave of OSS adoption may therefore involve the adoption of open source enterprise software. In this chapter, our focus is on the adoption of open source Enterprise Resource Planning (OS-ERP). It can be observed that among the various open source enterprise software products, OS-ERP products are slowly gaining acceptance in organizations (Davis, 2008). It has also been noted that a relatively large number of new OSS projects are gradually appearing in this area (Johansson & Sudzina, 2008; Johansson & Sudzina, 2009).

Since the adoption of OS-ERP is a rather new phenomenon, it has not been studied extensively in academic literature yet and several authors have called for additional research on this topic (Kim & Boldyreff, 2005; de Carvalho, 2009; Davis, 2008). Some of the early studies in this domain have suggested a number of advantages of OS-ERP that may generate the interest of organizations to adopt. These advantages include: increased adaptability of the software thanks to the availability of the source code, possibility to

realize cost savings, and reduced vendor lock-in (Serrano & Sarriegi, 2006; Johansson & Sudzina, 2008; de Carvalho & Johansson, 2010; Davis, 2008). A recent study among Belgian organizations has, however, shown that the adoption of open source enterprise software—including OS-ERP—is lagging far behind the adoption of OSS for desktop or server-side use (Ven, 2008). This suggests that several barriers exist with respect to the organizational adoption of OS-ERP. Given the fact that ERP systems are crucial for supporting the business activities of organizations, it is reasonable to expect that organizations may be rather hesitant to rely on an open source solution for their ERP needs. It has been suggested that possible reasons for this low degree of adoption include the lack of reliable, maintainable and scalable OS-ERP solutions (Davis, 2008).

In this chapter, we will provide more insight into the barriers that currently exist to the organizational adoption of OS-ERP. Since research has shown that small and medium-sized enterprises (SMEs) use different selection criteria and make use of different ERP software than large organizations (Bernroider & Koch, 2001), we need to restrict the scope of our research in order to increase the reliability of our findings. We will therefore focus on the adoption of OS-ERP by SMEs. This choice is based on a number of reasons. First, the market of ERP software that is specifically targeted towards SMEs is growing (Deep, Guttridge, Dani, & Burns, 2008). Most large organizations have already adopted ERP, and SMEs therefore represent an interesting opportunity to ERP vendors to further expand their business. Many SMEs are also a supplier for large organizations and therefore experience the need to integrate their IT infrastructure with that of their customers (Hallikainen, Kivijrvi, Rossi, Sarpola, & Talvinen, 2002). Furthermore, as SMEs become more mature, they will require the same ERP-functionality as large organizations, albeit on a different scale (Deep et al., 2008). Although SMEs often start with custom developed ERP systems, they will require a more stable ERP product that

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