



Economic and Social Perspective of Selecting Open Source Software License

KEYWORDS

Open Source Software, Open Source Software License, Systematic Mapping

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ABSTRACT

Open source software license is a contract under which any software released is called open source software. In 1980's, R. Stallman formed free software foundation. It introduced GNU GPL license. Any software which is released under it is open source software and totally free of cost and has equally right to redistribute, inspect and modification of code. It attracted many contributors toward open source software. These also encouraged introducing different types of open source software license. The open source software license introduced different types of benefits. In the end selecting open source software license became a research area. We gather motivation factors of open source software and also factors on which individuals take Decision about selecting open source software license. In this systematic mapping, we accumulate publications on the motivation factors of open source software. In this systematic mapping, we included evaluation research, review paper mostly. Systematic mapping is a method of gathering the research work of a particular area of knowledge. From the motivation factors of open source software, if we find out some other factors which can influence on choice of open source software license, this will become a fruitful increment in knowledge of selecting open source software license.

1. INTRODUCTION

License of open source software play a vital role as a motivator for an individual [13]. There are different perspectives which influence on choice of open source software on an individual. Project manager takes decision for choosing of open source software license [14]. Community of software engineering is now focused toward evidence base software engineering [7, 8]. Evidence base software engineering provides knowledge in each and every perspective i.e. how, when and in every context of software engineering practices [8]. Evidence base software engineering plays a vital role because it provides evidence of relevant field, which are integrated for decision making [4, 5]. Systematic mapping used in other knowledge areas frequently but software researcher used it lately [2,3]. Evidence base software engineering proposed systematic mapping technique [8]. Systematic mapping technique due to its conducting research is now applied in multiple domains [9,10]. Systematic mapping tells us about the type, quality, quantity of research and results available in specific knowledge areas and systematic mapping also tells how to handle the research knowledge [1], method of research which contains following steps planning conduction of research selection of primary study [6]. It is, we found that systematic mapping has been used for software testing [9] software requirement specification [10] and software architecture [12].

2. STEP 1 PLANNING OF SELECTION:

Point of view: We would like to gather Knowledge about the open source software license with respect to decision in choosing license.

Research Question: Based upon the point of view these are our Question. What research has been done on the motivation factors for open source software? What research has been done on the selection of open source software license?

Search strategy: Our search strategy have following keyword, search strings and search engine.

Keywords: our research keywords are "open source software", "libber software", "free software", "license", "license", "copyright", "copy left", "intellectual property right", "motivation factors", "attracting factors", "review", "comparative analysis", "exploratory study", "philosophical

paper", "article", "evaluation research", "case study". We think that these key words are appropriate for our research.

Search string: our search strings are following: OSS and software patents and "license" or "license", "OSS" and "copyright law" and "license" or "license" etc.

Search Engine: we use advance search of following search engine named IEEE, Science Direct, ACM, Springer link, and Google scholar

Inclusion criteria: we included book, review paper, comparative analysis, evaluation research, article, philosophical paper, exploratory study, case study. This literature is that which reported data about our research idea.

Exclusion criteria: we exclude those studies those do not report data about our research idea.

3. STEP 2 CONDUCTING RESEARCHES

We searched papers from Elsevier, IEEE, and Springer link, ACM, Google and GoolgeScholar. We found nearly 759 papers. We choose those publications which published in last ten years. The detail of found papers is given in table 1

Search Engine	Publications
IEEE	75
Science Direct	47
ACM	549
Springer Link	35
Google, Google Scholar	53
Total	759

Table 1

In IEEE, Science Direct, Springer Link, ACM, we follow advance search and in that we search papers by the keywords in abstract. From search results, we 18 choose primary studies, because in these studies literature material reported data about our interest. Detail about studies with respect to their search engine is given below in table2shows how much percentage open source software's is used.

Table 2

Search Engine	Publications
IEEE	5
Science Direct	4
ACM	2
Springer Link	1
Google, Google Scholar	6
Total	18

4. STEP 3 SELECTING RELEVANT PAPERS

In this, we selected those publications which reported data about the motivation factors for which an individual takes part in open source software. We also included those publication which reported influential factors for taking decision in choosing open source software license. Detail of relevant studies is given below in table 3.

Table 3

Search Engine	Publications
IEEE	1
Science Direct	3
Springer Link	1
Google, Google Scholar	6

5. STEP 4 ANALYZING AND BUILDING MAP:

In this, we selected the primary studies by studying abstract and full length paper which are described in table 4 and built map on the basis of their concepts and years of publications.

Table 4

No	Relevant Studies
1.	It focuses on initial exploration of the determinants of open source license Choice.
2.	It focuses on the behavior of agents under three license regimes.
3.	It highlights the extent to which labor economics.
4.	It focuses on social influence model of open source on license choice.
5.	It focuses on the choice of OSS in managerial context.
6.	It focuses on the cost of developing an IT project for a university and adopts OSS for that to serve Community.
7.	It focuses on the contribution level of an individual in open source software.

8.	It focuses on the variability of contribution from developers with respect to license and project characterizes.
9.	It tells that why developers contribute on OSS and how their quality is better.
10.	It focuses on the variability of contribution from developers.

6. DISCUSSION

We use systematic mapping accumulation of motivation factors for selecting open source software license, because literature tells about that selection of license is influence by some motivation factors, which agree to anybody for selecting a specific license for his product. Our systematic mapping will help the those researchers, which are interested in working in this area, because this mapping tells them the frequencies of publications about selecting license and other motivation factors on which there is need to do work on them and try to know their influence on an individual. At the end of this discussion we discuss our lesson learnt and limitation of our systematic mapping. We use this mapping to evaluate the knowledge area on the motivation factors of open source software with respect to selecting of license. In this perspective we found out studies which reported knowledge about our research area. This technique provides trustful and satisfactory results. For conducting this mapping we are two people who worked with fully dedication for one month and as a result we are able to map our research area. One is research scholar and other is his supervisor. We restrict our systematic mapping to the motivation factors which can influence an individual in selection of open source software license. Limitation of our systematic mapping is that we do not include that publication which is not accessible for us.

7. CONCLUSION

In this systematic mapping, we found the publication on the intrinsic (social) motivation factors of open source software. We also found the publication on the extrinsic motivation (economic) factors of open source software. We also found selecting of open source software license on the base of economic, social and commercial (managerial) perspectives. In future, we will try to find out some other motivation factors both economic and social perspectives for selecting the open source license. These will be our research question in future what are the motivation factors in selecting an open source software license with respect to economic and social perspectives in software community? Are the results of RQ1 are in accordance with perception of local open source software community?

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