



Policy recommendations for public administrators on free and open source software usage



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ABSTRACT

Free and open source software, holding a strategic position in knowledge economy, reaffirms the critical role of governments and regional authorities in establishing strategies for integrating effective and sustainable Information Technology solutions in the public sector towards economic growth and social welfare. Moreover, public services, organisations and territorial administrations collectively represent a major software user with great impact on the software market. In this sense, software selection in the public sector is a highly political and strategic process; various collateral implications and policy aspects should be considered in order to reach the best possible decisions. Within this context, this manuscript provides policy recommendations on issues and challenges pertaining to the use of free and open source software by European public administrations. The recommended policy actions are mainly based on review of the current policy framework. The main goal of this manuscript is to contribute in providing policy orientations and proposing actions that can help governments, public administrations and European institutions fully harvest the benefits of open source.

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1. Introduction

Public administrations have the mission of best allocating available resources in a socially responsible, transparent and economically efficient manner. Free and Open Source software (FOSS),¹ being a public resource based on non-rival use rights and allowing for lower entry barriers in software development, offers public stakeholders a set of cost-effective, re-usable tools and resources that can give impetus to innovation, entrepreneurship and economic growth.

Moreover, public organisations play a major role in the software market as mass scale software “consumers” with specialised needs and requirements. In this sense, adopting software environments in public Information Technology (IT)

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¹ Although there are different definitions of FOSS, there are some basic principles on which FOSS relies. These refer to the freedom to run a software program for any purpose, to study and modify a software program by accessing its source code and to distribute copies of a software program, whether modified or not. Despite different approaches or variations, the terms “free” and “open source” software are used interchangeably throughout this manuscript to refer to software that is developed as a public resource, based on non-excludable, non-rival use rights and properties.

infrastructures sector is not a neutral, “technical” process but a highly political and strategic one with various implications and policy² aspects to be considered in decision making.

Regional authorities and public administrations could valorise the FOSS potential on a bottom-up approach by fully integrating FOSS solutions in their regional development planning, internal administrative processes and educational networks. On a local or regional level a faster penetration and sustainable use of FOSS can be achieved by clearly outlining needs and wants through public procurement³ and by directly engaging local communities in open source environments.

National governments should support public administrations and particularly small and medium size organisations in using FOSS in effective and sustainable ways providing guidance, resources and reusable software tools and components through national reference centers and repositories. They should also establish clear legal and institutional frameworks to eliminate software discrimination in public tenders and monitor the implementation of certain principles and requirements such as openness, reusability and interoperability of data (Almeida et al., 2011), software and systems in full compliance with the European frameworks and guidelines.

On a European Union (EU)-wide level, there should be more straight forward policies for the implementation of defined requirements and specifications on openness, reusability and interoperability combined with the coordination and fine-tuning of the national strategies of the member states. Successful cases of FOSS integration on a regional or national level should be highlighted, communicated and valorised through EU-wide networks such as JOINUP (<https://joinup.ec.europa.eu/>, former OSOR). European strategies, initiatives and official policy documents relating to software should be constantly updated or revised where needed in order to reflect software market realities, industry driven achievements and public stakeholders’ needs. Moreover, research and development policies should leverage Europe’s competitive advantage in FOSS development by investing in regional innovation clusters and FOSS-based entrepreneurship.

Within this context, this document outlines the policy framework, describes available options and expected benefits and proposes certain policy actions that can enable policy makers to better assess FOSS as a strategic choice offering competitive advantages for the public sector. It is specifically aimed at: (a) policy makers in governments and public administrations: government officials, elected representatives, senior managers and decision makers in local and regional authorities, (b) IT managers and heads of procurement departments in governments and public administrations and (c) social economy actors and institutions such as non-governmental organisations, policy institutions, professional associations and networks, civil society organisations, FOSS communities and networks, non-profit foundations.

The remainder of this manuscript is structured as follows: in Section 2 the main policy issues and aspects relating to the use of FOSS in the public sector are presented and the need for required measures and actions is analysed. Section 3 provides a review of the current policy framework relating to FOSS within the EU context and defines the FOSS related policy implementation levels and areas. Section 4 proposes certain policy measures and actions in assessing, adopting and further integrating FOSS in public IT infrastructures. Finally, in Section 5 our conclusions and some proposals for future work are drawn up.

2. FOSS policy issues

Either integrated in the operational tasks of businesses and organisations, or embedded in systems and products, software is omnipresent in most economy sectors and is now a driving force for the European Information and Communications Technology (ICT) industry fostering innovation and productivity, supporting growth and creating jobs.

The European software market, including both software products and related services has risen from 228.6 billion € in 2008 to 231 billion € in 2009 and is expected to reach 264.8 billion € by the end of 2012 (Rönkkö et al., 2010; Giron, 2009). It also employs more than 2.75 million people. These figures make Europe (EU27) the second largest software market on a global scale.

FOSS is one of the main drivers of the software market with a remarkable growth and increasing share. According to the UNU-MERIT study in 2006 European firms with 565,000 employees and €263 billion in annual revenue invested an estimated €1.2 billion in FOSS development (Ghosh, 2006). In a more recent study on software’s economic impact commissioned by the European Commission, the FOSS share in the European market is estimated on a baseline scenario to exceed 5% in 2013 with an increasing trend up to 2020 (Giron et al., 2009).

FOSS is expected to continue penetrating the market based on both its inherent features and capabilities as well as on current developments in the ICT sector and the market environment. The increasing penetration of FOSS in a changing and expanding software market environment that is driven by rapid technological developments, raise a series of challenges for policy making on an EU-wide level. The growth of FOSS comes as a response to the needs of businesses and the public sector. In the case of public administrations these needs are to be met under certain conditions and requirements that promote economic development and serve social welfare.

² The term “FOSS policy” is used in this manuscript to describe policy measures, actions and implementation plans with regard to the assessment, use and adoption of FOSS by governments and public sector organisations. A “FOSS policy” may either refer to an official policy document issued by a government body or to a set of actions and initiatives undertaken by various public stakeholders (e.g. local governments, regional authorities).

³ Public procurement refers to the process used by governmental bodies, national agencies, regional and local authorities and public administrations to buy products and supplies, services and public works. Having to do with spending of taxpayers’ money public procurement has to be conducted under certain rules and specifications.

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