

Reuse of Public Sectors Information in US: Challenges and Strategies to Information Resource Management

YANG Hongyan^{[a], *}; CAO Mingdi^[b]

^[a] Research Center of Humanities & Social Science Evaluation, Renmin University of China, China, Beijing, China.

^[b] Beijing Greatwall Enterprise Institute, China.

*Corresponding author.

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Abstract

The author investigated all the case laws involved in reuse of US public sectors information in the LexisNexis Database from 1967-2009. Through qualitative and quantitative analysis of these cases, key challenges brought by information reuse to public sectors' information resource management and services, and their coping strategies were concluded. By analyzing processes and outcomes of court decision for the cases, the author hold that US encourage reuse of public sector information as possible as they can by improving information resource management and services in public sectors, , which acquires more advantages than disadvantages and provide valuable experience and lessons; in information age, public administration is developing to “administration based on information resource”, requiring public sectors to emphasize “view of information resource”.

Key words: Public sector information; Information resource management; Reuse; Value-added exploitation; Information services

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INTRODUCTION

Reuse of Public Sector Information (PSI), as an important way of exploiting and using information resource, is driving more and more countries' attention. There are two key features of reuse of PSI: 1)Users are individuals or organizations, other than public sectors themselves; 2)the purpose of use is to satisfy the demands of the users, other than to satisfy the original demands of which public sectors collect or create the information. Due to the expansion of user scope and diversification of use means, the information's superiority of “can be shared with low cost” plays an important role, so that more value of PSI is realized as far as the whole society is concerned.

When public sectors disseminate information to the public in the purpose of reusing PSI, the situation is more complicated than that in the purpose of disclosing PSI. In the latter situation, public sectors are allowed to decide the format of PSI to be disclosed, and are not required to make much redaction to the information before disclosure, because the goal of PSI disclosure is to insure citizen's right to know. Generally speaking, to disclose information is regarded as a basic function of a public sector, therefore, it is a consensus that public sectors should do this job for free or at most charge for basic cost. Compared to disclosure, reuse of PSI is required to meet the public's individual and diverse information demands, so public sectors have to invest more human resources, material resources and financial resources in them and elaborate measures of how to implement the services. During this business, it is necessary for public sectors to adopt advanced technologies, means, methods, policies and systems to improve their information resource management and services.

Among various countries, US take the strategy that public sectors should provide PSI held by public sectors to the public for reuse freely or with the fee not more than the cost expenses, as possible as they can, and not to limit the means how the public reexploit and reuse the infor-

mation. With such a principle, US gain high economic benefits and social acceptance, making US an example followed by many other countries. However, laws and regulations for information reuse still bring many challenges to information resource management of public sectors. E.g., should public sectors change the formats or make redaction to information according to reuse demand? How do public sectors cope with the increase of burdens and investments in order to provide information to the public for reuse? And so forth. It is significant to study the challenges and strategies for improving information resource management theory and guiding the practice of information resource management in public sectors.

Existing research mainly focuses on 4 topics as below: 1) Principles of information value-added in reuse of PSI. E.g., with the concept of value chains from Michal Porter, Cisco (Cisco, Strong, 1999) agreed to regard information value as utility or importance so that the value is added when the original data are changed into knowledge to support decision during the information flowing process; it details the information value-add environment on the value chains from records and information management perspective. 2) Information rights involved in the reuse process. Papapavlou et al. (Papavlou, 2000) found differences of information rights definitions in reuse of PSI between US and Europe: access and use of PSI is viewed as one same right in US, but it is viewed as two different rights in Europe. But both US and Europe undoubtedly hold that the public's right to open access and use PSI should be crucial to reuse of PSI. 3) Industry development and economic benefits brought by reuse of PSI. E.g., Nilsen (Nilsen, 2001) studied the commercialization information policies of Canada from 1980s to the early of 1990, and discussed the disadvantages of commercialization of PSI. 4) Policies, laws and regulations related to reuse of PSI. E.g., Pas (Nilsen, 2001) proposed that policies for information value-added exploitation and use should consider not only economic factors, but also cultural, social and political factors, and in the purpose of maximizing benefits to the whole society.

One important premise for reuse of PSI is that the public sectors can make good management of information resource they hold and have the ability to provide the information to the public. So, how to improve public sectors' ability of information resource management and services is an unavoidable issue in reuse of PSI, which is also this research concerns.

Taking US as an example, research questions of this paper include:

- What key challenges are put forward to information resource management in public sectors by PSI reuse?
- How do public sectors cope with the challenges?
- Should public sectors change their information functions to facilitate reuse of PSI?
- What roles should public sectors, private sectors

and citizens play in reuse of PSI?

To answer the questions above, it is necessary to synthetically summarize the scenarios where the most contradictory conflicts happen. By case study, the author finds out key challenges to information resource management in public sectors brought by reuse of PSI and reviews whether US's coping strategies are proper to solve them. The author searches in LexisNexis Database for case laws involved in reuse of PSI and obtains 230 cases happened from 1967 to 2009, in which 76 cases are about issues of information resource management in public sectors. These 76 cases were raw materials for this study.

1. CASE STUDY OF US REUSE OF PSI

With the statistical analysis of the 76 cases, it is found that reuse of PSI brings 4 types of challenges to information resource management in US public sectors. And US public sectors have explored and adopted corresponding coping strategies.

1.1 "Public Sector Information" Needs to Be Redefine

PSI is defined in many US laws and regulations, and an overall and accurate concept of PSI could be got by summing up them. However, it was seen that there are still divergences in implementation. 8.2% of the cases of the sample indicated that definitions of PSI's content and format needs constant renewal to satisfy the demand of PSI reuse.

a. Electronic format information held by public sectors, such as soft wares, databases and digital maps, is it "accessible and reusable PSI"? Is it covered by traditional definitions of PSI? There are 12 cases revealing issues about reuse of electronic format PSI. Both US federal and state public sectors hold that: electronic format of PSI has new features on format, but the nature of the information doesn't change, that is to say, electronic format is not the criterion to determine whether the information can be reused or not. E.g., in a case which happened in County of Santa Clara, California in 2009, the dispute was produced because the County refused to provide digital maps held by themselves to a non-profit organization for the purpose of value-added exploitation. The focus of the dispute was whether digital maps were PSI.

b. Does PSI only refer to the existing information held by public sectors? Should public sectors make redaction to the existing information or even create new information to satisfy reusers' demand? Private sectors wish public sectors to provide PSI in content and format customized for their specific demand when they try to make profits with the PSI. E.g., in 2007, State of New York, DataTree Company asked County of Suffolk to modify the format of the data held by the public sector, so that DataTree can reuse them for commercialized value-added exploitation. But the public sector thought that they were requested to create new information. A similar case happened in State

of Tennessee in 1997, in which Nashville, a news media company, asked for information including specific names, addresses and telephone numbers. The public sector also held that they were requested to “create information” in the name of “Public Records Act” and refused the request.

It is obvious that if the format and content of public data meet the commercialization demand of private sectors, private sectors’ value-added costs would be decreased. In US, reuse of PSI is based on the public’s rights of open access to PSI; without explicit definition for PSI, dissemination and reuse of PSI would be impacted, and it would provide public sectors with excuses to charge unreasonable fees with PSI reuse. US federal information acts and state “Public Records Acts” both clearly define the connotation and denotation of “accessible and reusable PSI” and “public records”. But the cases still saw the need to renew the definition of “reusable PSI” further.

When solving the issue of whether public sectors should redact or create PSI before disclosure them to reusers, US’s basic strategy is that reuse of PSI should not increase public sectors’ burden of creating information, but it is their responsibilities to make necessary redaction to the existing information. So in nature, does it mean an expansion and reformation of public sectors’ information function?

1.2 Public Sectors Are Required to Further Enhance Their Ability of Information Services

12.1% cases of the sample showed that public sectors’ ability of information services were challenged due to massive requests of information access in the purpose of PSI reuse: 1) In 19 cases, reusers doubted the adequacy of which public sectors searched for the information, and asked public sectors to prove the search adequacy; 2) In 10 cases, reusers were dissatisfied with the efficiency of information services by public sectors, and asked them to provide information in time to meet the reuse requirement. These two kinds of cases substantially showed the contradiction between public sectors’ limited ability of information services and continuous increasing social needs for PSI reuse.

The cases involving in search adequacy of PSI showed that, challenges mainly include: 1) How to ensure public sectors to search out all the requested information and provide it to the requestor when the requestor could not participate in the searching; 2) How do public sectors themselves prove their search adequacy; 3) Who can arbitrate when public sectors and requestors’ opinions diverge. In 1985, James Miller applied to a federal public sector for historical records of Israel’s attacking US for the purpose of history study. He thought that the search by the public sector was not adequate after he received the information provided by the sector. He sued and asked the court to judge whether the public sectors had searched information adequately. According to the materials the public sector provided to prove reasonableness of their search, the court stated that the defendant had documented

an adequate search. So did the case of *Ferranti v. Bureau of Alcohol, Tobacco & Firearm* which happened in 2001. Ferranti received some information from the bureau, but he thought that the search was inadequate. The court concluded with the evaluation of search methods that the public sector’s search met with the provisions of adequacy. The case of *Cozen corporation v. US Department of Treasury* got a different outcome. The law firm sought documents to assist it in prosecuting civil claims against those responsible for the 9/11 terrorist attacks. The firm challenged Treasury’s description of its search, claiming it did not explain how the search was conducted. The court held that there were questions regarding the adequacy of Treasury’s search and Treasury should submit supplemental information.

The cases involving in services efficiency showed that, challenges mainly include: 1) Limited resources of public sectors could not meet the general limit time required by laws and regulations when massive requests for PSI occurred; 2) When reusers have a definite “urgent demand”, but the public sectors cannot satisfy it, reduction of reuse efficiency is engendered. In 1976, *Open America*, a non-profit organization asked FBI for all the records about Watergate, but got no response before the legal deadline. The organization sued FBI and requested to disclose the information faster. But the court held that the plaintiff didn’t prove its “urgent demand” and allowed FBI to delay the disclosure. Another similar case was the lawsuit of *John Gilmore vs. U.S. Department of Energy*. In 1998 Gilmore requested the software code and conference documentation for a technology from the DOE. It took over 6 months for DOE to provide the information leading to the requestor’s dissatisfactions. The plaintiff also claimed to the court over 10 cases of DOE untimely responses. But the court denied summary judgment on whether the DOE had a pattern and practice of untimely responses for information services because the cases only covered a small proportion of DOE over 200 cases every year.

Strategies of US public sectors for the issues above showed that with the change of environment and demands, public sectors’ ability of information resource management and services need corresponding changes. In general, for the issue of search adequacy, US’s main coping strategy is to clarify the requirements that public sectors’ search action must meet, and judge search adequacy with the requirements to decide whether the search was reasonably calculated to uncover all relevant information; for the issue of limit time, US public sectors point out time requirements to response information requests in different cases and provide both “urgent” and “delay” approaches for exceptional circumstances..

1.3 Public Sectors Are Required to Innovate Means of Information Processing

Cases showed that reusable information and un-reusable information (such as the information that obviously

leads to privacy invasion or endangers country security) usually interweaved together. In order to improve the level and efficiency of PSI reuse, public sectors should master more advanced means to process information. Advanced processing technologies help not only to facilitate reuse of PSI adequately, but also to protect the stakeholders' interests. The means include: 1) Separate information suitable for reuse and that unsuitable for reuse with segregation and redaction to avoid damages to the stakeholders before disclosing PSI; 2) Mark the information for reuse with original PSI label, e.g. with watermark etc.; 3) With indexes of the PSI, or in camera inspection by the court and other means, clarify that the information that public sectors refuse to disseminate is indeed unsuitable to open and reuse.

In 29.1% of the sample cases, information processing means used by public sectors played an important role in reuse of PSI. For instance, in 2004 William H. Michelson applied to City of Plainfield to seek disclosure about health insurance coverage provided to public employees and their families, and the claims history under those coverages. Because the records included secret information about identity and health, the public sector disseminated the records after deleted the sensitive part. In 1985, Professional Review Organization of Florida INC. sought to disclose of certain records pertaining to a contract award by US Department of Health and Human Services. To protect commercial secrets, the Department produced a blank score sheet indicating the rating categories utilized in the evaluation of proposals. In 2007 Fred Burnett asked County of Bergen for 8 million pages of land records to establish a global commercial database. The county used a watermark disclaimer to appear on the copies so that they would not be mistaken for current, official records. In 1974, in the lawsuit of Robert G. Vaughn v. Bernard Rosen, executive director, US Civil Service Commission, et al., the public sector offered an index which detailed the withheld records. Later the index was called "Vaughn Index", which acted as a reference of the detail extent to which public sectors offered indexes. In 2006, Baker & Hostetler LLP requested documents relating to US Department of Commerce's investigation of Canadian softwood lumber imports to the United States. But the Department dispute with the company for some records containing confidential commercial information. Based on in camera inspection, the court agreed and therefore concluded that the records were properly withheld.

However, about information processing means, several issues still exist: 1) Who, reusers or public sectors, should pay for the work to separate information unsuitable for reuse or to make the index to prove information unsuitable for reuse before the information is disseminated to reusers? The Cases showed that present policies intended to let reusers to pay. In the lawsuit of Robert G. Vaughn v. Bernard Rosen, executive director, US Civil Service Commission *et al*, the court thought it

was an extra work for public sectors to make index, and the reuser should pay for it. So did another lawsuit case happen in State of New Jersey in 2002. The Courier Post sought to disclose six and one-half years of attorneys' monthly itemized bills for publishing. Lenape Regional High School District wanted thousands of dollars to comply with the request for records, claiming that an extraordinary burden was placed on the district by the request. Obviously, this strategy may lead to unaffordable expenses when massive work occurred. 2) The present information processing means adopted by public sectors couldn't ensure all the interwoven information to be able to be separated effectively. So when the information weren't able to be separated effectively, public sectors couldn't disseminate information to reusers. That is to say, efficiency and extent of information reuse was restrained by public sectors' information processing means. For instance, in a lawsuit case happened in State of New York in 1998, Siegel, Fenchel and Peddy P. C. sought access to the inventory of all privately-owned real property within a designated area. The inventory revealed the tax map numbers of each parcel and the names and addresses of the corresponding property owners. Central Pine Barrens Joint Planning & Policy Commission et al. refused to offer the information the law firm, claiming that release of the inventory's tax map numbers would still allow the law firm to identify the names and addresses of the property owners, and such would constitute an unwarranted invasion of personal privacy. 3) It is necessary to judge in what case watermarking, indexing, in camera inspection should be adopted for they were burdens to public sectors. Cases showed that public sectors which held information undertook the work of information redaction, indexing, watermarking, and etc. and judicial branches undertook the work of in camera inspection. But the standard of in what case to undertake such actions was unclear.

1.4 Public Sectors Are Required to Cultivate the Public's Ability to Reuse PSI

In the past decades, US public sectors gradually transferred information functions onto private sectors and exercised their ability of reexploitation and reuse of PSI. In the early of US PSI reuse, some simple processing means, such as indexing, abstracting, transforming papers to electronic formats, and so forth, were used; the progress of information technology and maturity of information content industry led to generating a few more intelligent means of value-added and reuse, such as producing GPS navigation. But despite of simple or complicated means, US public sectors deliberately pushed privatization of information activities. In the process, strategies were emphasized to solve following issues: 1) How to arise private sectors' initiativeness to participate in value-added exploitation of PSI; 2) how to decide what functions are suitable for private sectors to undertake, and what functions are suitable for public sectors? 3) How to

promote innovation and enhance core competition ability of information enterprises in reuse of PSI.

The cases showed that in 1980s some US information enterprises collected a lot of reports from public sectors, produced indexes or micrography copies, and sold them, such as "Indexes of Congress Publications", "Indexes of US Data", Carrolton Press's "Retrieval System of Decrypted Documents from Public Sectors", and Research Publications Company's "micrography copies of reports about US patents approval"; Later kinds of public and private libraries became large customer of these companies. Some companies provided kinds of ancillary services, such as searching and consulting, to help the public to obtain PSI easier. It is an important means of value-added exploitation to turn paper PSI to electronic formats, which is what Amazon and Google are deeply engaged in currently. Besides, US have been motivating private sectors to engage in much work that public sectors did themselves. The typical case is privatization of National Technical Information Services (Wood, 1988).

1.5 Public Sectors Are Required to Provide Cheap or Even Free Information to the Public for Reuse

Information pricing, charging and use limiting were important when information was offered. Issues to be solved include: 1) Should reusers be charged for acquiring PSI? 2) How should PSI be priced? 3) Should commercial reuse of PSI be limited or charged more fees?

There were clear different strategies for the issues above by US public sectors' in different stages and levels, some of which were mutual contradictory, leading to ambiguous execution standards. two kinds of strategies are included: 1) Charge with direct and marginal costs of duplication, search and inspection. It was the main basis for US federal public sectors to charge for acquiring PSI, which were generally accepted and endorsed. 2) Charge with high "cost recovery" fees in some past federal sectors and some current state public sectors. E.g., 12 ones of all the 58 counties in California charged GIS information at a price higher than copy costs. County of Clark, Wisconsin charged the digital aerial photography pictures only at disseminated costs, but County of Brown charged similar information with the strategy of "full cost recovery". In 1990s, Automated Tariff Filing and Information System established by Federal Maritime Commission also tried to adopt the strategy of "cost recovery" to increase prices of digital products, including maps (Weiss, 2002).

About pricing of PSI, US public sectors mainly focused 3 factors: 1) What kind of fees, such as fees for search, copy, redaction, etc. should be charged when requestors obtain information from public sectors? 2) Who should decide how much to charge? Are there any criteria? 3) Should charging be uniform or different according to the situation, such as location, afford ability, and the purpose of reuse, etc. According to analysis of cases, firstly, if

reuse of PSI would produce significant public benefits or the requestors belong to disadvantaged group, public sectors should waive the charging fees for information search, copy and redaction. 14 cases were involved in this issue, among which 8 cases' applicants were waived part or all of the fees. Secondly, if someone has to obtain PSI through lawsuits, the requestor has the right to request the court to pay attorney fees as the compensated and rewarded. There were 38 cases requesting this kind of rewards, and finally the requestors in 23 cases got the fees. Thirdly, public sectors should ensure the public's basic information right to access to PSI. A good case is that Amazon makes value-added exploitation of historical records, produces DVDs and sells them at market price. But all the public could access to these paper historical records from national public libraries

2. COMMENTS ON REUSE OF PSI IN US

2.1 To Summarize: US Public Sectors' Strategies to Cope with Challenges Brought by Reuse of PSI

To sum up, US public sectors take following strategies to cope with challenges to information resource management and services brought by reuse of PSI (Seen in Table 1).

Table 1
US Public Sectors' Strategies to Cope with Challenges Brought by Reuse of PSI

Challenges	Main Strategies
"Public Sector Information" needs to be redefine.	Public sectors should disseminate electronic information for reuse; format of information is not a criterion to decide whether PSI should be disseminated. PSI which already exists is supposed to be disclosed to requestors, but public sectors should not have the burden to create "new information" for an individual's need; public sectors may make necessary redactions to the information before dissemination if a requestor is willing to pay for the work.
Public sectors are required to further enhance their ability of information services.	Public sectors have responsibilities to offer search methods in order to let requestors or judicial departments understand the search adequacy. Provisions of disclosing PSI should clearly state time limit for public sectors to respond to an information request; Public sectors are allowed to extend time limits of disclosure when they can show exceptional circumstances, and requestors also have the right to request shorter responding time for urgencies.
Public sectors are required to cultivate the public's ability to reuse PSI.	It is an important function of public sectors to disseminate information to the public for reuse; the public have the right to access and use PSI; those who positively use PSI should be rewarded. Guided with procurement, outsourcing and investment, private sectors are encouraged to undertake some information activities which were done by public sectors before.; private sectors are encouraged to innovatively reexploit and reuse information held by public sectors.

To be continued

Continued

Challenges	Main Strategies
Public sectors are required to provide cheap or even free information to the public for reuse.	<p>Costs and benefits of public sectors' information activities should meet the ends, and benefits could include fees of charging users, but charges should be waived or reduced for disadvantaged groups and those in public benefits.</p> <p>Majority of public sectors charge direct and marginal costs of duplication, search and inspection; and in some exceptional circumstances, the fees can be waived; but minority of public sectors sell PSI at high prices.</p> <p>Majority of public sectors don't limit the public to access and reuse PSI for commercial purposes; but minority of public sectors limit the commercial reuse of PSI or charge more fees.</p>

According to the above summarization, reuse of PSI requires US public sectors to make a series of improvements to their original function of information resource management. When US public sectors tried to solve this problem, their information functions were enhanced and enlarged. Currently, providing PSI to the reusers has become an important information function of US public sectors. What's more, the majority of public sectors take "to maximize the value of PSI to the whole society" as a basic principle in practice, disseminate PSI to the public timely and effectively as possible as they can, and encourage the public to reexploit and reuse PSI in various ways (including commercial and private ways) in order to add value to PSI. With the strategy, private sectors and citizens are motivated to reuse PSI positively. This can be proved by many cases that the public actively requested the public sectors for information for reuse.

2.2 Advantages and Disadvantages of US Public Sectors' Strategies

As a whole, US public sectors' strategies to cope with challenges brought by reuse of PSI obtain more benefits than losses, from which advantages and disadvantages can be seen.

2.2.1 Advantages: the Strategies are Beneficial to Maximizing the Value of PSI to the Whole Society

During the process of PSI reuse, the public propose a series of requirements on content, format, availability, accuracy and standardization of PSI, and US public sectors take effective measures to cope with these requirements in time, which improve the level of US public sectors' information resource management and services. Generally speaking, the strategies lead to a "triple-win" result: firstly, a lot of private sectors join with US public sectors in exploiting information held by public sectors. It is a new approach of realizing information function of public sectors mainly relying on private sectors, which reduces burden of public sectors, optimizes the information function of public sectors, and improve the efficiency of information resource exploitation. Secondly, private sectors' ability of exploiting and using information resource is enhanced, which is beneficial to the development of US information

industry. Thirdly, the public enjoy more, better and faster information services. The advantages of the strategies are mainly showed as below:

a) *The Strategies Ensure Quality and Supply of PSI Resource, and Provide Good Foundation for Reuse of PSI.* By improving information resource management and services, US public sectors have improved orderliness, availability, accessibility, and completeness of PSI which makes information resource held by US public sectors has three advantages: high quality, easy accessibility, and low price (Pira International, 2000), contributing to reuse of PSI.

b) *The Strategies Enlarge the Scope of Value-Added Exploiters and Users of PSI Resource.* When US public sectors disseminate information to the public, insist on the principle of "disclose the information which can be disclosed as possible as they can", therefore, the enthusiasm of citizens and private sectors, especially the information enterprises, to access to and use PSI is aroused. Private sectors voluntarily request public sectors for information and reuse them commercially. Because compared to public sectors, private sectors are more sensitive to information market and are more active to innovate, thus the scope of value-added exploiters and users of PSI resource are enlarged, which is beneficial to improve efficiency of information exploitation, and realizes more value of PSI resource.

c) *The Strategies Reduce the Total Cost of Information Production in the Entire Society.* Because the public can easily access and acquire PSI with low cost, making PSI "produced once, widely shared, exploited and used many times", which reduces the total cost of information production in the entire society. The strategies ensure that a great deal of information, which is public, of large number and has commercial value, is widely and deeply developed and used by private sectors. For instance, in year of 2007, the National Archives and Records Administration announced that it had reached a non-exclusive agreement with Amazon.com and one of its subsidiaries to reproduce and sell to the public copies of thousands of historic films and videotapes in the Archives' holdings (Ruane, 2007). As a result, development of US information industry are pushed (Pira International, 2000) employment are increased, too (U.S. Congress House, Committee on Energy and Commerce, 1981). It was estimated that the US PSI market place was up to five times the size of the EU market (Pira International, 2000). Taking Weather Risk Management industry as an example, all the contracts during 1997-2003 were up to almost \$ 7.3 billion in US, more than the sum of all the other countries' contracts (Pricewaterhouse Coopers, 2001).

2.2.2 Disadvantages: Negative Influences on Efficiency and Effect of PSI Exploitation and Reuse

The disadvantages of US strategies show as below:

a) *Quality of a few information services decreases due to excessive commercialization and privatization.* When US public sectors disseminate information to the

public, “extreme loose” strategies are taken. They rely on approaches of commercialization and privatization so much that the public show opposing opinions and queries. For example, people in R&D field argue that private sectors don’t pay attention to information which doesn’t have commercial value but can show national developing trends or evaluate public sectors’ projects; therefore this kind of information is not collected, disseminated or difficult to locate (Eisenbeis, 1995). Commercialization has negative impacts on accessibility, availability and long-term preservation of high-scientific information held by public sectors; when the information is transferred to private sectors, information price goes up, leading to some people can’t afford to buy them (they could be acquired by the public from public sectors for free before); some research programs even end due to expensive acquisition of PSI; some PSI which was collected or created by taxpayers becomes properties belonging to a few private sectors or individuals (Schnapper, 1984). E.g., “Naval Research Logistics Quarterly” was a journal of Department of Defense, subscription fee was \$22/year, but after it was commercially operated by John Wiley, the price went up to \$60/year with same information quality; obviously, this kind of reuse didn’t add any value to PSI, but only to sell PSI in a different way (Smith, 1985).

b) *Vagueness of the policies diminishes the efficiency of reuse.* Although US provides provisions of time limit, search adequacy, and relevant fees charging on how public sectors should disclose information, these provisions still turn out to be unclear in some circumstances. Consequently, some public sectors delay to disclose information taking these as excuses; sometimes, lawsuits arise because public sectors can’t judge whether the information should be disclosed, making the requestors could not acquire information and make value-added exploitations in time. For instance, in 2007, Fred Burnett, an employee of a technological data company in New Jersey requested a county government sector to disclose 8 million pages of land records for the purpose of operating a commercial database; but because of diverse reasons, the county government couldn’t offer this information and a lawsuit arose; it was until 2009 that he finally got the information.

c) *Privatized activities of reusing PSI still need more restrict regulations.* Though US public sectors held the basic strategy of “value-added exploitation by private sectors”, possible costs in privatization should be considered deeply, too. Privatization may lead to the new costs which not only include the costs of public sectors transferring information to private enterprises, but also include the costs produced when employers in public sectors lose their jobs, the quality of information that private enterprises sell decreases, financial crisis and strikes occur in private enterprises, and so forth. At the same time, privatization may also lead to lack of planning and redundant construction, so that the whole operation costs of information production increase. A confidential

investigation by United States Department of Education in 1976 indicated that the private sectors hadn’t successfully helped public sectors to accomplish the information functions, only 94 products of 1300 ones could be accessed by the public.

3. FURTHER DISCUSSIONS ON REUSE OF PSI

On the ground of discussion ahead, for a public sector, a more complete information resource management system which consists of better technologies, methods, laws, policies, and so forth is needed in order to reuse of PSI; otherwise, reuse of PSI would be hindered into practice, or the public’s information rights may be infringed. Case of US talked in this paper is a typical case of a developed country with mature legal systems and prevailed democratic culture to implement reuse of PSI. Its strategies provide other countries with both experience and lessons to learn.

With discussions about US case, it is found that only when “public” attribute of PSI fully made use of, development and use of PSI resource will succeed finally. Reuse of PSI in US counts as a successfully case in general, because PSI is stressed as “public good” and plays a public role in helping citizens and private sectors with their individual activities or information production. Meanwhile, this also contributes to good relationship between public sectors and the private to cooperate with each other in the information production of the whole society. Compared to the countries which take PSI only as properties of public sectors, strategies of US deserves more attention.

During the process of heading for information age, it is imperative for public sectors to improve their information functions. In traditional environment, primary goals of information resource management in public sectors are to keep PSI in order, to reduce administrative costs, and to improve efficiency of public sectors; concomitant with development of information society, information resource is becoming a vital factor of production and intangible asset. As a result, “a view of information resource” must be strengthened, and the information function of public sectors must be aggrandized to be a basic function. That means information would be an indispensable instrument and crucial resource for public sectors to accomplish their missions. Public administration should also transform to “administration based on information resource”. In the US case, it was the strategy on the basis of “view of information resource” and taking PSI as an important type of resource, that encourages reuse of PSI in US, and reaches US public sectors’ goals of obtaining prosperous information economy and pushing development of information society.

In different countries, developing situations of economy, society, culture and technology are distinct, roles of public sectors, private sectors and citizens playing in exploiting and using information resource

are supposed to differ from each other. This should be paid adequate attention when a country establishes and implements strategies of information resource management in public sectors.

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