



COMPARATIVE ANALYSIS OF THE HUMAN BEHAVIOUR REGARDING THE USE OF OPEN SOURCE PRODUCTS IN SMEs ACCOUNTANCY

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Abstract *This paper aims to highlight that open-source products can be the ideal solution for SMEs in order to provide accountancy services at near-zero costs. The paper presents the behavior of users within a community regarding the open-source products intended for bookkeeping. To support this research, questionnaires were applied to a sample of 50 people, consisting of accountants, accountancy experts, or financial and accounting practitioners, programmers and students of an Economics faculty.*

Key words:
software open-source,
questionnaires,
comparative analysis,
licensed software,
accounting
computerization.

JEL Codes:
M41, C88

1. INTRODUCTION

Accounting computerization allows "large-scale automation of transactions that reflect the movements of accounting accounts in a financial year and enables short accounting documents to be obtained in a short period of time (the balance sheet, the balance sheet, the profit and loss account, Appendices to the balance sheet) and not only". [1]

In recent years, the licensed software industry has been invaded by the voluntary move of open source software. This phenomenon originates from the so-called "free software", ie "those computer programs that can be used freely." [2] As Richard Stallman claimed in 1983, "the freedom of software implies the right to be used for any purpose, to study how it works and to be adapted to the needs of users. They also need to be able to improve that program and distribute it to others so as to increase the number of beneficiaries". [6]

Open source products, as the name says, are "those programs that provide free access to source code" [3], bringing users the advantage of being able to consult and modify them as they please. In this way, any

open source program, regardless of the subject of activity, can be changed and transformed as needed.

Most of the time, "this kind of open source software is offered free of charge for use, modification and even sale in the form of other products" [4]. However, there are certain situations where the change in the source code requires compliance with certain commercial conditions. [5]

The term "open source" was invented in 1998 by the founders of a non-profit organization called the Open Source Initiative (OSI), whose sole purpose was to promote and provide education in terms of benefits they bring. [5] This association is still functioning, managing a large number of members, and developing a broad portfolio of collaborators who simply support users for existing open source software products.

1. INFORMATION COLLECTION ABOUT OPEN SOURCE PROGRAMS

To analyze and measure how open source applications are known and used in organizations and how people perceive this issue, a research was done through the questionnaire method. Applying

questionnaires is a way to get information from individuals or organizations. This research was carried out by distributing questionnaires on paper or electronically, through telephone or face to face discussions, respectively by means of mail correspondence.

The survey was conducted on a sample of 50 people, consisting of:

- 12 authorized accountants, accountancy experts or economics practitioners;
- 15 programmers;
- 23 students of an economics faculty.

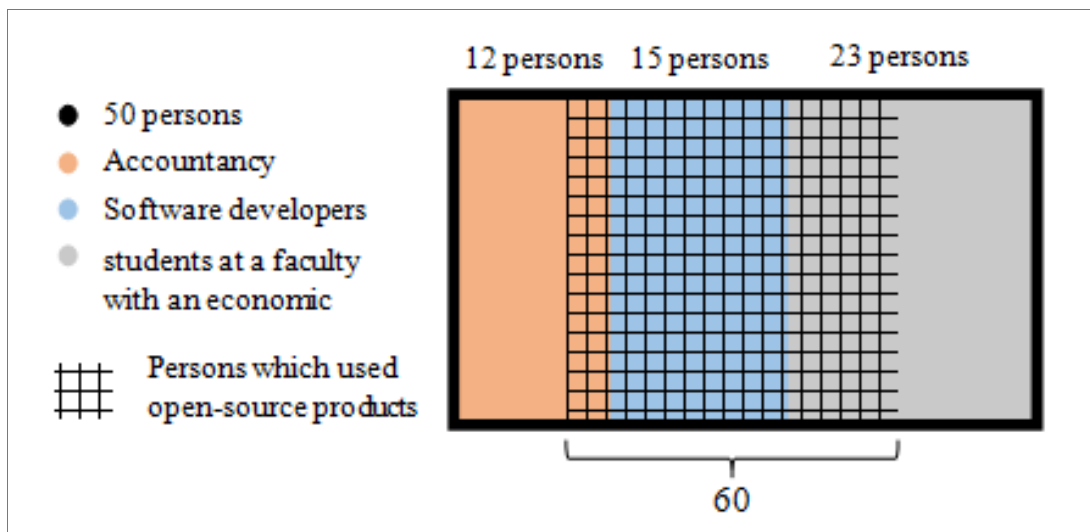
Due to the different categories, of which the interviewees are involved, we designed 3 types of questionnaires. Each questionnaire includes questions specific to the professions to whom they are addressing. Thus, I considered it relevant that participants in my research be those people who are part of the scope of the subject that is the subject of this paper. Consequently, the first questionnaire is addressed to financial and accounting practitioners, second software

developers, and third students at a faculty with an economic profile. All of these questionnaires can be seen in Annex 1, in the appendix to this paper.

After collecting and centralizing the data from the 50 interviewees, according to their responses, several conclusions were drawn, reflecting their perception and attitude towards the open source products and the possibility of using them in the computerization of accounting services.

According to the results, 60% of respondents know the significance of open source software products, including programmers who recorded 100%, while among accountants, only 25% of respondents said they heard of such programs. (Figure 1) After completing the questionnaire, they had to write the open source applications they know. The examples given were Linux - operating system, Open Office -Office applications, Firefox - search engine, Apache - Web server and MySQL - database management system..

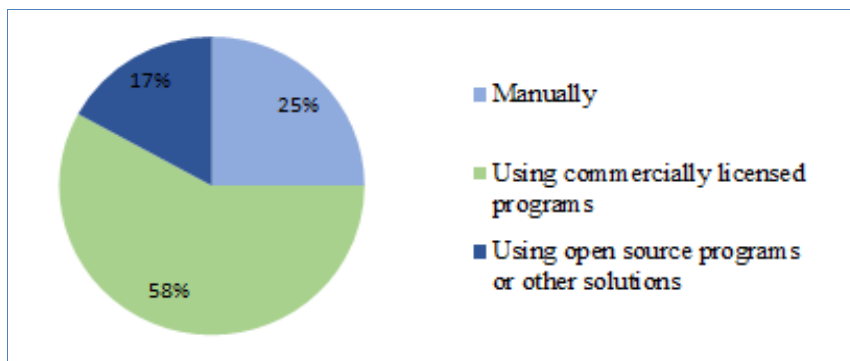
Figure 1. Knowledge rate of the open-source product concept



From the discussions I have had with various authorized accountants, accountants, or simple accountancy practitioners, most of the answers have indicated that they use commercially licensed programs to provide accounting services such as SmartBill, Dever or other less known accounting programs created by individual programmers. 25% of the responses indicated

that bookkeeping is done manually using Microsoft Office suite programs, indicating that they need more time to perform their duties than other accountants who work differently. The rest of the responses show that other software, such as free or open source software, is being used. (Figure 2)

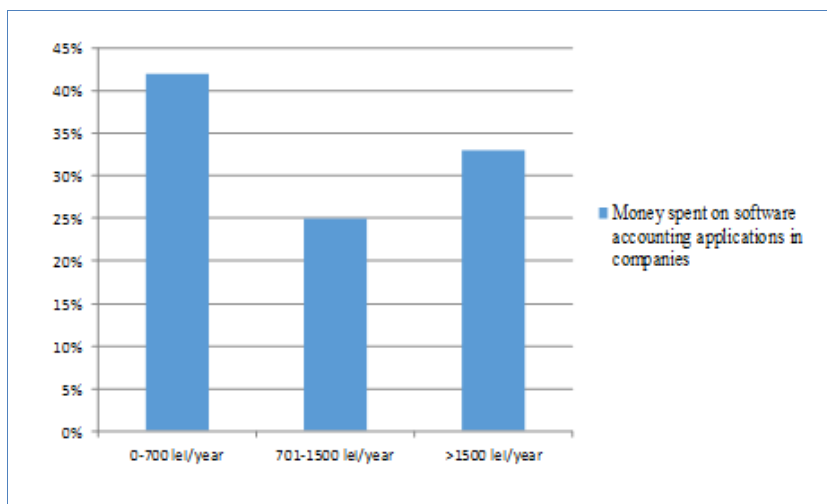
Figure 2. Carrying out the accounting activity



Regarding the way in which the accounting activity is carried out, 42% of the respondents say they

are dissatisfied, mainly due to the time consumed and the high costs involved in the computerization of this activity.

Figure 3. State of expenditure on software accounting applications in companies



Most respondents say that for companies where they operate, it is costly to use applications, because in addition to the license that has to be paid, frequently there are updates or support and maintenance services as well as other training services and consultation for employees. All these services are important to get performance from using programs. According to the estimates and opinions of the surveyed persons, 33% of the companies spend over 1500 lei / year for the use and maintenance of a set of software applications in order to ensure the smooth running of the accounting activity. A quarter of those surveyed claim that they are in the range of 701-1500 lei / year and 42% of them spend up to the limit of 700 lei / year, due to the fact that the accounting activity is carried out manually, which brings dissatisfaction within the labor force and also effort and time wasted (Figure 3).

2. INTERPRETATION OF COMPARATIVE ANALYSIS RESULTS

Moreover, 73% of respondents said they were dissatisfied with the suite of applications they use to automate the accounting practices, and the main reason is that they are incomplete and do not satisfy all their needs. They are also dissatisfied with the fact that they have to use a variety of programs for different operations and want to use a single application that includes all that is necessary for the smooth running of a company's business. Other reasons for why users are dissatisfied with the software they use appear because of malfunctions or faults that occur frequently.

From the discussions I have had with the 15 software programmers, current practitioners in this field, I have noticed a different attitude and vision in terms of the open source concept and this is due to the object of activity they are provided. They are all users of open

source products and 93% of respondents are happy with their performance due to the fact that they save many resources and are easy to use. 7% of them say that open source products sometimes have problems. However, 100% is admitted that the implementation of open source products leads to cost reductions.

Among the questioned programmers, 73% are developers of various open source products as needed. Most of them work both in teams at the workplace, as well as individually or in external communities dealing with this field. (Table 1)

Table 1. Open source products development

What kind of open source developer are you?	Answers
Individual	20%
I work in a team at the workplace	40%
I work in an external community dealing with this field	13%
I do not develop open source applications	27%

77% of respondents have shown interest in helping businesses for open source accounting products support. Even if they do not have knowledge in the accounting field, they are willing to provide advice as they are provided with information on the subject matter. However, 13% of programmers have expressed reluctance to provide support to companies, precisely because of lack of knowledge in the accounting field.

In the opinion of programmers, open source products are not adopted in Romanian companies due to the fact that they have only experienced significant growth in recent years and many people have not even heard of their existence. Another reason for not

implementing open source software is the fact that on the Romanian market, these are not as numerous and performing as products of this kind from abroad, where they are better appreciated.

Regarding the 23 young people interviewed, students of an economics faculty, they have a positive and optimistic attitude regarding the adoption and learning of new programs in the conduct of the accounting profession. 74% of them plan to engage in financial accounting and even if they are already know computer accounting programs they are open to learning something new (Table 2).

Table 2. Students' attitude toward adopting a new accounting software solution

Are you a knowledgeable or practitioner of at least one accounting program?	
Yes	65%
No	35%
Would you like to use other applications besides those already known?	
Yes	91%
No	9%
How do you appreciate your ability to learn how to run a new program?	
Big, I am interested and a fast learner	30%
Average, I am capable to adapt the requirements	61%
Small, I like working with what I already know	9%

In a proportion of 91%, the surveyed students are interested in learning what they have been studying or practicing, which is due to the fact that the young people can easily assimilate new knowledge and adapt to change. 30% of students appreciated their ability to learn how to run an IT program as great as they are motivated and can quickly learn something new. 61% rated their learning abilities as average and managed to

adapt to the requirements, and 9% appreciated it small because they like to work with what they already know and would not want to work with something new.

When asked if they heard about open source products, the students responded 43% affirmatively and said they were satisfied with their performance.

Moreover, they have experienced some open source products such as Linux, Mozilla or MySQL.

In conclusion, the concept of open source is known to 60% among people, at least as a concept, but not everyone has experienced them to know their value. Most people who tested and used these products said they were pleased because they are easy to use and save many resources.

Authorized accountants, accountants and economic practitioners which were surveyed responded in 75% that they want to use a suite of open source applications, as long as they provide services at minimal cost (or even 0), and give them the ability to customize them according to their needs by modifying the source code. Developers are available to support open source products, and this only serves to support the implementation of such solutions in companies. Also, young students, future graduates of economics faculties, by their ability to quickly and easily learn something new, are interested in using these open source products. This is an asset to them because it helps to increase the employability in the field where they are trained, which is a real problem today.

3. CONCLUSIONS

From my research on people's attitude towards open source accounting products, I noticed that they are not sufficiently informed about this type of application and as a result they spend more 1500 lei a year to pay for the acquisition, updating and maintenance of accounting programs, or to consume money, time and energy with human resources, in order to practice manual accounting.

I believe that in order to carry out an economic activity in terms of efficiency, effectiveness and maximum economy, it is necessary to document and market research in order to be able to exploit the best solutions to solve the problems. Any company cannot grow unless it has an organized and secure information system. It must involve as little resource consumption as possible and provide maximum performance to ensure firm sustainability over time. Therefore, all of an entity's computerized part can be supported at minimal or even near zero costs, in good working order and with the ability to change to its own needs at any time by using open source software.

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