

# **Rebuilding Standardization Strategies for Records Management**

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## **1. Introduction**

Records management standardization has a very special meaning in Korea. Since 2005, as the national strategy to innovate the records management of government agencies is proposed in an urgent manner, importance of standardization is emphasized not only to successfully settle down this 'top-down mannered innovation' institutionally, but also to spread systematic management of records to local governments as well as central government agencies.

In December 2005, National Archives of Korea (NAK) set up the Records Management Standards Plan in the process of public records management innovation and released 50 standards and guidelines including all records management process based on this plan. Despite the effort, a decision was made to review the both standards development process and content quality regarding the applicability of standards in each government agency. As a result, the Division of Standard & Cooperation of NAK presented Standards Revision Plan in February 2009.

Considering last 4 year's development in records management in public sectors, now we need to rebuild standardization strategies following strict evaluation of standardization policies and strategies released in 2005.

Korea's public records management community is facing how to ensure 'specialty' because records management is not regarded as professional area from outside, and records management officials are not fully educated with professional knowledge as well. In this conditions, the standardization is important to suggest the right way for records management community to go. Therefore NAK needed to promote standardization in records management especially in public sectors with a long-term strategy. This

study is to evaluate the standardization so far with critical view and suggest how to rebuild standardization strategies for records management.

First, this paper analyses records management standardization policies driven by NAK through NAK's standardization policy documents and Public Records Management Act. According to the needs of systematic standardization strategy development to overcome the problems, it proposes a model for developing standardization strategy for records management, which are considering contents, development process and policy framework of standards.

## **2. Records management standardization status and evaluation**

### **2.1. Standardization status**

Korean standard policy for records management was systematically designed after Public Records Management Act was completely revised in 2006. This act defines the establishment and implementation duty of standardization policy as a role of NAK.

NAK already confirmed the master plan for Korean Standard on Records Management in 4 categories - Records Management, Records Management Systems, Records & Archives Management Institutions, and Facilities and resources including 35 activities and areas to be standardized before the revised act was announced. They expected that this activity could "promote the advanced records management procedures and systems with consistency and specialty of national records management, and also encourage to share the government records as knowledge resource to satisfy people's right to know and contribute participatory democracy development." (NAK 2005).

The master plan classified the standards into national standard, public

standard, NAK standard, and defined the procedure of development in each type. 50 standards including specifications and guidelines(5 national, 29 public, 21 NAK standards, specifications and guidelines) were developed and accepted based under this plan. Among them there are national standards such as KS X ISO 15489-1, KS X ISO/TR 15489-2, KS X ISO23081-1, KS X ISO/TS 23081-2, KS X ISO22310 which were accepted in the principle of harmonization of international standards.

## **2.2. Evaluation**

### **1) Are standardization area systematically selected?**

The most important aspect when evaluating standardization project and policy is the selection of area. To promote standardization of a certain field effectively, systematic categorization is necessary. However there is no distinct criteria for classifying the domains among record management standards making it difficult to tell whether necessary standards have been developed or even, what to develop in the future. Most of all, the problem is vague domains causing content overlapping among standards. For example, the distinction between 'records management institutions' category and 'records management' category is so vague that some contents of the standards in both categories overlap in reality.

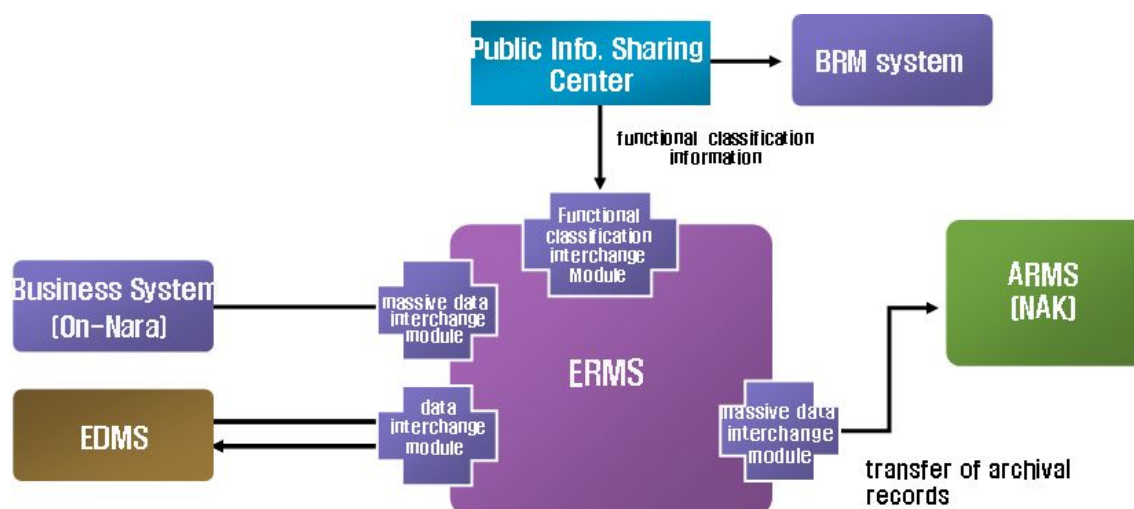
Therefore, to confirm whether necessary standards or guidelines for records management's each step of procedure, each type of records management, and both creators and records managers are being developed and implemented, maintenance for existing categorization system is needed. Moreover, voices of standard users and stakeholders should be reflected. Many records managers in government agencies point out that more guidelines should be generated to comply with the number of existing standards. In developing standardization strategy, determining priority is as important as considering what to standardize.

2) Are they responding appropriately the electronic records management environment?

In rapidly changing environment adequate standards and guidelines are important to manage and preserve various types of electronic records from various systems ensuring with authenticity, reliability integrity, and usability. Electronic record management systems in government agencies is summarized:

- Many central government and local government agencies has adopted Standard ERMS software('AURIN'). It's functions and basic architecture were designed according to Information Strategic Planning to develop the standard records management system for public agencies in 2005. Then, AURIN was developed in 2007. Most central government agencies adopt AURIN from the end of 2007 to 2008, 12 local government will introduce it this year, and more local governments and other public agencies are would likely to use it in the future.
- Records creating systems like government EDMS and standard business system(On-Nara) is connected and transferred to Standard ERMS by online. Both On-Nara system and standard ERMS are using government functional classification schemes based on Business Reference Model.
- Archival records with over 30 years retention period in each government ERMS are designed to be transferred into the NAK's archival system via online. Each ERMS is linked to NAK's Records Integrated Retrieval System with web connection, which supports one stop search for all government semi and non current records.
- Long-term accessibility and preservation is also considered in semi-current records management level. The Standard ERMS has format conversion module which convert original electronic records with over 10-year retention period to document preservation format and archival information package.

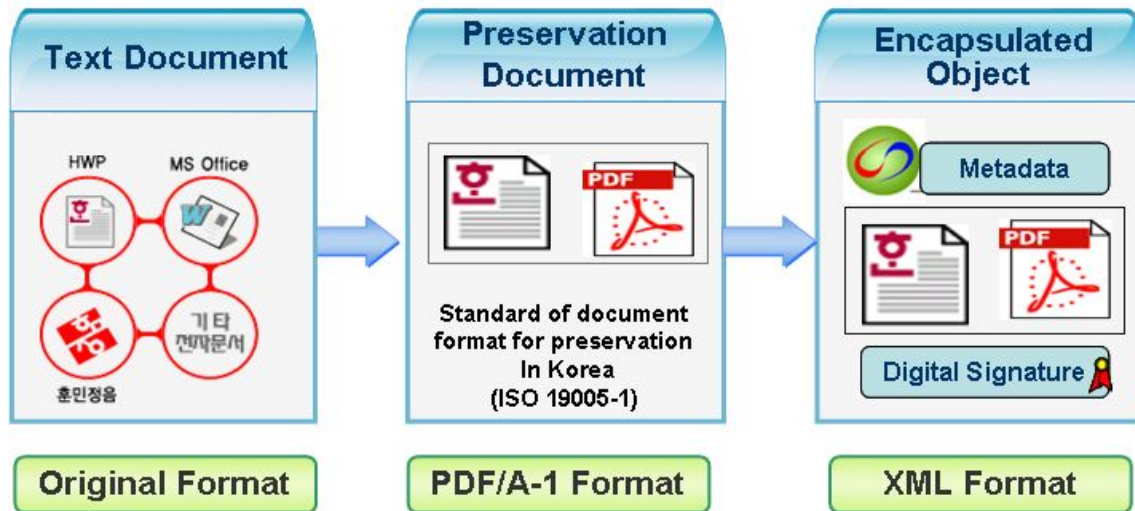
Figure 1 - ERMS in Central Government Agencies



Electronic records management related standards are as follows;

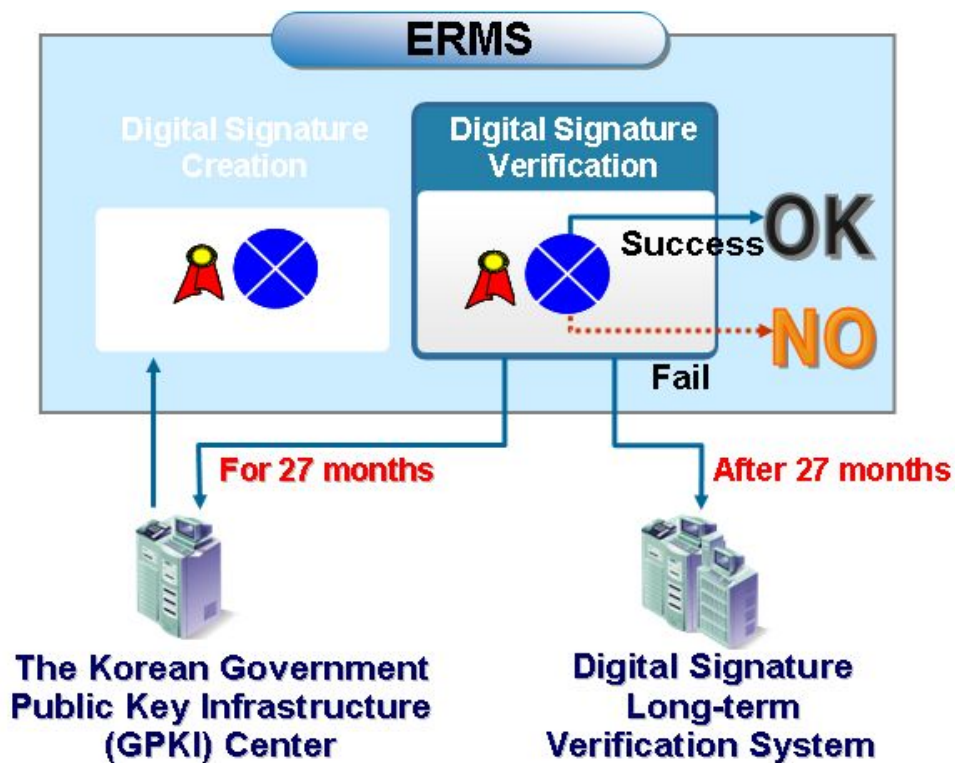
- Functional Requirements of Electronic Records Management Systems (NAK-P-2007-06)
- Metadata Standard for Records Management (NAK-P-2007-11)
- Digital Document File Format for Long-term Preservation (NAK-P-2008-01)
- Technical Specification of Archival Information Package (NAK-P-2008-05)
- Technical Specification of Long-term Validation Service for Digital Signature Certificate of Digital Archives (NAK-P-2008-02)
- The API Specification of Integrated Interface for Long-term Validation of Digital Signature (NAK-P-2008-06)
- Data Interchange Specification between Records Management System and Business System (NAK-P-2007-07)
- Data Interchange Specification between Records Management System and Archives Management System (NAK-P-2008-14)

Figure 2 - Conversion to Preservation Format in ERMS



- \* The NAK developed a conversion module for a long-term preservation format in 2006, being applied when records are transferred to the NAK

Figure 3 - Digital signature verification



- \* Encapsulated object(AIP) has digital signature issued at the GPKI center.

It is for integrity verification of electronic records after 27 months from creation and validation check of certificate & verification is implemented using time stamp token(TST).

When assessing these standards, the ones to maintain and supply the document-centered ERMS are relatively well prepared. However the problems of electronic records management related standards are followings:

First, there are cases unable to obtain effectiveness of standard establishment because of lacking detailed guideline which is necessary to apply standard properly. The standard of functional requirements of ERMS bench-marked international and foreign standards and thus, contain advanced contents, however it is not considered to be effective since there is no detailed guideline to be applied for actual system development.

Second, some standards directly reflects the specification of a certain system because before the standards are established, development of the systems is proceeded to supply them to many organizations. For this cause, it is difficult for those standards to be modified or to be used widely.

Third, since many standards are developed in a relatively short period of time, the alignment between standards is weak. The alignment is very important especially for those standards related to electronic records management, because they effects directly to the system development.

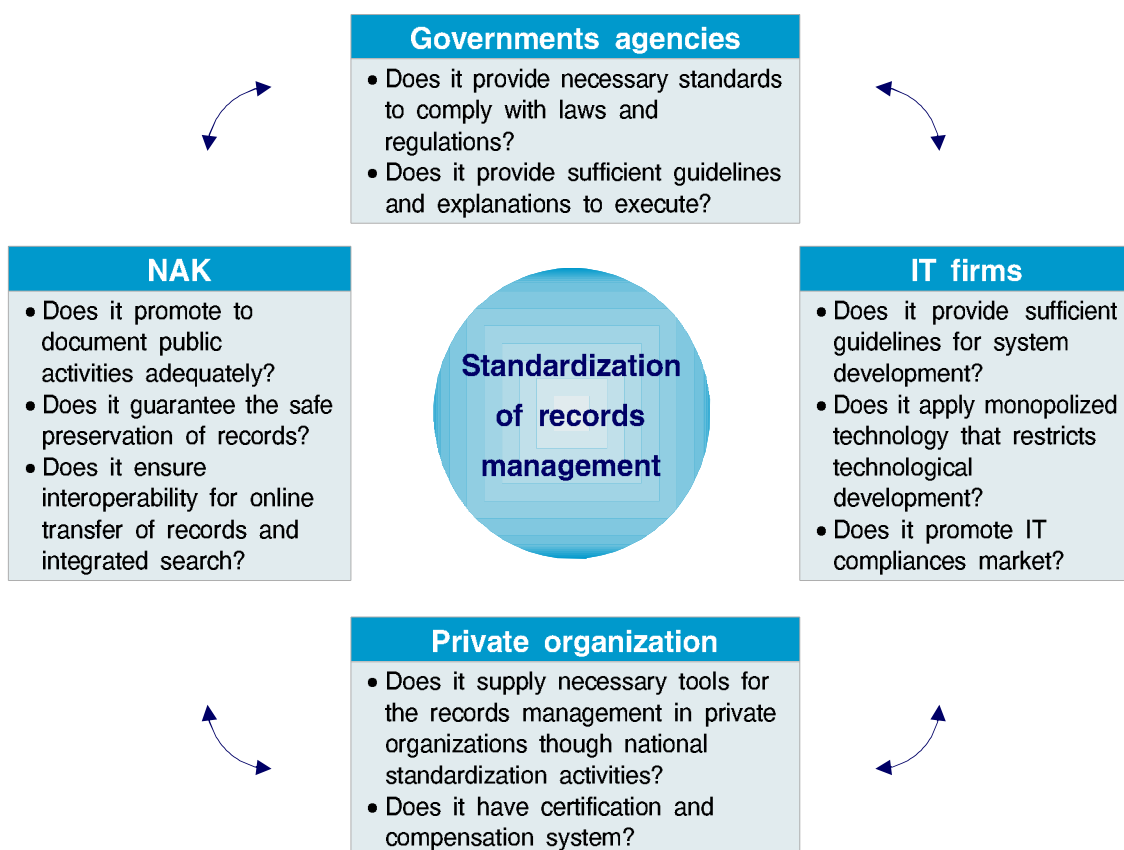
Fourth, Most standards and specifications are designed to manage document type electronic records. Creating guidelines for various types of electronic records including digital audio-visual records is necessary.

### 3. Rebuilding standardization strategies for records management

#### 3.1 A model of standardization strategies for records management

Records management standards should be developed considering the perspectives of target users including records managers of government agencies, software designers of IT firms, government records staff of National Archives of Korea. As for developing national standards, private sectors such as business firms also should be considered.

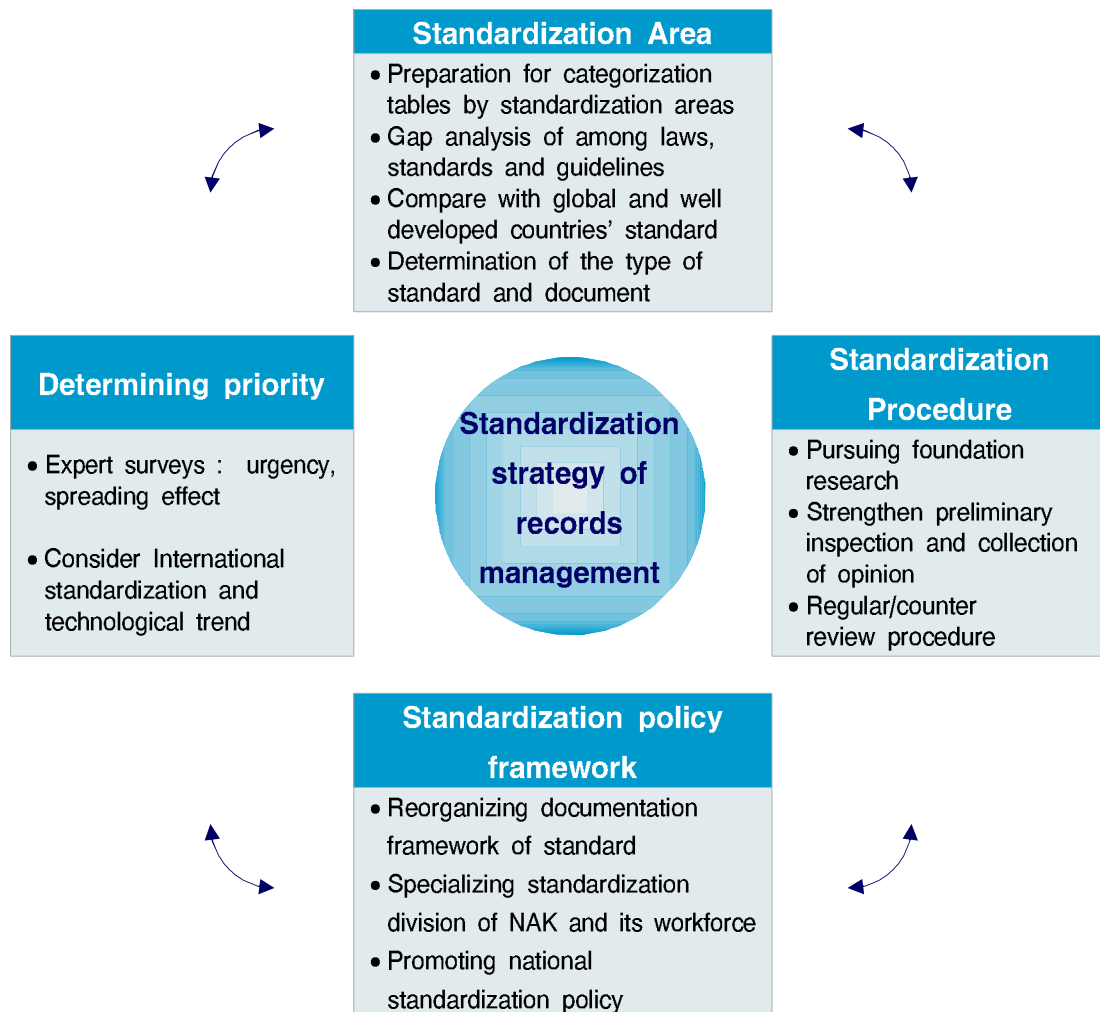
Figure 4 - Perspectives of the stakeholders of RM standardization



This Figure 5 diagram is formulated to select appropriate targets and priorities to be standardized, standard development procedure, and policy framework as standardizing strategy's key points.



Figure 5 - Model of rebuilding standardization strategy



### 3.2 Standardization Area

Standardization strategy's key points are selecting the target and the priority.

**Strategy 1.** Confirm the target to be standardized and its scope through systematic classification.

This study suggest 5 areas such as standard for functional RM area such as creation, appraisal, access, storage, transfer and disposal; electronic records management ares; guidelines of special records management;

management and SOP of records centers; and building and facilities.

This classification system allows to recognize any lacking standards and overlapping information, therefore an appropriate scope can be established.

**Strategy 2.** Review the guidelines through analyzing gap between standard and guideline and among law, standard, guideline, whether its content is adequate to execute law and standard.

Although Public Records Management Act contains very precise information, it is difficult to be utilized in workplace. It is necessary to prepare various guidelines to execute as the law is enacted. Public standards, also need more guidelines to be applied in reality.

**Strategy 3.** Compare the standards with international standards and with foreign standards to reflect technological development in electronic records management.

Especially in electronic records management, developing more standards that would correspond with new types of digital records is necessary. New guidelines should be developed for website, moving image, dataset, to properly guide public records centers to execute duty and to manage necessary records regardless of its type and media.

Moreover, to replace Document Format Standard for Long-term Preservation today with a new expanded standard including other formats is necessary as PDF/A does not support any other type of records such as audio-visual records.

Guidelines for preserving and transferring websites is necessary as well. When there was massive restructuring of central government last year, transferring websites records for the departments that are closing down to NAK was often troublesome

There is urgent need for "guidelines for managing digitized records."

Including central and regional administrations, many public administrations are replacing paper records with digital, however, none of the standards consider appropriate records management. ISO TC46/SC 11 are now preparing the guidelines of digitization of records, and many countries have their own guidelines for digitization of records.

**Strategy 4.** Execute public standards in not only central governments but also in other public agencies, and make a selection for appropriate type of document(standard, technical specification, guidelines, etc.)

One of points in dispute was how concrete the standard should be. In case of electronic records management standards, this is very sensitive problem as it is strongly related to the design and the development of certain system. For example, let's look for cases related to the metadata standard. "Metadata Standard for Electronic Records Management" is formulated based on ISO/TS 23018-1 which is a global standard today. Metadata standard of The National Archives of UK, Austrailia's RMSCA are also referenced to abstract necessary metadata elements. Developed matadata elements are used to build the standard model of ERMS.

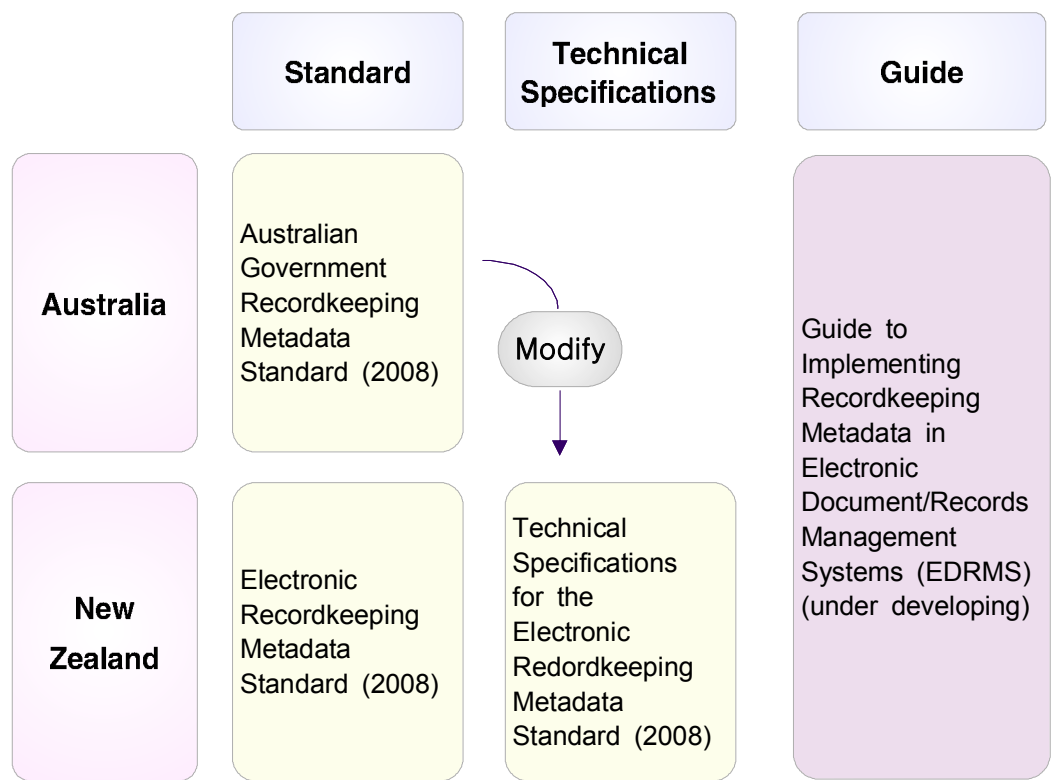
However, Secretary Office of the President proposed to modify the standard to be more extensive because the standard matadata schema can't be used as the metadata elements for Presidential Records Management System are not adequately included. So the metadata standard was revised considering the extensibility of sub-elements through expert review.

According to the Standard Revision Plan of NAK, it presents the plan for the consolidation of metadata standard to be the national standard through research. The structure of matadata standard and it's degree of concreteness would likely to be called into a question at this stage.

As for New Zealand, the requirements of metadata articulated in the standard, then metadata schema including elements defined in the

technical specification. However, Australian Government's Recordkeeping Metadata Standard is different from New Zealand's, showing matadata elements themselves. It is a subject for us to seriously consider and decide to follow which to develop our national standard, and to define its relationship with KS X ISO 23081 which is already established as national standard.

Figure 6 - Metadata standards in Australia and New Zealand

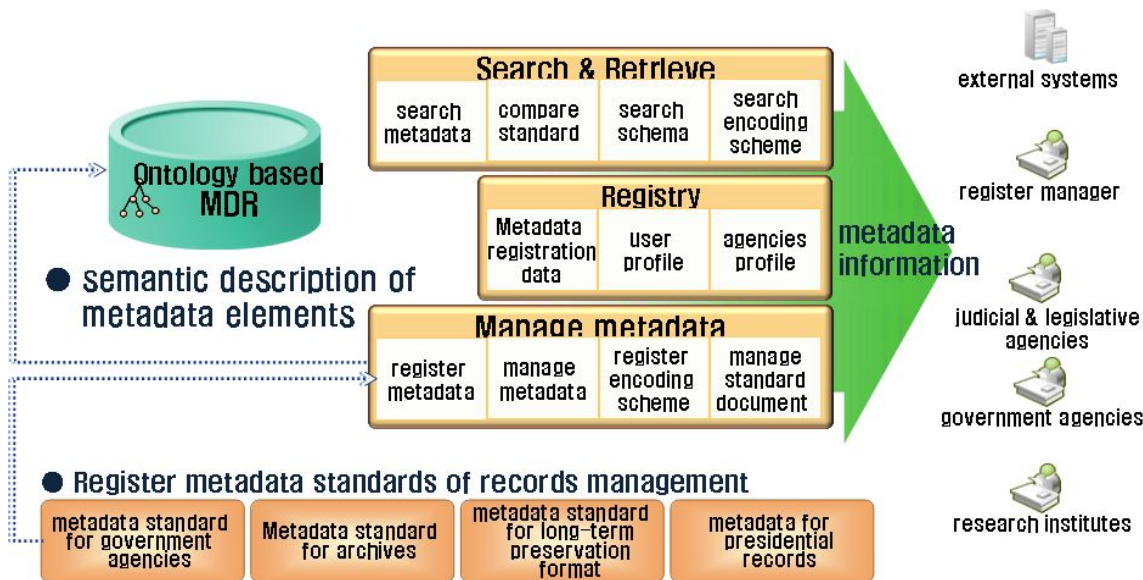


Even if an matadata standard with extensibility is arranged, it is not easy for various public institutions to comply with same matadata schema. Under the circumstance, NAK built a metadata registry to promote foundation for integrated search for records. Functions that are come to carried out today is to provide registration, search, and mapping of NAK's 4 metadata elements sets.

Electronic records management related standards are linked to system design, and once the system design is completed, it is difficult to modify.

Therefore they have continuous and spreading effect. Consequently, public standards should be set on a minimum level, but providing discretionary guidelines or technical specifications n is desirable.

Figure 7 - Metadata Registry of NAK (NAK 2009. 5)



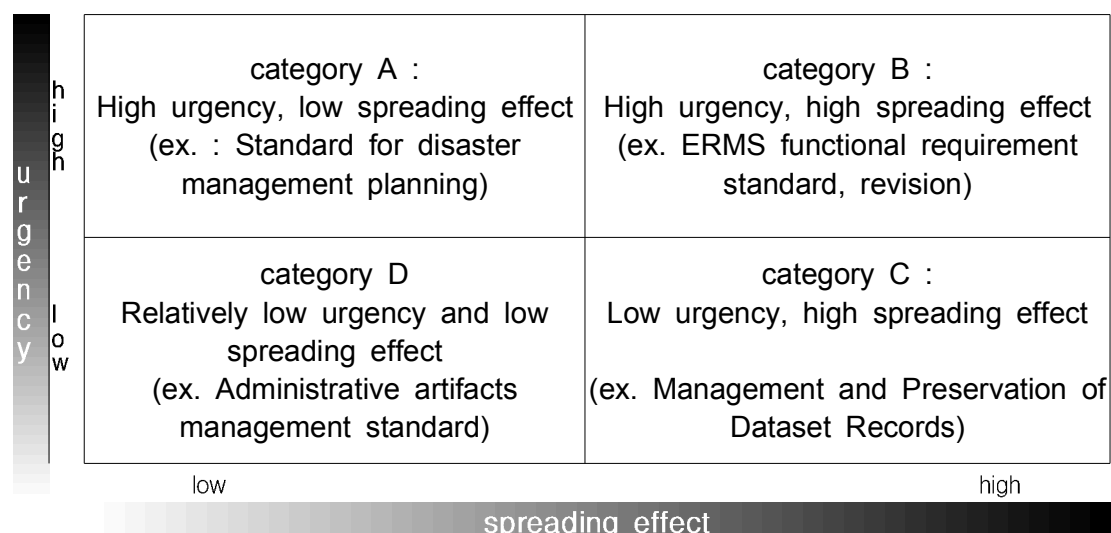
### 3.3 Determining priority

**Strategy 5.** Determine the priority of standard development and revision reflecting expert surveys and international standardization trends.

Experts survey of urgency and spreading effect of standardization can be the basis for deriving development priority. Then it needs to be reflected in the schedule and strategic plan for development.

Followings are considerations when developing a schedule. First, when establishing standard development and maintenance schedule, consider the 'urgency' that the records managers and researchers may think of, as well as the spreading effect on the industry. Standards with large spreading effect would particularly be the ones in electronic records management area.

Figure 8 - Framework for standard development priority



For example, according to the framework in Figure 7 and standard area for priority is category A. Standards in category B have high degree of urgency, however intensive research and development is required as the effect could be extended through system development, and if the system is modified, significant amount of loss is unavoidable. Standards in category C have low urgency but has large spreading effect, therefore long term research and development plan is necessary.

Second, establish plan reflecting developmental trend of the global standard. From ISO TC46 SC11, various records management standards are being developed today. When there is on going development of global standard in a necessary field, it can desirable to hold new standard development and promote a research project for international standard monitoring.

### 3.4 Standardization Procedure

**Strategy 6.** Progress standard development based on in-depth research, and strengthen preliminary review.

Standard development procedure could weaken standard content. Before beginning the development, preliminary review of each standardization

project is necessary; if the subject and scope of standard is proper, if it is not overlapping,

What are the standards linked, if it has proper type of standard(public, national, or institutional standard) and of its document(standard, technical specification, guidelines, or manual), what are the related standards and laws, related international standard's content and its schedule of development, spreading effect caused by standard establishment, related technological trend, and so on. The properness of standard project can be reviewed based on these inspections.

Various standards in IT field usually have intimate relationship with records management. There are system security related standards, ubiquitous web service standard, system integration standard, RFID standard and so on. Technology and standardization trend of these related field should be monitored at all times.

**strategy 7.** Determine regular/counter review plan according to the type of standard document

NAK is reviewing the validity of each standard and if it needs modification or nullification within 3 years after the standard is announced. There is a need for diversifying review interval according to the type of standard. Moreover, for the any event such as modifying law, developing technology and modifying related standard, an systematic process is required to react promptly for modification. In the future, it is desirable to develop a standard management system that governs establishment and modification procedure and also keeps records of modification history

### **3.5 Standardization policy framework**

**Strategy 8.** Improve documentation framework of standards

Provision maintenance is necessary for standard administration in every level. Standard documents is be categorized into standard, guidelines,

technical specifications, NAK's standard, and their characteristics, purpose, development & review procedure, review interval should also be documented properly. Moreover, NAK's staff manual is needed to be kept as one of the standard document.

NAK is an organization with high rate of labor shifting and its specialists' field of expertise is not consistent as well. Therefore, to maintain business continuity, create manuals for each field of expertise which contains predecessor's knowledge in operations and procedure. Manuals generated in this manner could possibly evolve to a standard operations procedure(SOP).

**Strategy 9.** Include research function to the standardization division

Without a foundation research, it is difficult to develop a proper standard. Specialization of organization structure and reinforcement of human resource is necessary. It is recommended that the "Division of Standardization and Cooperation" of NAK today should be reorganized into the Division of Standardization and Research. Our current situation is only imitating and following well developed country's records management methodology . Research investment is necessary from today in order to find fields that we could take the lead and to evolve into the post-catchup stage in the future.

**Strategy 10.** Inspect and promote national standardization policy

National standardization policy needs to be inspected as well. All 5 national standards are established in harmonization with ISO standards. Evaluation of utilization and degree of operation of those national standards is indispensable although the principles of ISO 15489 and ISO 23081-1 are reflected in the Public Records Management Act and the design of Standard ERMS software successfully.

As national standard is applicable to private sector, building an active cooperation network with private organizations is necessary. Especially the



cooperation with records managers, records professionals and IT consultants who are serving in business firms is vital in order to disseminate the standard such as ISO 15489 in private sector.

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Standard can be a guide map for records management. Despite the central governing nature of public records management in Korea, if more appropriate standards and guidelines generated, it will facilitate establishment of autonomous culture of records management in local governments and other public institutions.