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From underground cult to public policy for citizens: democratizing an open source artifact at a policy level in South Korea

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From Underground Cult to Public Policy for Citizens: Democratizing an Open Source Artifact at a Policy Level in South Korea

Abstract

Purpose
This study explores the feasible use of free and open source software (FOSS) at a policy level in South Korea, which is reacting against being locked into only one technology company, Microsoft.

Methodology/Approach
Based on participatory democratic theory, this paper suggests that the normative role of the state is as a public mediator in the development of an IT infrastructure encouraging greater freedom of choice and the establishment of an electronic environment — such as the community-based use of software technology — for citizens to use easily and freely.

Findings
South Korean policymakers have explored FOSS as a kind of a political metaphor: At the international level, FOSS offers a rare opportunity to free the country from its technological dependence on transnational software vendors. At the national level, it is an engine for technological innovation and for market competition. However, the market or business paradigm has dominated most discussions of FOSS in Korea. As a result, the economic paradigm of FOSS is vulnerable and could easily surrender to the proprietary logic of the software market.

Originality/Value
This study describes how the Korean government must maximize the societal benefits of FOSS within the public sector in order to reduce reliance on proprietary software and open the developmental path to alternative technologies.

Keywords FOSS, Open Source, Korea, Software Policy, Community, Public Market

Article Type: Research Paper

From Underground Cult to Public Policy for Citizens: Democratizing an Open Source Artifact at a Policy Level in South Korea*

Introduction

The "free and open source software" (FOSS) movement is not considered a "cult" in the computer world any longer. Linus Tovalds, who developed the kernels for the Linux operating system, has become a guru well known in both the underground world of hackers and the business market (e.g., Tovalds is featured on the cover of the November 2003 special edition of *Wired*, a techno-utopian magazine). Microsoft's top executives consider Linux, whose total users were estimated at 18 million as of May 1, 2004 (see Linux Counter, http://counter.li.org), a significant adversary. Popular open software programs like Linux, Apache (a Web server application), Perl (a programming language), and Sendmail (a mail handling program) have grown robust enough to compete with Microsoft software.

In recent years, the discussion surrounding FOSS has focused almost exclusively on the success of FOSS in the capitalist marketplace. In South Korea, most policymakers considering FOSS have been uninterested in its social and public implications and have reduced its value to that of merely a market incentive for business upturn. Although FOSS has recently been regarded as competitive software for reviving national or international markets, Korean officials have not seriously considered reducing dependency on Microsoft technology or adopting FOSS for the purpose of improving the social welfare of citizens and reducing the digital gap in a significant way. Notably, no economic approaches to FOSS in Korea have explicitly embraced

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direct subsidies or government intervention to support open source software developers. The neo-classical idea of a neutral government presupposes that policies favoring FOSS over proprietary software would disrupt the software ecosystem, and that government, therefore, should always be neutral, except in cases of radical market fluctuation (see Hahn, 2003). Those who argue for removing the public role of government, however, would in practice favor the monopolies and the private property of the rich over publicly-based equal access to the information society.

Given these conditions in Korea, the purpose of the present study is twofold: one purpose is to explore policies of the Korean government that could support FOSS and avoid the market failure caused by vendor dependency on Microsoft; the other is to emphasize the social and public implications of FOSS, rather than its new market benefits, which may be wholly concentrated on megacorporations. In essence, I argue that FOSS should be considered as a public resource for encouraging citizens' social freedom, a resource that confers new choices on software users, who have been entirely alienated from the software development process.

The Philosophy of Freedom in FOSS

The concept of "free software" was shaped by the philosophy of Richard M. Stallman, a founder of the Free Software Foundation. His term "free software" was not meant to denote lack of cost, but rather lack of restriction (Pavlicek, 2000, p. 19). Stallman puts the emphasis on freedom from control by another; his standard explanation is "free as in free speech, not free beer." This use of the term "free" refers to four kinds of freedom for users of the software: the freedom to use, to modify, to redistribute, and to release modifications to the public. To enjoy these freedoms, access to the source code is a precondition (Stallman, 2002, p. 41).

One misunderstanding concerning free and open source software is that it is not protected by copyright and that it falls in the public domain. The actual licensing mechanism of the FOSS lies under the market system and its legal authorities. As an intentional contrast to the concept of copyright, Stallman calls his method for making a program free "copylefting" (p. 89). Instead of putting software in the public domain uncopyrighted, free software is copylefted, because if the software is released into the public domain without protection, it could be misappropriated for developing a proprietary product.

The free software movement has given rise to a movement based on "open source" software. In contrast to Stallman's philosophy, which is based on the moral and ethical imperative of producing free software, the open source movement focuses on the pragmatic benefits that sharing code can provide for creating better software as well as for escaping the risk of so-called "lock-in" associated with a single-company technology such as that of Microsoft. Popularized by Eric S. Raymond (1999), the concept of open source software stresses aspects such as the high reliability, quality, and flexibility of the resulting programs as the primary motivation for developing such software. Raymond's open source initiative is seen as a more business-friendly concept than the free software movement, which is closer to the political idea of challenging a proprietary counterpart that produces closed software and embeds its own bells and whistles in its versions of the software.

The popular view of FOSS as a market-based initiative has emerged from the relative prominence of the open source concept over the free software concept. Raymond's market-centered approach is seen in his use of the terms "cathedral" and "bazaar" (1999, pp. 27-78). He metaphorically equates the cathedral model to the closed proprietary world and compares it with the bazaar model, the Linux world of open communities. The term "bazaar" not only indicates

the intellectual collaboration involved in an open process, free from any external control (Roberts, 2001, pp. 21-23), but also expresses the desire to influence the business market and thus to forge FOSS in a way responsive to market mechanisms.

Table I The concepts of free and open source software

Free	Open
Richard Stallman	Eric Raymond
Free Software Foundation	Open Source Initiative
Egalitarian viewpoint	Utilitarian viewpoint
Freedom of information	Market incentive
Political & Social approach	Economic (market-driven) approach
Software Policy for public welfare	*SW Policy for market competition*

As shown in Table l, both the free and the open source concepts would restrain the dominant proprietary trends on both the societal and the economic policy levels. If the radical idea of free software is applied well in the public sector, it could increase transparency and public rights to information. The application of free software should increase the ability of the government's information systems to interoperate and ensure the continued availability of information (Seiferth, 1999, p. 57). Meanwhile, the market-friendly idea of open source software could be used as an efficient stimulus to support a competitive software market by removing market barriers to software ventures. The market-driven open source model, however, is still vulnerable to attack by the oligopolistic software companies, which are based on closed software code.

Comparing the real world differences between the two methods of licensing, it is clear that Stallman's idea of copylefting by means of a General Public License (GPL) is closest to the model of information as part of the public goods. It is also based on the public domain approach — the non-proprietary principle that the source code of program cannot be owned. Raymond's open source initiative, as evidenced by the open license to the Apache server, has a much weaker

protection of the public domain than the GPL (Fuggetta, 2003). A GPL requires that modified versions of the original software also be made available to other users on the basis of the unlimited openness of source code and thus encourages authors to voluntarily give up their private rights on the copyright of software. In contrast, Raymond's open source license allows individuals or corporations to close and privatize the modified part of source code of software.

The two different kinds of software licenses are clearly distinguished by different levels of "openness" of the source code. It is natural, therefore, that Stallman criticizes Raymond's open source license as creating "semi-free programs" and even some "proprietary programs." He worries that the imperfect openness of the modifiable source code will allow the big software vendors to appropriate source code in the public domain and privatize it by modifying and copyrighting it. Obviously, the open source license model of Raymond has significant implications not only for promoting new competitive values within the market but also for building a collaborative ethic of customers and content producers in the creative process. Yet the intellectual property system could incorporate the upsurge of new alternative licenses within the boundaries of the market. It is very clear that open source software can easily be used for proprietary purposes and that the open source concept as a market incentive or ethic needs to be redesigned using a socially conscious approach to free software.

Signpost to an Alternative Path: The "1-24 Computer Disaster"

In South Korea, FOSS policies have only emerged in the last few years. Momentum to consider making FOSS government policy was generated by the "1-24 Computer Disaster" in 2003. South Korea was the nation most affected by the January 24th virus attack. The virus that crippled the Internet system, dubbed the "Slammer", exploited a security flaw in Microsoft's Web server

software. The vulnerability of Microsoft's software provoked harsh criticism, and since then the government has begun to consider alternatives to Microsoft software. At that time, despite the availability of patches, Microsoft made it difficult to keep track of its security alerts, so the alerts did not get through. In the end, software users could not contain their anger toward self-contained, monopolistic software technology, and an influential Korean civil rights group, People's Solidarity for Participatory Democracy (PSPD), launched a lawsuit for damages related to the Slammer virus. Named in the suit are information service providers, the Ministry of Information and Communication (MIC), and Microsoft. The suit was brought on behalf of Internet users and commerce companies.

Following this incident, the Korean government announced a plan to spend 21.5 billion *won* (US $18.7 million) by 2007 to replace Microsoft's Windows operating system and Office suite with open source alternatives. Thousands of computers in ministries, government-linked organizations, and universities — comprising 20 percent of desktop software and 30 percent of server software — will be changed to open source software (Myung, 2003). Since the computer virus disaster, the MIC seems to have changed direction from dependence on Microsoft towards accepting open source software. To government officials, FOSS has gradually become more appealing due to the economic incentives it offers both to expand the scale and scope of the software market and to reduce acquisition, maintenance, and support costs. The promotion of FOSS in the domestic market has also been praised as a kind of patriotism that will help liberate the country from a long-term software dependence on other countries.

Nevertheless, implementing FOSS policies in Korea remains a complicated problem. The domestic software market is estimated as being up to $16 billion, the equivalent of a 2 or 3 percent share of the world software market (Korean IT Industry Promotion Agency [KIIPA],

June 2002). The Korean software market, along with others, has been making a rapid upturn. The profitable software market has led the transnational software monopolies to intervene in national IT policies more aggressively. For this reason, the introduction of FOSS at the government policy level is a controversial and sensitive issue for all the stakeholders involved. The MIC is caught in an ambivalent position between skeptical users of Microsoft and the international pressure of software monopolies. The ambivalence comes from the vulnerable international status of the Korean government, which feels its policies must respect the interests of Microsoft and other global vendors[1]. The government's uncertainty as to whether it is a proponent of FOSS or a collaborator with international software vendors could easily become a handicap because the opaqueness of its FOSS policies could lose the trust of its citizens.

Software Policy in South Korea

Korea's political and legal conservatism has become a crucial factor in determining national information policy. Because of this, in the near future government policy based on the market-driven philosophy of information and technology may promote a limited vision of FOSS development aimed simply at increasing the market value of computer software industries by using the open source concept. In the end, Korean FOSS policies may succumb to the ideological agenda of government and powerful private interests which together promote a patriotic discourse of escape from dependency on international vendors and at the same time more privatization, leading to a domestic market dominated by proprietary vendors.

International Constraints

At the international level, Microsoft and several leading transnational vendors have dominated not only the national software market but also most information systems in government institutions[2]. National software policies are largely determined by the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), or by the agreements of the World Intellectual Property Organization (WIPO), or by other unofficial trade pressures. The U.S. government, in particular, on behalf of its software, music, and film industries, has been pressuring newly industrialized economies to enforce international treaties that protect copyright and patent (Lee, in press). In Korea, no system of intellectual property can escape the pressure of legal copyright agreements involving international institutions. The domestic copyright system has succumbed easily to official and unofficial pressure from the U.S. for global commerce (Lee, 2005). As a result, the Korean government has not yet considered FOSS as a public policy model for all of its citizens.

Nevertheless, since the 1-24 Computer Disaster Korea's heavy dependence on transnational vendors has gradually diminished. The market-friendly logic of FOSS has allowed policymakers to consider FOSS to be the next generation of software that will vitalize the national IT business. In part, the Korean government's shift to a policy that favors FOSS has been fed by the nationalism springing from the anti-American sentiments of younger Koreans. The political motivation of citizens has roused national policymakers to review European and other Asian FOSS policies. Motivated primarily by a market-driven initiative similar to Raymond's idea of open source software, some government officials have begun to focus on the restoration of competitiveness to the global market.

Yet even though the technological benefits of FOSS are apparent, domestic policies are swayed by the market dominance of transnational vendors. For example, at the public hearing on

FOSS policy in March 2003, Microsoft harshly criticized the software policy of the Korean government[3], arguing that, on the principle of *laissez-faire* economics, the government should not be in the position of picking industry winners (Evans, 2002). That logic presupposes that only the marketplace can satisfy actual market needs (see Smith, 2002; Evans & Reddy, 2002). Microsoft has made explicit its opposition to the spread of FOSS programs within Korean government institutions, and thus the only area in which FOSS can be applied is the small portion of the public sector that will not cause friction with leading international software vendors. Unfortunately, if FOSS fails to gain market share within the domestic software market because of Microsoft's campaigns of discount, donation, and investment, the proprietary model may become the only realistic alternative for software policies.

Governmental Policy Constraints

For the decade following August 1995, when the parliament passed the Framework Act on Informatization Promotion (FAIP, Act No. 4969), the Korean government's basic policy has been oriented toward setting up economic "efficiencies" in the national and global market rather than toward citizens' information welfare and community-based IT development. The Act has been used to provide economic momentum to allow the bigger IT businesses to increase their market share with the formal support of the Korean government. The FAIP thus meant that the government would directly intervene at the policy level into the nascent market of IT industries and force them to restructure themselves toward IT competitiveness in both the local and the global knowledge market. The ostensible purpose of the FAIP is to improve Korean quality of life and to contribute to the development of the national economy, thereby promoting

informatization and achieving an advanced information and communications industry infrastructure.

The business-oriented goal of FAIP was further developed in the second policy plan, "Cyber Korea 21" (CK21), issued in March 1999. According to the *Informatization White Paper 2002* (NCA, 2002), the policy goal of CK21 is to create a "knowledge-based society", improving "national competitiveness" and "the quality of life to the level of the more advanced nations" (p.79). CK21 increased policy support for the IT businesses and encouraged policy goals for advanced information and communication economies by setting forth planned guidelines for IT growth. Moreover, according to CK21, the quality of life would be improved by the rapidly increasing opportunities derived from connection to the commercial broadband Internet made possible by the implementation of major electronic networks for e-commerce. It is apparent that the government's policies have overemphasized business-oriented growth policies based on values such as "efficiencies", "competitiveness", and "productivities", to the detriment of values such as "sustainability", "public commons", and "equal opportunities" for the public welfare.

The market-initiative has culminated in the most recent version of the government's IT policy, "E-Korea Vision 2006" (EKV06). In the *Informatization White Paper 2003* (NCA, 2003), EKV06 states that its goal is both to promote the "information society" at the national level and to gain "strong ties of international cooperation toward the global information society" (p. 10). To do this, EKV06 declares that the government itself must "create a smart government structure with high transparency and productivity" (e-government) and should encourage private corporations "to strengthen global competitiveness by promoting the informatization of all industries" (e-business) and enable citizens "to enhance their ability to utilize information and technologies" (e-eduction).

While the policy visions set forth in the e-government and e-business areas can be read as expanded and concrete provisions of the previous market-oriented IT policies, EKV06's addition of e-education for citizens seems to be a distinct shift from the policies of CK21 or the FAIP. It is notable as the first instance of the Korean government considering at a national policy level such public issues as the "information gap" between the information-rich and information-poor and between information-alienated regions and information-centered ones. As is typical of the bureaucratic approach to the citizenry, the government has restricted its role to inconspicuous tasks, such as supplying computers or promoting commercial Internet access, as well as the routinizing and rationalizing of electronic services for citizen requests for official documents. The focus is on a quantitative approach that emphasizes outward appearance and growth, as seen in the dramatic growth of the IT industry, rather than on the "soft" aims of improving the cultural ability of citizens to access, use, and recreate information without restraints.

Relevant Legal Issues

In Korea, computer software is protected for 50 years after its release date, according to the "Computer Program Protection Act" (CPPA) enacted in July 2000 (Ch. 2, Sec. 7, Article 3). The protection period of 50 years for computer software has a very different significance than it does for most other copyrighted material. Since the lifecycle of a given software version is only two or three years at best, the protection period of 50 years translates to an unlimited time, since, practically speaking, the software will never fall into the hands of the public. It is clear that the CPPA is biased towards the rights of authors rather than of users and this bias is embedded in the market-driven protection of private rights:

> The purpose of this law is to protect the rights of software program authors, to assist in the just use of programs, and to *promote the related industries and technologies* in order to contribute to the healthy *development of the national economy.* (Ch. 1, Sec. 1, emphasis added)

Increasingly, software companies depend on prohibitive contractual provisions to assert and arguably even expand their intellectual property rights in their attempts to gain market dominance. Contract law offers a potential conduit through which copyright holders can bolster the protection of rights that are unavailable under copyright provisions, and thus the CPPA is a result of negotiation between policymakers and software vendors that enables vendors to gain a more stable status in the commercial distribution of software. The CPPA can be seen as a policy decision to alleviate both the international discontent about the illegal duplication of software and the domestic request for a new law to promote the Korean software market.

In the CPPA there are a small handful of exemptions for such activities as encryption research, reverse engineering, and security testing (Section 12, Article 6). It seems miraculous that the "reverse engineering" provision survived despite continuing U.S. pressure, including pressure through international organizations such as the WTO, ever since the launch of the initiative for a sustainable domestic software market. For the Korean government to promote the domestic software industries and to compete with the global vendors, the provision needed to be defined in the Act. In newly industrialized economies, this kind of controversial provision is always caught in a vulnerable position between the multinational forces seeking to expand their monopolies and the national goal of promoting the domestic software market. In any case, Section 12 of the CPPA does not allow users a wide array of legitimate activities through such

safety valves as fair use, the distinction between idea and expression, and third party innovation. Instead, the policy goal is to legitimate what would otherwise be illegal software research and development by allowing reverse engineering as a legal incentive to nascent or established domestic software companies — not to promote users' rights to fair use.

In sum, in Korea FOSS is regarded as nothing more than a technological means of promoting market efficiencies and competitiveness. With policy being driven by international and domestic pressure to protect intellectual property as market-centered policies, it is difficult to pursue the alternative path of FOSS independent of market-driven desire. To domestic policymakers, the public value of software is negligible or even incompatible with their market-driven initiatives.

The Power Structure of FOSS Stakeholders

In December 2002, the Korea IT Industry Promotion Agency (KIIPA) published a working group report entitled *A Policy Report for Open Source Software in South Korea*, [4] which was sponsored by the Korean Ministry of Information and Communication (MIC). The MIC also held a public hearing on FOSS policies in March 2003 to collect the opinions of major stakeholders. The MIC planned to show examples of the national FOSS project selected from government institutions, local congresses, and universities. As regards software acquisition for government institutions, the MIC announced that the previous discriminatory policy favoring Microsoft Windows and the Officeware suites over FOSS would be eliminated (Kim, 2003). Three Northeast Asian countries — South Korea, China, and Japan — signed a deal to develop a FOSS system to replace Microsoft Windows (Yang, 2003), marking a major joint step forward for the

three economic heavyweights in the region. At the same time, a government project was announced to partly replace Microsoft with FOSS in government institutions by 2007. During December 4-7, 2003, the MIC also successfully opened a FOSS market exhibition called "SoftExpo 2003." Taken together, these events reflect the rapid change of Korean government policy towards the software industry and show that the government has begun to consider FOSS as a significant engine for software development.

Nevertheless, the Korean government, and specifically the MIC, has shown an ambivalent attitude towards FOSS, allowing dominant global vendors to exert direct or indirect pressure on domestic software policies. For example, the Secretary of the MIC ordered the general use of MS PowerPoint software for public briefings of government officials, which evoked anger from the anti-Microsoft front. More disturbing, in June 2003, despite the protest of civil rights groups, the government appointed a controversial figure who had been CEO of Microsoft Korea as the director of the KIIPA, the MIC agency responsible for national software policies. These two episodes indicate that the Korean government has no coherent principles for establishing FOSS policies. One serious problem the government has is that it depends entirely on a market-driven policy. The ambiguity of government policy is likely to continue as long as the Microsoft platform is the dominant power in the national market and in government institutions. Meanwhile, anti-MS vendors such as IBM and Sun Microsystems, which have led the way in the commercialization of and investment in FOSS, have gradually grown in strength. Although these anti-MS vendors will not be able to replace the MS market share with theirs for some years, they have already become influential stakeholders who can intervene in domestic policy formation.

Another noticeable stakeholder is the Korea Linux Council, which consists of members of governmental research centers, industry, and universities. Originally planned as a market-friendly think-tank, the Council has withered away because it has been in conflict with the KIIPA's Assistance Center for Open Source Software, which supports FOSS developers, ventures, and distributors. The conflict arose over the question of who has the priority in implementing government policies for FOSS business.

The remaining stakeholders, those who have emphasized the public development of FOSS, have so little political power that it will be difficult for them to challenge either the current ambiguous government policies towards FOSS or the business model of FOSS. They have not yet sufficiently developed their own policy alternatives for FOSS. The stakeholders in this group are GNU Korea (a Korean branch of the Free Software Foundation), the active FOSS program developer or user groups, electronic civil rights groups such as the People's Solidarity for Participatory Democracy, and the Jinbo Network Center, which is the Internet Network for non-governmental organizations and has directly supported citizens' rights. In short, in the power balance among FOSS stakeholders, the business or market model holds a dominant position over the application of FOSS to the public and nonprofit sectors in building domestic software policy in Korea (see Figure 1).

Figure 1 The power structure in the Korean FOSS policies
Take in Figure 1 – ref p. 25

Learning from Others' Experiences

An article in *The New York Times* (Schenker, 2003) reveals that the information and communications technology arm of the United Nations Development Program is advising

governments that want to move to open-source software on how FOSS could become the foundation for local software development. It would appear that FOSS is now a general trend. The *Times* cites the opinion of Samuel Guimaraes, Executive Secretary of Brazil's Ministry of Foreign Affairs, that "open-source, or free-to-share, software was crucial for the developing world because it would permit poorer countries to develop their own technology instead of having to import it" (Schenker, 2003, C4).

This comment by an influential Latin American official implies both that FOSS will rescue the developing countries from the mire of underdevelopment and that FOSS is an engine for the growth of the underdeveloped economy. Such implications should be viewed with caution, because the passionate desire for "development" has often furthered unequal relationships between nations. It is a mythical logic that never wants to consider a negative outcome in which the winner takes all. FOSS is only technology, despite its revolutionary and democratic potentialities. The idealistic concept that FOSS has its own independent path should be rejected, because technology is malleable, transmuting its form and substance at the command of human beings.

If a government is capable of understanding the ambiguous nature of such a technical artifact as FOSS, Guimaraes' comment can be more than just a dream for a developing country. Increasing technological self-reliance and decreasing dependence on international vendors' monopolies depends wholly on exploring a sustainable path of policy implementation, beyond the bounds of the privatized software model of an advanced country. This independence will be assisted by a two-pronged public policy: one prong is the community-based use of FOSS; the other is the use of free software for government departments and public sector entities. These two tactics will increase the popular use of FOSS. We can see how this works at the local in the

"telecenter project" in Sao Paulo, Brazil. The aim of the telecenter project is to provide marginal neighborhoods with free access to computer networks. To achieve the policy goal of a low-cost technology alternative and a high quality service, open source operating software such as Debian Linux was adopted as the underlying infrastructure technology. The city of Sao Paulo operates a total of 128 centers directly and each center provides free service to about 3,000 users (Dravis, 2003, p. 13). This kind of community-based policy model has been gradually increasing around the world.

Meanwhile, at the level of government and the public sector, the European Union, whose software industry has not lagged far behind that of the U.S., has a different concept about developing FOSS as its own business model. For instance, a well-known policy report entitled *Free Software/Open Source: Information Society Opportunities for Europe?* written by the EU's Working Group on Libre Software (April 2000) centers around the anticipation of enormous economic profits. Although policies supporting FOSS can improve the software market, more significant, once again, is the establishment of a strong policy to implement FOSS in public and nonprofit sectors such as public administration, education, public health, defense departments, and so on (Forge, 2004). That the FOSS market policy "has sold its soul to the devil" can be seen in the evolution of open source-inspired networks accepted by technology vendors: over time, as de Laat (2004) notes, the application of the earlier FOSS model in industry has been displaced by the closed and limited model of corporate networks. For this reason, market-driven policy promoting the commercial use of FOSS may be more vulnerable to the control of proprietary companies than the policy of promoting FOSS use for public sector entities.

To escape these dominant discourses of pursuing a business model of FOSS, the Korean government needs to investigate international experiments in FOSS policies, especially those of

some advanced European governments that focus on the philosophy of free software for the public good. Powerful FOSS policies in public sector entities are well-developed in Germany and France, while FOSS policies are increasing in England and Spain, and are marginal or just starting in Austria and Belgium. In particular, we should look at the German "BerliOS" project. This project, sponsored by the German Ministry of Economy and Technology (Bundesministerium für Wirtschaft und Technologie), is a Web-based FOSS service network that helps the German government to set up favorable conditions for FOSS users, developers, service providers, and small- to mid-sized manufacturers. The German government actively intervenes in the raising and investing of FOSS funds for the development and release of educational open source programs and for the revision of intellectual property laws to assure FOSS licensing within the copyright system. These various policy experiments of using free and open software at each level of government — central government, government departments, local authorities, and local communities — demonstrate the kind of public policy that is necessary in order to promote software use as a public good both to the economic system and to the public sector.

Some Suggestions for a Desirable FOSS Policy

Germany's application of FOSS suggests two directions in which the Korean government needs to move: First, the Korean government must be relatively free from international market conditions and from pressure from multinational software vendors; although a smaller power is typically accustomed to letting larger powers lead at the international level, the Korean government needs to assert its independence in the public policies related to international software trade. Second, as seen in the telecenter project in Brazil, FOSS policy should be based on encouraging the public welfare of the citizens. If the Korean government is willing to

consider FOSS as a significant software policy, it must focus on the philosophy of free software rather than the market-driven idea of software.

It is disheartening that the primary interest in Korea's information policy so far has been in promoting the private market while relegating the public rights of citizens to the lowest priority. Desire for survival and competition within both local and global markets has induced policymakers to embrace a restrictive and exclusive view of owners' property rights, rather than to find a middle ground of policy that balances various stakeholders' interests. The government initiatives and legal structures surrounding information policy, which are closely related to the development of the domestic software scene, should not be skewed towards encouraging private rights under the banner of national informatization, and public rights to information should not be displaced by an emphasis on the rapid increase in the number of citizens using the new communication technologies. Such market-oriented policy decisions spring from the liberalist ethic that growth in the market will cure social problems in a "trickle-down" manner. The current FOSS policy is bound by the market-driven approach, and if the open source idea of intellectual collaboration is mainly used for remodeling business organizations to result in more monopolies, the new FOSS policy will just be another market incentive for protecting proprietary profits. It is instead vital for public policy to reduce the impact of the dominant software vendors that threaten the public welfare and to support legally and financially technological development for the citizens based on a participatory democratic model.

FOSS policy is an exceptionally important experiment to see whether the Korean government can handle a controversial technical artifact so as to promote social justice or simply the interests of the monopolies. The strong point of FOSS is that it is an immature technology newly introduced in society. An emerging new technology may have a relative "degree of

freedom" (Hughes, 2001, p. 54) before reaching the later stage of "closure", the stabilization of an artifact or its solidification (Pinch & Bijker, 1984). The malleable stage of technology is an intervention point where, in opposition to current neoclassical market policy, citizens could encourage government to regulate the brutal market mechanism embodied in the law of the jungle that "bigger is better." Once the policy is solidified, it will be difficult to change. If citizens want to intervene in the power structure that is embedded in a technical artifact, this malleable stage of FOSS policy is the best time to embed social values in it before it falls into private hands once again.

Notes

1 The ambiguous position of the Korean government has arisen from international conflicts, mainly with the U.S., such as the politically, economically, and culturally complex controversies over whether to send peace-keeping troops to Iraq, whether to open the agricultural market to the global monopolies, and whether to preserve the "Screen Quota System" for encouraging domestic films.

2 For instance, Microsoft's Windows software controls the basic operations on more than 90 percent of all personal computers sold worldwide (Lohr, 2004).

3 The following political gestures of Microsoft reflect its anxieties about FOSS as a bold challenger: an array of the "Shared Source Initiative Programs" in 2001, the "Trustworthy Computing Initiative" in 2002, and the "Government Security Program" in 2003. These "pseudo-open" Microsoft policies cannot halt the rise of FOSS in the global software market, but it has become clear that the defeat of FOSS is the ultimate goal of all of these Microsoft projects. Microsoft's false declaration that it will ensure access to its programming code has, however, succeeded in persuading some government agencies, such as the Polish Defense Ministry and the London borough of Newham (Lohr, 2004). For detailed examples of Microsoft's "dirty tricks" against FOSS applications in developing countries, see Fuller (2003).

4 The nearly 300-page policy report was written by a working group of government, business, and academic leaders that met from June 12 to October 31, 2002. The report supports FOSS because of its potential to enhance South Korea's international competitiveness and to revitalize the domestic software market. The working group consisted of 19 members with three subgroups, accredited from the Ministry of Information and Communication, the Korea IT Industry Promotion Agency, the Program Deliberation and Mediation Committee, GNU Korea, Korea Sun Microsystems, several government-sponsored research centers, and some universities.

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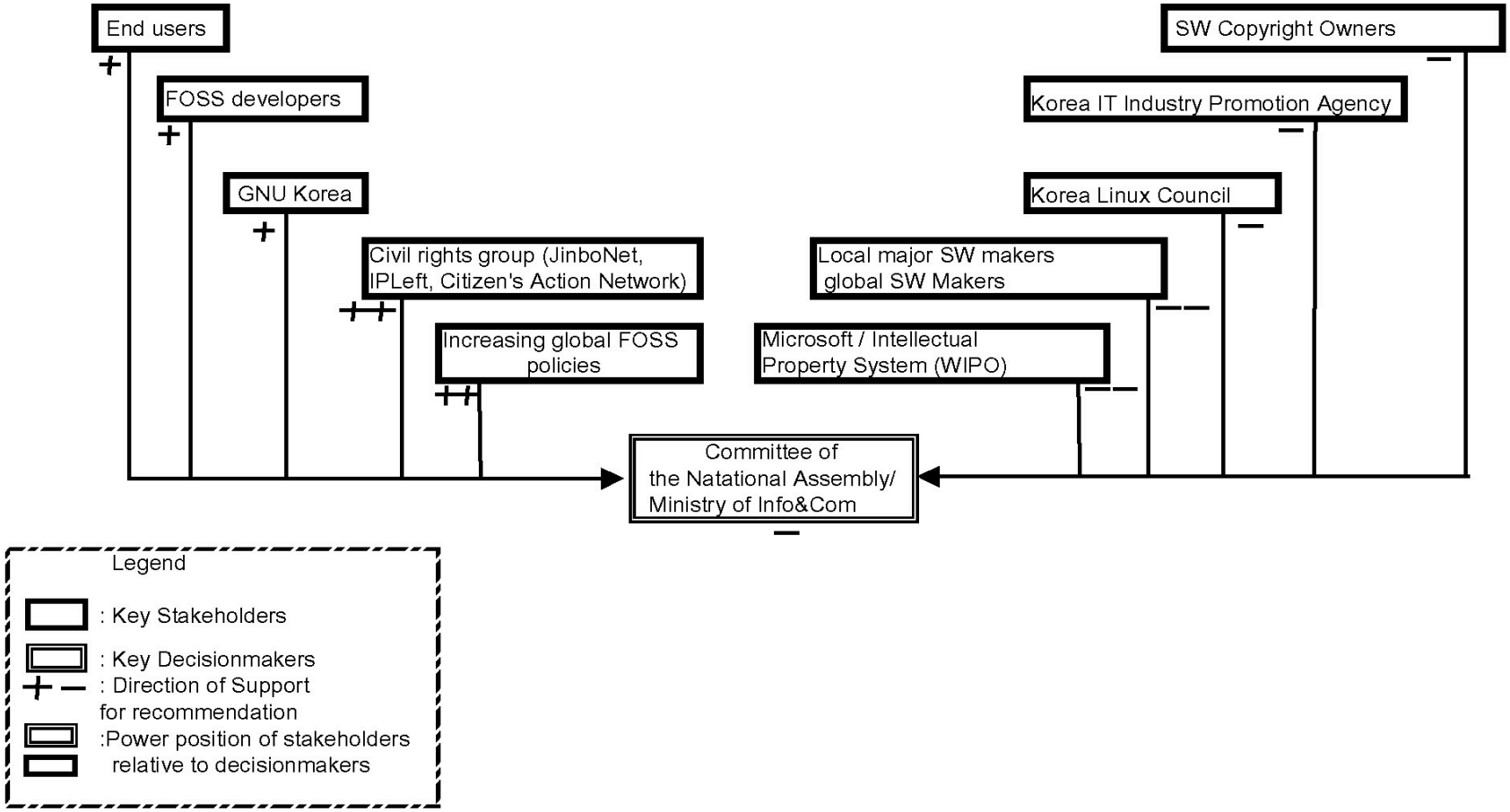

Source: Majchrzak (1984)