

## Chapter 28

# Open Source Software in Financial Auditing

**Tânia Correia**

*Instituto Politécnico de Coimbra, Portugal*

**Isabel Pedrosa**

*Instituto Politécnico de Coimbra, Portugal & Instituto Universitário de Lisboa, Portugal*

**Carlos J. Costa**

*Universidade de Lisboa, Portugal*

### ABSTRACT

*The auditing software is an essential tool to the auditor, being a mechanism that helps to achieve auditing goals to obtain efficiency, quality, and to increase reliability on data analysis and evidence collection. The auditing software can be proprietary software or free and open source software. The purpose of this chapter is to understand which factors affect open source software adoption. To achieve these goals, a survey aimed at financial auditors was carried through, and 64 complete answers were collected. Results indicate that the most used software is the proprietary software and that 43% of the respondents belong to the first stage of open source software assimilation. Additionally, it was verified that the external environment is the macro factor, which positively affects the adoption of open source software in auditing.*

### INTRODUCTION

The use of audit software is relevant support for auditing, by helping the auditor achieve auditing objectives, increase efficiency, quality and reliability in data analysis and on evidence collection. Regarding software adoption, in recent years, several companies worldwide have been gradually making use of part or all the systems in the form of Copyleft. Among them are several large private and public groups, such as Lufthansa, Walmart, Dow Jones, Amazon.com. Also state bodies and institutions such as NASA and the Pentagon, also use free and open source software.

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As long as free and open source software is considered reliable by the most demanding organizations in the world, it is relevant to analyse if it is used in the context of financial auditing. This chapter's objective is to answer the following questions: 1) Which computer tools are the most used by financial auditors? 2) Are auditors using Free and Open Source Software (FOSS) as a tool to accomplish their tasks? 3) What are the predictive factors that can significantly influence the adoption or rejection in the use of the FOSS for auditing purposes? 4) What are the facilitating and inhibiting factors in the assimilation of FOSS for auditing?

The main contribution of this is to increase the knowledge on the most utilized tools on auditors' daily work, and, mainly, on the free and open source tools for auditing purposes. In addition, authors intend to contribute to a better awareness of the process of adoption and migration to free and open source software for auditing.

The present chapter is composed of this first section, introduction, a section about the Background, then the objectives and methodological approach. The last parts of the chapter are results, solutions, and recommendations, future directions and conclusions.

## **BACKGROUND**

In this section, the main aspect related to free and open source adoption and auditing software are analysed. This section starts with a comparison between free software, open source software and proprietary software. Then, it describes the evolution of free and open source software, the advantages and inhibitors of free and open source software. Then, it analyses the computer-assisted audit Tools/Software for auditing purposes and open source software adoption. The level of assimilation of open source software is also subject of study.

### **Free Software vs. Open Source Software vs. Proprietary Software**

According to the definition of the Free Software Foundation's website - FSF (FSF, 2017), coined by Richard Stallman, Free Software means that users comply with the four freedoms in software usage.

*The freedom to run the program as you wish, for any purpose (freedom 0).*

*The freedom to study how the program works and change it, so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.*

*The freedom to redistribute copies so you can help others (freedom 2).*

*The freedom to distribute copies of your modified versions to others (freedom 3). (FSF, 2017)*

When users complain with these four freedoms, the whole community/society has the opportunity to benefit from undertaken changes. Access to the source code is a precondition for this.

Software that complies with these four principles is referred to as Free Software. Copyleft is added to the four freedoms referred to above. And according to the FSF website (FSF, 2017), it is a method that requires all modified versions and extensions of free software to remain free.

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