THE POLICY IMPLEMENTATION FOR OPEN SOURCE SOFTWARE
MINISTRY OF RESEARCH AND TECHNOLOGY
(PUBLIC ADMINISTRATION AND POLICY)

Budiman Rusli, Oekan S. Abdoellah, Sintaningrum, Hariyanto
Ministry Of Research And Technology
Hariyanto@ristek.go.id

Abstract: The advance of information technology and communication in the life of our society is unavoidable nowadays. Information technology is a means to ease the work of men so as to encourage the ability to communicate between individuals, groups and countries and to boost the economy. In adopting or using the technology it is advised that we follow the rules applied so as not to create problems that would interfere with the rights of others. Based on the data regarding an infringement of intellectual property rights, Indonesia is a country included in the list of the top 10 in the world and the highest among the countries in Southeast Asia. To protect the number of violations of intellectual property rights and encourage the independence of the nation, the Indonesian government issued a policy of Act No. 19 of 2002 and then through the Ministry of Research and Technology, together with four ministerial they follow-up to the declaration of Indonesia, Go Open Source !. In an effort to implement such a policy, the Ministry of Research and Technology did the implementation of open source software policy to several locations in local government, universities and small and medium businesses. In the implementation of the policy to multiple locations on the open source software, of course sometimes it worked and sometimes not. One of the most successful city in implementing the open source software policy is the government of pekalongan city, so they received an award from the government. Looking at this success, the researchers are working to do a research on the process of the policy implementation for the open source in the community. The theory that researchers used to measure the success and failure of the policy implementation performance in open source devices is by using indicators of Donald S. Van Meter and Carl E. Van Horn. The indicators include Standard and Policy Targets, Resources, Relationships between organizations, Disposition Implementer and social conditions, politics, and economics. So the results of this study could provide input to the implementation process in the future for local government and other locations so as to achieve true national independence in the field of information technology with open source based.

Keywords: Open Software, Indonesia, Go Open Source, Information Technology and communication, Implementation.

I. Preface

1.1 Background

By the government’s efforts as a public institution that provides a solution to the problems in the field of ICT (Information and Communication Technology) to the community as the recipient of policies or target group by the potential or polemical which is harmful to all parties.

It is corresponding to the national strategic policy in the fields of science and technology, which is one government program that aims to reduce the digital divide is to provide an alternative software that is free and can provide an opportunity, big enough for the growing of developer and a group of local software industry (in Indonesia), through the Open Source Software (OSS). It is the hope that has been poured through a white paper of Research Development and Technology and Communication Technology 2005 – 2025.

One form of the policy implementation of this initiative is the program of IGOS (Indonesia, Go Open Source!) which has been announced and executed in 2004. Several agencies of the central government, local government and the IT (Information Technology) community in Indonesia, driven to use and exploit the open source software (OSS) in information technology which was motivated by some issues, first the global issues regarding ICT (information and Communication technology) which is in an effort to close the gap between Indonesia (communities in the country) and developed countries, through the use and development of the software based on open source, secondly, the enactment of legislation or the Law on Intellectual Property Rights, which required a real action by the government and communities to cope with the increasing use of illegal software by improving the innovation and creativity in information technology in order to accelerate the development of the industry of the national software, third, in an effort to accelerate, develop, and create government programs in information technology on a national scale which will have broad impact in governance (acceleration on e-government program), the economy (savings of foreign exchange in the procurement of licenses, stimulating the development of SMEs in IT ), social (increase in the number of computer users, training in improving ICT skills, increasing access to information), science and technology (increasing the capability of Research and development and human resources information technology), and others in an effort to reduce the gap in information technology between developing and developed countries as well as between regions with different facility.

Formally, the open source began to be adopted by the government in 2004 through the declaration of the movement "Indonesia, Go Open Source" (IGOS). IGOS is a movement launched by the government to encourage the use of open source...
software and the legal ones. This movement originated from IGOS declaration on June 30, 2004 by 5 (five) ministries, they are the Ministry of Research and Technology, Ministry of Communications and Information Technology, Ministry of Justice and Human Rights, Ministry of State for Administrative Reform and the Ministry of National Education.

Viewed from the problem areas of ICT in the country, the government then responded by creating and issuing an alternative policy, that is Open Source Software (OSS), which is one of the solutions to overcome the trouble in the field of information technology, this refers to: (1) Agreements of the World Summit on the Information Society (WSIS) in December 2003, which is one of the basic and essential principle as well as a common thread in the development of information society in the context of poverty alleviation assisted through information and communication technology, which is based on strong partnerships between government, the private sector, civil society organizations, and other international organizations; (2) Results of the study from The United Nations Conference on Trade and Development (UNCTAD) in 2003 which states that developing countries are recommended to adopt Open Source Software. So the government and the private sector are to cooperate in the development of OSS and free software. In Current conditions, OSS has been developed in many countries, both developed and developing countries, consisting over 30 countries in Asia, Europe, and Latin America (Chuong, 2003). These countries have encouraged their government to use OSS for the reasons such as Cost Advantage, Robustness, Reliability & Security; Bridging the Digital Divide within a Short Time Frame at a Low Cost, and Potential for Development of Locally Relevant Software (UNCTAD, 2003).

From the field of economy, the development of ICT has contributed very well but the government are gaining loss from its income by the great number of cases of piracy. Senior director of Anti-Piracy software in Asia Pacific (Business Software Alliance - BSA) as a nonprofit trade association, founded to improve the goals of the software industry and its hardwares partner, it is said that the piracy of software on computers of individuals (Personal Computer - PC) in global is approaching 42%, with the potential loss of USD 63.4 billion.

The use of OSS software is also one of the many strategies to address the challenges caused by the circulation of pirated software which have violated the Law on Intellectual Property Rights (IPR). In the case of Indonesia, the use of OSS becomes particularly relevant as Indonesia is still considered to have not succeeded in overcoming the piracy of computer software. Based on data from the Business Software Alliance (BSA) in Global Software Piracy (July 2004) it is revealed that Indonesia is one of the four (4) states with the biggest piracy cases at 88%, behind China 92%, Vietnam 92%, and Ukraine 91%. The high level of piracy, making Indonesia to be proposed by the International Intellectual Property Alliance (IIPA) of the United State Trade Representative (USTR) to be included in the list of priority countries to be supervised (Priority Watch List). It is a warning that should not be ruled out, because it will impact negatively to the economic development of the nation. The countries listed in the Priority Watch List will lose facilities of generalized system of preference (GSP), which is a special facility for developing countries in the implementation of the tariff exemption export.

The data above is the result of a study conducted by IDC BSA along with the methodology used to combine separate data input 182 of the 166 countries and territories around the world (Source: Digital Life Style-June 18, 2013). With that percentage, Indonesia is placed at the top position in terms of violations of Intellectual Property Rights ASEAN region, the second rank was occupied by Vietnam (81%), Thailand (72%), the Philippines (70%) and Malaysia (55%).

For the expenditures in information technology among Asian countries, Indonesia is among the countries with a fairly high spending on Information Technology. As an illustration, IDC (International Data Corporation) published that in 2007 the number of IT spending in Indonesia reached USD 3 billion, with a growth rate of 20% (twenty percent) annually. Unfortunately, most of it is spent on software and illegal applications. The results of another survey ever conducted by ASPILUKI (The Association of Telematic software of Indonesia) in 2008 showed that the level of illegal software in this country reached 70%. The high level of use of illegal or pirated software is of course detrimental to many parties. Not only businesses in the field of IT (Information Technology), but also a country that lost potential tax revenue.

As for the encouragement to optimize the use and utilization of Open Source Software, Indonesian government has issued several regulations in an effort to provide solutions to the problems in society, and the policy regulation are as follows:
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a. Law No. 19 of 2002 on Intellectual Property Rights, as the Indonesian government's commitment in combating piracy of intellectual property.

b. Presidential Instruction (Instruction) No. 6 of 2001 on the Development and Utilization of Telematics in Indonesia to give special attention to the efficient use of Open Source Software.

c. Presidential Regulation No. 7 of 2005 concerning RPJMN 2004 to 2009, in the document, "Program to Increase the Use of Open Source Software to all Government institutions and public institutions" is listed.

d. Joint Declaration “Indonesia Go Open Source” (IGOS) 2004 which contains an agreement made by 5 (five) of the Ministry in an effort to support the use of open source based program to support the development of information technology in public life associated with economic growth so that the need for independence, competitiveness, creativity and innovation as a key to the development of the Indonesian nation.

e. Circular letter of the Ministry of Communication and Information Technology Number: 05 / SE / M.KOMINFO / 10/2005, with suggestions to all central and local government agencies to use legal software as an intelligent choice by using open source software.

f. Circular letter Number: SE / 01 / M.PAN / 3/2009, explicitly appealed to the Head of Central and Local Government Agencies to check the use of software in their environment and remove all illegal software, and then use the Free / Open source (F / OSS) which is freely licensed and legal software as a replacement the illegal ones.


To support the government's policy regarding the use of open source, the Ministry of Research and Technology (Research) have created programs in support of the open source policy.

To encourage the success of IGOS, the roadmap prepared by the Ministry of Research and Technology with regard the models arranged by the Dept. Of Information and Communication. Therefore, within the framework of synergy of programs and activities, the activities are transformed to follow the Achievement Strategy developed by The Dept. Of Information and Communication as follows:

![Figure 2. Roadmap of Open source Systems Software](image-url)

<table>
<thead>
<tr>
<th>Tahun dan tema</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<td>Pemasaran Global</td>
<td>Pemasaran produk dan jasa unggulan ke negara target terpilih (pilot project)</td>
<td>Pemasaran produk dan jasa lain (sekunder) ke negara target terpilih dan negara target sekunder</td>
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<td>Korporasi Fase II</td>
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| Kebijakan |      |      |      |      |      |
| Pengurusan, kebijakan OSS, Kelengkapan dan terlalu lama dengan model penerbangan |      |      |      |      |      |
| Training & Sertifikasi Personel TI Pemantauan (I) | Training & Sertifikasi Personel TI Pemantauan (II) |      |      |      |      |
| Training & Sertifikasi Personel TI di Lembaga Pendidikan (I) | Training & Sertifikasi Personel TI di Lembaga Pendidikan (II) |      |      |      |      |
| Training & Sertifikasi Personel TI di perusahaan swasta (I) | Training & Sertifikasi Personel TI di perusahaan swasta (II) |      |      |      |      |
| Training & Sertifikasi Personel untuk umum |      |      |      |      |      |
| Pendidikan Formal |      |      |      |      |      |
| Adopsi FOSS, sebagai erable training dan capacity | FOSS sebagai keris utama dalam program-program studi yang dibuka untuk menghasilkan SDM TI berkualifikasi global |
| Awareness & Promosi |      |      |      |      |      |
| Annual IGOS Summit |      |      |      |      |      |

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To support and reduce the level of piracy of applications, the Ministry of Research and Technology has implemented a program and worked to improve the quality of the human resource within the government (central and local), universities and communities with the knowledge of information technology based on open source in an effort to support the policy of government programs through the following activities: Develop an Open Source Directory in Indonesia; Arranging a research Guide document for Open Source Software; Developing Local distributions for the software (Ubuntu Linux, bi-colored, IGOS Nusantara, etc.); creating business communities and application developers; Training Use of OSS Software (Open Source Software); creating a network of POSS (Open Source Software Empowerment) in Higher Education; Telkom-Research and Technology Award; Document Series on Free Open Source Software; Support the migration activities to OSS in the area of government; Human Resource Development with the training and équiping the knowledge-based applications of Open Source Software; and developing applications based on Open Source Software in cooperation with LPNK and Communities.

II. Literature Review

2.1 Analysis of the Implementation of Open Software Policy

Public policy implementation is one of the stages that must be passed after the stages of policy formulation in a cycle of policy system. Implementation activities are a process of applying the law as soon as the law is stipulated. (Winarno, 2012: 147).

To reach the stage of implementation on public policy, it must pass several stages of the previous activities process. The activity begins with the identification of problems, setting the agenda in policy formulation; then proceeds with the formulation of policy proposals, and followed by the process of legitimizing the policy, and then to implement its policy and finally the process of policy evaluation.

According to John in the Hill and Hupe (2002: 7) implementation is the stage in the “policy process”, related to change the policy into action.

In a real sense, a policy implementation according to Nugroho (2002: 539) says that the executive in government bureaucracy interpret the macro policy in the form of legislation, into public policy that is downward, in the form of regulation, Regulation of the Governor, the Regent Regulation, Regulation The mayor and others. And then by officials under the Minister, Governors, Regents, Mayors policy is further elaborated in the form of microeconomic policy, and at last, the policy is translated by officials on the ground in the form of program or project activities.

Van Meter and Van Horn in Wahab: 2001 Implementation is actions performed by individuals / authorities or groups of governmental or private party, directed to achieve the objectives outlined in policy decisions. The views of Van Meter and Van Horn were that the implementation is an action done by individuals, officials, government agencies or private groups aimed to achieve the objectives that have been outlined in a particular decision. These agencies carry out government jobs that have an impact on citizens. However, in practice government agencies often face the works are under the mandate of the law, thereby making them become unclear to decide what should be done and what should not.

Implementation is a new activity device that is expected to obtain changes to the objects addressed and also, the implementation must be in accordance with the desire of changes in society as the policy target group.

According to Nugroho, there are two characteristics of public policy, They are: 1) public policy is something that is easy to understand, because the meaning is something that is done in order to achieve national objectives; 2) public policy is something that is easily measured, because the measurement is clear that is how far the progress has gone.

One policy experts Thomas K. Dye (1978: 3) argues that "Public policy is whatever government chose to do or not to do", This means policies should not conflict with the values and social practices that exist in society. If the policy contains contrary values from the values of the community, the policy will face trouble when it is implemented. Instead, a policy should be able to accommodate the values and practices that live and thrive in the community.

In principle, Implementation of public policy is a way in order to the public policies can be accepted and achieve its goal, which has been planned and set to provide solutions to the problems in the society. Implementation is a very important stage in a series of policy processes. Three series of policy processes, are policy formulation, Implementation and Evaluation (Evaluation of the formulation and implementation of the policies).

Many experts have tried to examine and identify the critical factors that affect the level of acceptability of the policy implementation, one of them is Nugroho (2008: 495) states that the implementation of the policy can be implemented properly if the three essential elements exist, they are : (1) the executor (implementer); (2) the program and (3) the target group.

In the model of approach to the implementation of policies formulated by Van Meter and Van Horn was called A Model of the Policy Implementation (1975). The implementation process is an abstraction or performance of a policy which is basically a manifestation done intentionally to achieve a high implementation performance of the policy that took place in relation to various variables. This model assumes that the implementation of the policy runs linearly with political decisions, implementing public policies and its performance. This model explains that the policy performance is influenced by several interrelated variables, they are: standard and policy targets / size and policy objectives; resources; the characteristics of the executor; The attitude of the implementers; the Communication between the institution and implementation activities as well as social, economic and political environment.
Schematically, the model of public policy implementation of Van Meter and Van Horn can be explained in the following picture:

**Figure 3. Model of public policy implementation by Van Meter and Van Horn**

2.2 Philosophy of Open Source Software

a. Proprietary Software

Proprietary Software is a term that is initiated by the advocacy of the free software movement to describe a computer software belong legally to the (patent) of one of the parties. The use of software by other parties must be established through a contract or license agreements. To use, distribute (redistributing) and change (modifying) of this software is prohibited, restricted or require a permit.

While the source code is owned entirely by the company that had released the software. Generally, this type of software is commercial, because it is usually developed by a business which aims to earn money from the use of the software they created.

b. Open Source Software

Open Source Software according to Esther Dyson, is defined as software developed in mutual cooperation without any official coordination, using program code (source code) that is freely available, and were distributed through the Internet. According to Richard Stallman, the culture of mutual aid software development has been around since computers were first developed. However, if judged to have commercial value, the software industry began to impose their concept concerning the ownership of the software.

The original definition of open source is as stated in the OSD (Open Source Definition) along with an explanation. Its contents are packets of conditions that must be met to be said that it is open source software, including: Free Redistribution; Source Code; Derived Works; Integrity of the Authors Source Code; No Discrimination Against Persons or Groups; No Discrimination Against Fields of Endeavor; Distribution of License; License Must Not Be Specific to a Product; License Must Not Contaminate Other Software License Must Be Technology-Neutral.

2.3 Frame of Mind

An implemented policy will lead to a consequence. The consequences of the policies that have been implemented is in the form of output and impact. The shape of the output policy is goods, services, or resources received by group targets or groups of recipients. To determine the success of policy implementation of an open source, in this study it is seen from the standard and policy targets (size and purpose of the policy), policy resources, characteristics of the implementing organization, communication between organizations concerned with the implementation activities and the attitude of the executive as well as social, economic and politics environment on the target group and a group of receivers (beneficiaries). In the future, it is expected that open source policy can be implemented better in government agencies and the public.

2.4 Research Methods

In this study, researchers used a qualitative descriptive approach to describe, summarize a variety of conditions, different situations or various phenomena of social reality. The use of a qualitative approach is also intended as a research procedure that will produce descriptive data of speech, writing, or the observable behavior of an individual, group, community and / or organization in a particular setting too. All of them are examined from the full, comprehensive and holistic standpoint (Bogdan and Taylor or Fatchan quoted Basrowi Sukidin, 2002: 3).
Creswell (2002: 136) then summed up the views of various experts that qualitative approach emphasizes more to the process and meaning of descriptive words or images obtained through words or pictures which is inductive where the researchers build abstractions, concepts, hypotheses and theories of the details. Where the researcher is the primary instrument, connected physically with people, background, location or institutions to observe or record the behavior in a natural setting.

III. Results and Discussion

3.1 Indicators in the Open Source Software Policy Implementation

In order to know the success of a policy implementation process, it is required in-depth analysis of government policy implementation process which is going on, in this case the policy on open source implementation in the Dept. Of research and technology by examining the factors affecting the implementation of the policy. In implementing the policy we should refer to the legal products, one of them is a white paper and other supporting rules.

In this case the researchers used the concept of the theory of Van Meter and Van Horn (1975) in viewing the success rate of implementation of the policy.

The indicator is measured from the point of view:

a. Standard and Policy Goals

In the implementation of a policy, it is inseparable from the size standard and the policy objectives should be clear and measurable, to measure the level of success in the implementation. If the standards and the policy goals are vague, it will lead to multiple interpretations and will lead easily to conflict between the agents of implementation. For policies of open source software, The Ministry of Research and Technology already have: Target objectives or policy goals set based on the data document that the writer gets from a pre-condition of the program of IGOS in 2004, generally IGOS has goals or objectives to be achieved. They are: (1) Making OSS (Open Source Software) as an alternative software for users as well as for developers; (2) Improving the competitiveness of the developer, R & D institutions and industry in the global arena, thus providing employment opportunities in information technology; (3) Increase the capacity of human resources in information technology; (4) To achieve these goals The research and technology department have targets that they want to achieve from the program policies of IGOS (Indonesia, Go Open Source) they are: (a) Contributions of IGOS program to government efforts to seek a decrease in software piracy from 88 % (BSA and IDC data in 2004) by half, or about 50% to 70% in 2010; (B) Contribution of IGOS program to the government's efforts in improving the utilization of software from about 0.1 to 0.4 per 1,000 population in 2005 to 0.5 to 1.5 per 1,000 population in 2010; (C) Contributions of IGOS program to the government's efforts in increasing the number of skilled human resources, experts, and software developers from 31,000 people in 2005 increased to 330,000 in 2010; (D) Contribution of IGOS program to the government's efforts to increase the number of local software developers from 100 companies in 2004 to 500 companies in 2010.

The targets tried to be achieved for the years 2004 - 2009 with what has been done by the Research and Technology based on data has been able to reduce the level of piracy seen from the figure below.

![Figure 4. The level of piracy in Indonesia](image-url)
"A team of help desk is already formed, if our focus now is the integration between applications based on open source, if the migration is the early stage, actually migrating in only a bridge, actually what we want to unite is actually a platform that could allow for integration between systems. Our goal is actually the integration between systems, now we've entered specific applications. Constraints of open source occurs at the beginning of the migration."

From the analysis, the authors found that the government already has appropriate goals and targets in the effort to encourage the use of open source software and has given a clear direction to future developments.

While the output of the IGOS program (Indonesia, Go Open Source!) are: (a) the arrangement of policies, procedures, and standards, (b) infrastructure and supporting facilities for OSS, (c) developing human resources and institution, (d) OSS-based content development (e) information dissemination and awareness raising to OSS, (f) national and international cooperation programs and many others.

Based on the implementation of activities in the realization of the targets to be achieved and graphic images showed that the the graph declined consistently as well as the results of interviews, the author analyzes that Dept. Of Research and technology is able to fulfill the policy objectives in the form of the planned output.

b. Resources

Development of Open Source Software Policy in the Ministry of Research and Technology runs and produces output activity, it is of course in regard of the available resources. Resources are inputs for the implementation of OSS policies, while the policies inputs that encourage the implementation of these policies include:

1) Rules or regulations issued include: (a) Instruction No. 6 of 2001 concerning the Development and Utilization of Telematics in Indonesia with the point as stated: "The private sector must play an active role in the provision of information and the development of various applications required by the community. Therefore, the government will try to encourage the development of content and application of information industry, where the utilization of open source software needs special attention "; (B) Joint Declaration of IGOS regarding the use and development of OSS in Indonesia, signed by five Ministers on June 30, 2004: State Minister for Research and Technology, Ministry of Communications and Information Technology, Minister of State for Administrative Reform, Minister of Justice and Human Rights, as well as the Minister of National Education (c) in addition to policies that directly relate to the OSS, the enforcement of Intellectual Property Rights Act of 2002 and the raid (sweeping) against internet cafes and small and medium businesses suspected of using pirated software is also encouraging the development of OSS.

2) Human Resources, for Human Resources in implementing the policy of Research and Technology as a government institution and as the development concept of governance, in which implementing agency is not currently monopolized by the government, in this case the Research and Technology, LIPI and other agencies and are still helped by the other parties because the government still has limitations in terms: the budget, human resources, technology, and capacity management.

3) Budget, for the government budget of Pekalongan city there is a sharing budget with the Dept. Of Research and Technology for the period 2004-2009 to provide incentives in no small value to the communities and SMEs to support the development of open source with the varied socialization in addition to environmental education the formal and non-formal ones. The incentives given to SMEs is in the form of program activities SUCP (Start Up Capital Program) with the selection of the proposal and has given incentives to 17 companies, For POSS (Utilization of Open Source Software) are currently around 21 POSS scattered throughout Indonesia. In the period 2010-2014, the Dept. Research and Technology provided assistance (sharing) and incentives to environmental education (college, boarding school, vocational school, junior high school) and local institutions (City State, City District), and although the budget is not as much as in the previous years because it focused on training on other applications such as GIS (Geographical Information System) with OSS based conducted in Local Government across Indonesia.

4) The other means of resources. The other means of resources are (a) Research and Technology provides a facility of place on the floor 23 of its building as a training location for people who want to learn OSS for free, a Laboratory Test Bed IGOS Floor 23, BPPT Building II. It is hoped that this training will accelerate the implementation of the IGOS in government institutions, especially in the Constitutional Court; (B). Provide assistance of 3,084 computers to schools in Riau in cooperation with AOSIS, and Caltex by distributing computers to schools and educational institutions in the province of Riau. The Dept. Of Research and Technology works with communities to help provide the training and assistance to local governments, schools and boarding schools in the form of training installation, computer, etc.

5) Characteristics of the Implementing Agencies. The results on seen on the field, the execution of policy implementation has the expertise and skills that are rarely possessed by others. The characteristics of the implementing organization are viewed from the seriousness of the implementers on the ground in the implementation of the program or do in order to run properly. In here, the Researchers oversee the seriousness of the OSS implementation program. In the implementation of policy, the government of Pekalongan is assisted by college and community. Activities are carried out in hybrid models in an effort to improve the quality of services have resulted in the implementation of the guidance document to the public and to the migration effort. The organizational structure set up by the Dept. Of Research and Technology in collaboration with Civil Society Organizations (SCOs) has extended the role of the government in an effort to accelerate the expansion of OSS policy by distributing complete documents that can be used as guidelines in an effort to migration or displacement of the proprietary systems to open source software.
6) The communication among institutions and implementers. The Communication between agencies is one of the critical success of the process of policy implementation. Implementation will be effective when the measures and objectives are understood by the individuals who are responsible for the performance of the policies. The Dept. Of Research and Technology have made some communication and coordination with local governments and one of them is the government of pekalongan. This can be seen from each coordination meeting between the officials or at any event, it is expected that the lower level officials were directed to use OSS. Moreover in his every e-mail sent, the OSS program is always written on the footer of the email.

The implementation of OSS in the Dept. of Research and Technology can be carried out at the time, because it is supported entirely by the leadership of the Ministry. To prove whether it is true that in the workplace of The Dept. of Research and Technology have already used the OSS platform, there was a visit from the external party to see the workspace of the Dept. of Research and Technology directly; it is found that there is already a PC using OSS. For the external communication, the Dept. of Research and Technology, the Dept. of Communications and Information Technology and some communities from the university as well as the supporters of OSS often work together to implement the OSS to the local government and to the educational institutions, both formal and non-formal. The activity that carried out at that time was an exhibition of the Ministry of Research and Technology followed by Technology Exhibition and competition of the National Electronic organized by the college. In this exhibition, KNRT introduced Desktop System National IGOS (Indonesia Go Open Source) and also promoted KNRT website to the visitors ranging from students, school children and the public.

7) The tendency of the Executive

In general, open source implementation of the policy with the Research and Technology and ICT, local governments, and the academy of university, in which is the private players of the open source movement, all implementation activities can be done as aimed, in the form of some programs such as IGOS Center, SUCP, the guidance books, POSS and the socializing activities.

From the data obtained, the author found that the executive of the policy still adhere to the implementation policies. For the community and the private sector in the field of ICT services they are still moving through the dissemination workshop, training in universities and in other locations, even with minimal support from the government.

8) The environmental conditions of Economy, social and politics.

One thing to consider in assessing the performance of the implementation of public policies in other perspective is how far the external environment support the policy.

The impact of economic, social and political affairs to the public policy is a huge central concern over past decades. The Fans of politics comparison and public policy are explicitly interested in identifying the influence of environmental variables on the results of the policy.

Environmental, economic, social and political environment of the executive organizations will affect the implementation of the programs to achieve the targets, both in terms of organizational structure, vitality and expertise that exists in the administrative body as well as the level of political support it possesses.

In economic terms, the results of interviews with informants who say that open source is very helpful for the economy because the use of OSS licenses is free of charge. The author analyzes that economically, the policy of open source is very helpful to the expenditure in the field of ICT, both personally and agencies as a result of interviews and observations in the Local Government of Pekalongan city. It is shown that the city could save billions of rupiah, both in terms of shopping server applications, desktop and the support applications. To favor the open source does not mean to favor one vendor. Do not confuse the alignments to open source means that we only favor to one of the open source software vendors. Alignments to open source is more to the alignments on the freedom to determine what will be used in the public in present and in the future.

In terms of social area, due to the nature of the OSS is open for whoever has the ability to learn the language in the application, so there is some information exchange so that the knowledge transfer occurs. This has resulted in the emerging or the founding of communities in several OSS colleges and society. As the expressions of the community is the community gathering activities

Politically, we as a nation of Indonesia at least are able to develop our own application systems in case there is a boycott from the application producers abroad. The Opinion of users stated that

"Open source is driving creativity and innovation for the open source program is open to the possibility of developing other applications based on the existing application because the source code is not locked, then the other will encourage more technological independence and eventually, it will be able to keep the continuity of public services. Who knows the licensed software is still going to be supported in the future if there are political conflicts among those countries. Who will guarantee the now public services supported by the licensed applications. This is appropriate with the primary objective of the open-source policy to reduce the technology gap with the developed countries and this has been done by other developing countries. Developing countries with 'mediocre' funds and human resources and have not started growing its domestic IT industry is choosing to use the open source application because of the low price. This is done by countries such as Estonia, Vietnam, Malaysia, Argentina, Peru, and Brazil."
IV. Conclusions and Recommendations

4.1 Conclusion
Based on the results of research and the data analysis carried out by researchers, we conclude that the implementation of open source software in the Research and Technology Ministry showed that:

a. The implementation of open source software has been made for the government and society even though it didn’t run as planned in the the NRA (National Research Agenda) thus need to be reviewed due to the helpfulness of this policy in providing solutions for the technological gap.

b. There should be a monitoring mechanism to enforce the regulation by the law enforcement forces in order to able to run the policy as set.

c. Provide role models to encourage people to keep pace with the use of open source software.

4.2 Recommendation
The suggestions as the result of this research are:

a. The central government synergizes to assist the regional government to carry out the policy.

b. To increase the independence, continuous assistance, strict regulation enforcement and collective supervision is needed.

Reference


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