

Audit Report on Promotion of Data-based Administration

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I . Overview

1. Audit background and purpose

Central administrative agencies, local governments, and public institutions (hereafter referred to as “government organizations”) collect and produce administrative information to perform their duties. In line with the Korean government’s promotion of the “National Informatization Project,” each government organization developed its own e-government system and managed its digitized data and information. Thanks to such proactive government-led informatization policies, Korea ranked first in the E-Participation Index (EPI) and third in the E-Government Development Index (EGDI) of the United Nations e-Government Survey in 2018.

As the Fourth Industrial Revolution enables government organizations to produce quality information, it becomes an important issue to manage the database, as well as to take advantage of such information. By sharing administrative information between the agencies, the Korean government has continuously made an effort to improve administrative efficiency and to provide convenient and high quality services to the public. Despite such efforts, there remain many areas to improve. Some public officials know how to utilize shared information but do not take initiative to enhance the quality of administrative services through administrative information sharing.

Therefore, the Board of Audit and Inspection (BAI) audited the Ministry of Interior and Safety (MOIS), the Ministry of Land, Infrastructure and Transport (MOLIT), and the Ministry of Environment (ME) that collect and manage major administrative information to find out areas where public convenience can be improved and national finance can be saved through information sharing.

2. Key audit matter

BAI audited four government organizations including the MOIS, MOLIT and ME. The purpose of the audit includes (1) the assessment of whether government organizations put effort toward improving the administrative work process by utilizing accumulated data and information; (2) relevance of sharing certain information between government organizations; (3) assessment of measures to ensure that public officials responsible for verifying civil petitioners’ personal information do not abuse their authority to access personal data.

[Table 1] Key audit matter

Field	Key audit matter
Data-based Analysis of Administrative Information	<ul style="list-style-type: none">• Analysis and sharing of tax-related information to improve local tax affairs• Analysis and sharing of relevant data & information to prevent improper payments of fuel subsidy to ineligible recipients
Sharing of Administrative Information	<ul style="list-style-type: none">• Sharing of indoor air quality data measured by the Ministry of Environment and local autonomies• Real-time eligibility verification service (e.g. for a user fee exemption) by sharing information
Access Authority to Shared Information	<ul style="list-style-type: none">• how to ensure that public officials who have access to personal information do not abuse their authority

3. Audit process

Before the on-site audit, BAI conducted a preliminary survey of near 430 government organizations to find out areas where information sharing is necessary. Based on the survey results, BAI analyzed an expected outcome from sharing administrative information and reviewed related laws and legal documents.

BAI also conducted preliminary research to find out reasons behind what makes it difficult to share administrative information (particularly in the field of air quality index and tax information that is very close to the daily life of citizens) and why the government organizations do not take advantage of already shared information.

The on-site audit took place from April 15 to May 3, 2019.

4. Audit results

BAI sent out a questionnaire to each audited organization on May 7, 2019, to listen to their opinions regarding what was found during the audit and received the written comments. The BAI Commissioners' meeting took place on October 4, 2019, to finalize the audit results, taking into account the written comments received from the audited organizations.

II. Background Information

1. Promotion of data-based administration

The Ministry of Interior and Safety (MOIS) has developed and distributed the “Public Big Data Standard Analysis Model” since 2016, which enables government organizations to analyze and use accumulated administrative information and data. Local autonomies make various policies and solve complicated social issues by utilizing the “Public Big Data Standard Analysis Model” and other data provided by the private sector, etc.

[Table 2] List of Public Big Data Standard Analysis Model

	Established Year	Category	Detail
1	2016	Civil petition	To analyze contents of civil petitions and processes of handling them
2	2016	Transportation	To find out areas where public transportation lacks and analyze flexible public transit services
3	2016	Tourism	To analyze effects of local festivals
4	2016	CCTV blind spots	To prevent CCTV blind spots and find out where to install CCTV cameras
5	2016	Housing Management fees	To find out and analyze corruption related to housing management fees
6	2016	Labor inspection	To select workplaces for labor inspection
7	2017	Local tax liability	To calculate recoverable rating of delinquent taxpayers
8	2017	Donation	To develop an optimal model for distributing donated goods
9	2017	Donation	To develop an optimal model for matching volunteers to the right missions
10	2017	Water supply and leakage	To predict the risk level of leakage
11	2017	Medical golden hour	To analyze blind spots of emergent medical services
12	2017	Medical golden hour	To operate ambulances in an optimal way

13	2017	Job matching	To provide customized job searching – matching the right person to the right job based on the individual's strength
14	2017	Road management	To predict locations of where potholes will appear using GPS
15	2017	Road management	To predict level of risk for damaged road and prioritize locations that need to be repaired
16	2017	Road management	To find out areas where road safety facilities should be improved

The central administrative agencies also renewed their existing system to enhance administrative efficiency and to provide convenient high quality service to the public. For instance, the local tax information system was upgraded to allow users to analyze data. The National Spatial Information System was newly developed to allow users to analyze and use accumulated information.

2. Sharing of administrative information

The Government enacted the Electronic Government Act in July 2007 to enhance administrative efficiency by sharing information and to avoid redundant investments. The act prescribes in detail the scope of administrative information subject to share, administrative agencies that have access to shared information, and the process of information sharing to promote utilization of information sharing between administrative agencies, as shown in the table 3.

[Table 3] Sharing Administrative Information

Information Subject to Sharing	<ul style="list-style-type: none"> • Administrative information necessary to proceed civil petitions • Administrative information that can be used as references such as statistical data, bibliographic information and policy information • Administrative information deemed essential to carry out official duties prescribed by law
Shared by whom	<ul style="list-style-type: none"> • Central administrative agencies (National Assembly, Judiciary, Constitutional Court, National Election Commission) and their affiliates, local autonomies, public institutions, financial institutions, etc.
Sharing Process	<ul style="list-style-type: none"> • Upon receipt of an application for the sharing of administrative information, the Minister of the Interior and Safety may

	<p>approve the application with the consent of the head of the agency holding relevant administrative information after reviewing the relevant laws</p> <ul style="list-style-type: none"> • In a case where administrative information to share contains personal information, the Minister of the Interior and Safety shall grant the approval after deliberation and resolution by the Personal Information Protection Committee referred to in Article 7 of the Personal Information Protection Act • The Minister of the Interior and Safety may approve the sharing of administrative information by skipping the procedures in cases where 1) information sharing has already been approved except for a simple change in its name or department due to an enactment or amendment of an Act and 2) sharing administrative information is required to proceed civil petitions referred to in Article 36 of the Civil Petitions Treatment Act
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Thus, people can file a petition without submitting the required documents (i.e. resident registration) as administrative agencies can electronically verify their personal information.

The number of sharable information increased from 34 types managed by five agencies in 2006 to 160 types managed by 35 agencies in 2018. The number of government organizations utilizing such shared information totaled to near 742 organizations (central administrative agencies, local autonomies, and public institutions) as of March 2019.

[Table 4] Organizations participating in information sharing

Total	Central Admin-Agencies	Local Autonomies			Public Institutions			Financial Institutions
		Provincial Offices, Metropolitan cities, etc.	Metropolitan and Provincial Offices of Education	Educational Institutions	Public corporations	Local public corporations	Special corporations	
742	64	243	166	38	72	73	40	46

3. Related laws and regulations

The sharing of administrative information and data-based administrative information analysis is based on the “Electronic Government Act,” Enforcement Decree and other relevant laws and regulations shown as in table 5. The MOIS also proposed a bill for the “Revitalization of Data-based Administration” in 2017 that contains a creation of the “Committee for Vitalization of Data-based Administration” and an establishment of the “Government-wide Integrated Data Platform.”

[Table 5] Legal basis for sharing administrative information and data-based administration info analysis

	Laws and Regulations
Data-based analysis of administrative information	<ul style="list-style-type: none"> • Electronic Government Act and its Enforcement Decree • Act on Promotion of the Provision and Use of Public Data and its Enforcement Decree • Proposed bill for the “Revitalization of Data-based Administration”
Sharing of administrative information	<ul style="list-style-type: none"> • Electronic Government Act and its Enforcement Decree • Current status on the sharing of administrative information • Guideline for the sharing of administrative information

III. Findings and Recommendations

BAI pointed out eight unjust and/or unlawful cases and one exemplary case.

[Table 6] Audit results

Number of cases pointed out			Amount to be collected	Number of people
Warning	General recommendation	Good exemplary case		
-	8	1	KRW 9.8 billion	-

The major findings and recommendations are as follow:

1. Data-based analysis of administrative information

1) Local Tax Affairs

(Findings) The Ministry of Interior and Safety (MOIS) has developed and operated the “Local Tax Information System” to support local governments in handling their tax affairs since 2005. Other information systems, such as the Local Government Information System (Saeol System) and the Local Non-Tax Revenue Information System are also operated to support local governments’ affairs.

BAI crosschecked information stored in the “Local Tax Information System” and in other administrative information systems to see if the taxes imposed were appropriately calculated. BAI focused specifically on the tax details of 441 golf courses nationwide from 2014 to 2018, and discovered that an estimated total of KRW 9.8 billion in taxes that should have been imposed on 139 golf course facilities by 62 local governments had been omitted. The golf courses equipped with water supply and drainage facilities are subject to taxation (i.e. acquisition tax and property tax). If the local government crosschecked information with data in other information systems, they would have noticed that such golf courses are subject to taxation. For instance, you can find the utility payment data at the “Local Non-Tax Revenue Information System” and permission of installing water supply and drainage facilities at the “Local Government Information System.”

Also, BAI found out that local governments have different standards of taxation on the facilities falling into the same categories. In other words, if golf courses A and B are operated under the same condition, but are located in different provinces, different amounts of tax are imposed. This is partially because the public officials responsible for the tax affairs have no access to the tax information of other provinces so they cannot compare.

(Recommendations) In order to improve the accuracy and efficiency of local tax affairs, BAI recommends the MOIS to make connections between the data stored in the “Local Tax Information System,” the “Local Government Information System (Saeol System)” and the “Local Non-Tax Revenue Information System,” which will enable relevant public officials to crosscheck their data. BAI asks the MOIS to add an alarm function to the “Local Tax Information System,” which gives notification if taxes are omitted. It is also recommended that the heads of the 62 local autonomies collect the omitted taxes that the 139 golf course owners should have paid.

2) Improper Payment of Fuel Subsidy

(Findings) The Ministry of Land, Infrastructure and Transport (MOLIT), responsible for the Fuel Subsidy Management System, should check the validity of the business registration certificate issued by the National Tax Service (NTS) to confirm its eligibility at the initial stage when the cargo/freight operator submits the application to receive the fuel purchasing card (which is necessary to receive fuel subsidy).

However, there is a possibility of a verification error due to the fact that the Fuel Subsidy Management System operated by the MOLIT is not linked with the NTS information system. There is another possibility that a cargo/freight operator continues to receive their fuel subsidy using an already issued fuel purchasing card even after an operator reported a permanent and/or temporary cessation of business to the relevant tax office.

It was discovered that 7,218 out of 1,289,725 fuel purchasing cards issued during the last five years (January 1, 2014 to December 13, 2018) were re-issued or newly issued to those who lost eligibility, and that 3.8 billion KRW was paid to 7,233 cargo/freight operators who discontinued their business in the last two years (January 1, 2017 to December 31, 2018).

By comparing the fuel subsidy recipient lists and the data on unemployment benefits, BAI found that 279 people received fuel subsidy while they were being paid for unemployment benefits, implying that improper payments took place.

(Recommendations) BAI recommends the MOLIT to thoroughly verify the validity of the business registration certificate when issuing a fuel purchasing card. It is required for the MOLIT to regularly sync the information stored by the National Tax Service with the Fuel Subsidy Management System. BAI also recommends the MOLIT to take effective corrective actions to prevent the ineligible from receiving fuel subsidy by fraud or other improper means – for example, the MOLIT may have to analyze the pattern of fuel purchase.

2. Sharing of administrative information

1) Indoor Air Quality

(Findings) According to the “Indoor Air Quality Control Act,” the Ministry of Environment (ME) has operated the Information System since 2008 to manage measured data and to provide air quality information to the public. At the same time, local governments, local public institutions and corporations are to install measuring devices at public-use facilities and mass transit vehicles and to share measured data with the ME.

As many people tend to spend more time indoors due to unfavorable outdoor conditions (mainly the intensification of fine dust), it has become important and necessary for the ME to collect indoor air quality data measured by local entities as much as possible and then to provide relevant and useful information to the public.

It turned out, however, that the ME does not control indoor air quality data. As the Ministry does not know how many devices are operated by local entities and where they are, some data measured by 190 devices were left out, which otherwise should have been collected and shared. BAI also found that eight measuring devices give inaccurate results with an error rate of 10% to 48%.

(Recommendations) In order to enable the public to take advantage of indoor air quality data, BAI recommends the Ministry of Environment to collect data that has been missed earlier and to share them with the public. The Ministry also needs to improve its information system to share collected data effectively while decreasing the rate of error.