Chapter LXXI
An Empirical Study on the Migration to OpenOffice.org in a Public Administration

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ABSTRACT

The aim of the article is to report the results of a migration to Open Source Software (OSS) in one public administration. The migration focuses on the office automation field and, in particular, on the OpenOffice.org suite. We have analysed the transition to OSS considering qualitative and quantitative data collected with the aid of different tools. All the data have been always considered from the point of view of the different stakeholders involved, IT managers, IT technicians, and users. The results of the project have been largely satisfactory. However the results cannot be generalised due to some constraints, like the environment considered and the parallel use of the old solution. Nevertheless, we think that the data collected can be of valuable aid to managers wishing to evaluate a possible transition to OSS.

INTRODUCTION

Open Source Software (OSS) and Open Data Standards (ODS) emerged in recent years as a viable alternative to proprietary solutions. There are many cases in which the adoption of OSS has proven advantageous for companies deciding to adopt it in replacement or in conjunction with closed solutions. The limitation of these migrations for our point of view is that they were very often server-side oriented and not supported by empirical evidence of the benefits of the new solution. In this sense, there are very few case studies that report successful transitions on the desktop side (ZDNet, 2005) and some are still underway (Landeshauptstadt München, 2003; Stadt Wien, 2004). It is our opinion that the reason of the apparent different results in the two fields is due to the

nature of OSS development (Feller & Fitzgerald, 2001) that leads to repercussions on the resulting usability (Nichols & Twidale, 2003).

When comparing OSS and proprietary software and when comparing software solutions in general, it is impossible to get a global index referring to quality in order to compare two solutions (Fenton & Pfleeger, 1997).

If we consider the most important aspects under which it is significant to analyse software, as:

- Reliability
- Performance
- Price
- Security
- Interoperability
- Usability
- Extendibility
- Functionalities
- Privacy protection

The categories have to be balanced with the requirements of the environment and users in which the solution is deployed. Where the aspects of security, reliability, and extendibility are of key importance, OSS has proven a valid solution, if not superior to proprietary solutions. Where functionalities, usability, and in general user interaction acquires importance as on the client side, OSS has yet to prove as a valid alternative. Price is a controversial issue as there is the need not only to evaluate the license price but also the software maintenance and other costs inherited from the migration. These considerations originated the study we propose.

The purpose of the study is to evaluate in a rigorous way the introduction of OSS in a working environment, following the criteria of a controlled experiment from the selection of the sample to the evaluation of the results. We selected a sample of 22 users from different offices in the public administration target of the experiment. We divided the sample in two groups, one to be migrated, the other to be used as a control group. The results obtained seem to report that the initial reduction of productivity is not as consistent as we thought, also taking into account that half of the users considered the introduced solution as offering less functionality than the proprietary one.

STATE OF THE ART

There are many studies available evaluating the Total Cost of Ownership (TCO) of OSS. The original model derived from the work of the Gartner Group in 1987 and has since then been inserted in different models. The TCO model helps managers by considering not only the cost of purchase but also further costs as maintenance or training.

All the studies are not unanimous as the savings that can be reached with the adoption of OSS (Robert Frances Group, 2002; The Yankee Group, 2005). One of the reasons is probably the different weight given to costs and benefits that are difficult to measure. Two of such measures are, for example, the risks of lock-ins and the development of local economies. The risks of entering a mechanism of lock-in, for example, by relying only on a single software supplier or storing massive amounts of data by means of closed data standards are real and must be considered in a TCO model evaluating a transition (Shapiro & Varian, 1999). On the other side, the adoption of OSS can be of benefit to local software companies that can exploit the possibility given by the available source code and open data standards. Also in this case, the amount of this kind of externality is difficult to quantify.

Considering OSS, there are many projects worth mentioning, we will name here two of the most famous and see how they perform on the market against proprietary solutions:

- the Apache Web server[1]
- the Mozilla Firefox Web browser[2]

Table 1 shows that the Apache Web server detains almost 70% of the whole market share (Netcraft Survey, 2005). As virus attacks of the last years have proven (CERT, 2001), one of the reason of such wide adoption is the security proposed by the Apache architecture.

Table 2 shows the market share of the Mozilla Firefox browser between January and April 2005.