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A Study on the Implementation of Platform Government Focused on Administrative Spatial Information

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Abstract : The administrative spatial information system links the real-life needs of people with information of space, and it can be said that it is most suitable for the necessity and possibility of utilization. In order to enhance the quality of public service and enhance the efficiency of administration, the public sector, such as those responsible for administrative spatial information, directly implements this service to the public. This paper suggests a platform implementation plan that uses information.

Keywords : Platform Government, Public Service, Administrative Spatial Information

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I. INTRODUCTION

As national informatization has matured, various information fusion and compounding are taking place in various fields of society. In particular, there is a global trend toward creating new value by fusing public information with technology and information power in the private sector. Additionally, the desire of the Korean people to utilize public information whether for profit and nonprofit activities is increasing now more than ever. Governments around the world are making efforts to create new value by opening public data and information to the private sector, such as the opening of public data and public works.

Recently, a variety of civil service industries have been developed due to the development of advanced communication devices such as smartphones and the diversification of communication methods such as social network services. Especially, map-based real-time civil services are in great demand from the public. The market size is expanding to a considerable extent with the spotlight. These map-based real-time services are particular areas in which public information is likely to be utilized, and the need for the convergence of public information and private technology, creativity, and capital is particularly emphasized. In this regard, it should be noted that the government has already established national spatial information and administrative spatial information.The discussion on the necessity of the improvement of the current administrative spatial information systems is based on the fact that public space information needs to be shared effectively with the private sector in order to meet the demand of public information utilization and improve the information welfare of the people, There is also a need to find a service model for public and private services in the form of public information. Administrative spatial information contains information key to the public.

The administrative spatial information service provided through the convergence of information can be best summarized as contributing to the strengthening of national competitiveness and the revitalization of the economy, and thus it can play a strategic part in achieving the goals of national informatization execution plans. Specifically, smart devices have been spreading rapidly in recent years and are increasing the private demand for administrative spatial information. Therefore, it is recognized that the efficient opening of public spatial information and the provision of private cooperation strategy are urgently needed.

Therefore, this study aims to find out how to build a platform government as a government strategy for the smooth utilization of administrative spatial information and the creation of various services.

II. CONCEPT AND IMPORTANCE OF ADMINISTRATIVE SPATIAL INFORMATION

1. Concept of spatial information

There are a variety of terms related to spatial information, notably spatial data, geographic information, and geospatial data, but there is not yet an agreed-upon concept definition among these terms. Spatial information is defined as the location information about the natural or artificial objects existing in the environment such as the ground, underground, bodies of water, the underwater, and other information required for the spatial recognition and decision-making related thereto (see Article 2 of the National Spatial Information

Act). This relates to data with spatial perception elements related to space, meaning data associated with any place on earth (IBGE, 2011: 1).

Geographical information refers to systematic knowledge and data on how natural and human phenomena in surface space are distributed, arranged, interacted with, and organized in space. Geographical information is classified into spatial data indicating the location and spatial forms of places, with property data showing the characteristics of the places and relational data indicating their relationships with other places and phenomena 2002).

The geographic information system is a system for analyzing and managing spatial information using a map database and a computer for acquiring, storing, updating, processing, analyzing, and displaying spatial information described by attributes and locations. (1995), "Geographical Information Systems (Geographical Information Systems)", Geographical Information Systems (2000), "Geographical Information Systems It is an information system. The contents of the information include not only administrative boundaries but also numerical maps such as terrain, water system, and structures. In addition to data on these locations, property data such as statistical data or systems that represent spatial characteristics were also constructed (Jeffrey et al., 1990).

Geospatial information is information indicating the location of a specific point or area in space and includes viewpoint information on the location (IBGE, 2011: 4). Geospatial information exists in myriad ways in everyday life. For example, geographical information is included when photographs taken by the photographer are clear, and the geographical information include things such as the information that nearby restaurants have menu items for the price of 600.

By summarizing the concepts of spatial information, geographic information, and geospatial information as described above, spatial information can be classified into information including three pieces of information: First, information indicating the place, the location, and the form; that is, the map information. Second, it is attribute information that shows the natural and human characteristics of the place. Third, one place is the situation information about relations with people and goods.

The first map information is highly related to geographic measurement and guidance services, so government departments have strong links with the national government, and the second attribute information is highly related to the environment, history, and culture, so it has strong linkages with the Ministry of Environment and the National Statistical Office . Third, situation information is highly connected with the security administration because it has a high relationship with people-centered services and regions.

2. Concept and characteristics of administrative spatial information

Administrative spatial information is information on the location attributes of information processed by electronic methods that the administrative institution created or acquired by the official administration for the purpose of managing the information on digital maps or numerical cadastral map (Samsung SDS Consortium 2010; Korea Information Society Agency, 2013: 129).

It has the following characteristics: First, information is created for the public interest, such as efficiency of administrative work or citizen service. Second, it is information granted to the administrative agency under the e-Government Act. And third, it is information using spatial information such as digital maps. In other words, it is information that enhances readability, usability, and analytical possibility by displaying administrative information for spatial information such as digital maps. Spatial information such as digital map is used as a tool for promoting the value of administrative information, though on the other hand, it can be regarded as spatial information with value enhanced by adding administrative information to spatial information.

3. Value and importance of administrative spatial information

Administrative spatial information combining administrative information based on map information is an essential element in providing many services, and these include economic development and regeneration, transport and traffic management, environmental protection and conservation, waste management, housing, school admissions, medical care, and customer service. It is used to better understand the needs of customers and enhance service delivery in relation to the location of people, communities, and businesses using socioeconomic, demographic, and environmental profiling techniques. An appropriate approach is possible with citizen participation.

Administrative spatial information has the following characteristics: First, operational efficiency. In an atmosphere of reducing public sector spending, services should be provided more efficiently. Second is meeting local needs; providing a more collaborative approach by local service providers to meet the needs of the services and local residents. Total Place sets a new direction for local public services and proposes new cases in centralized control. And geographic information clarifies the role of "anchor points" for all events and represents the most important regional information resources. The third is a mix of transparency, open data, and digital inclusion. As part of its transparency policy, the new government supports the drive to provide free access to

open data. It provides the opportunity to change data usage and values in the public sector by basically releasing the data in an open-linked data format so that it can be used flexibly for many applications.

Fourth, geographic information policy and legislation. Recent European and UK information policies emphasize the importance of improving the availability of delivery and geospatial information. The European INSPIRE Directive requires data access and sharing in order to support policy-making impact on the environment in relation to the activities, including facilitating data interoperability through the exchange of information from different organizations provided through a wide range of Web-based services. Fifth, it is the government policy on armaments investigation. Stage surveys facilitate or facilitate the provision of reference map data to the UK. Local governments such as municipalities, police, fire, and rescue, as well as national parks and passenger transportation associations, obtain licenses to use data through mapping service contracts. While the central government has access to OS data through cross-government contracts, the National Health Service is licensed through a separate agreement. Sixth, the wider economic impact. It helps evaluate the value of geospatial information as a public good of a range of economies. Those who have benefited indirectly from the particular service received, and those who directly benefit from the service paid last. By reducing the cost of local public sector processes more efficiently, service fees can be reduced depending on the local public service provider and some branch dealership or maintenance facility or service provided by the local public sector.

The value of administrative spatial information is the result of information integration and increased work efficiency. First, integration is the most important feature of administrative spatial information. In other words, administrative spatial information has the advantages of integrating information because various types of information gathered from various sources are connected and used based on spatial information.

First, when integrated information is used, a wider range of work can be done when using distributed data. Second, it is possible to give correspondence to space by connecting data. This makes existing data more valuable, productive, and marketable. Third, by integrating the data used in the analysis by establishing individual experts working in other fields, it is possible not only to consider the solution of geographical problems but also to facilitate cooperation with other fields. Fourth, data collection costs are reduced because data can be arranged around spatial information, duplication of data accumulation can be avoided, and data conversion is unnecessary. Fifth, it is possible to lay out the basis of a wider range of information than ever before and carry out tasks that could not be performed by isolated data alone. In other words, using integrated information, individual experts can collaborate in the same context.

As a result, management-related decisions can be made efficiently. Second, it is an increase in the efficiency of work. The administrative spatial information, which is constructed by integrating various information, is constructed as a one-dimensional database, enabling planning and facility management. As a result, various tasks are efficiently carried out and the administrative level of various fields is improved and quickened nationwide. In addition, in the private sector, there is a growing demand for construction of administrative spatial information centered on the facilities management industry such as communication, strategy, and gas. By providing the universal data portion of administrative spatial information, (1995), "A Study on the Efficiency and Effectiveness of Business Processes".

The value of the administrative spatial information has the following effects: First, it provides a variety of citizen-centered information and suggests appropriate behaviors and responses connected with the place. By combining diverse information about the individual's surroundings and suggesting ways to prevent and respond to the risks associated with the place, it is possible to live a safe and secure life and promote the convenience of living. Second, it is to grasp the current status of the community and solve problems by providing information according to changing terrain and situations according to location and time, so as to grasp the current situation and solve problems quickly. Third, the creation of new services and industries. New services and industries can be created by the fusion of various kinds of information by using the location as a key. Fourth, it provides administrative efficiency and advancement and the promotion of new public information. Information about an area considered in administrative affairs can be shared efficiently and utilized as spatial information. Based on spatial information, administrative decisions can be made efficiently.

III. E-GOVERNMENT SERVICES AND ADMINISTRATIVE SPATIAL INFORMATION

Administrative spatial information has begun to emerge, as the GIS has advanced in the period when the government 2.0 paradigm change was being discussed. The paradigm of the government 2.0 initiated efforts to increase the efficiency and transparency of the work, through the public disclosure of information to the private sector and mutual cooperation. The strengthening of administration through the participation and provision of the service became more important. In addition, the existing geographical information existing in the road information and the building location had expanded through the administrative activities. As the spatial information including not only the behavior of the space, such as the vehicle communication state, the carbon absorption source prediction, the internal structure and the usage, but also various situation information, spatial information and linkage information also became important.

Therefore, efforts to improve efficient administrative reform and administrative services by combining spatial information with government 2.0 have started to appear as administrative spatial information. The administrative spatial information is for the systematization of national spatial information, as well as a customized administrative service at the same time. It provides a function to support the back office, by providing a joint use system between local governments. Not only that, but also between local governments and ministries for information disclosure and linkage based on spatial information framework, which is based on spatial reference, statistical map, distribution inquiry, which is what I am responsible for.

IV. BUILD PLATFORM GOVERNMENT

There is a debate and necessity that the state of Government 3.0, which is being promoted as a new government paradigm, can be expressed through the form of 'Platform Government'. The concept of platform government is understood as a place where information and communication can be easily linked to create new value.

Table 1. Discuss platform government concept

Source	Concept
L. S., Shin (2012)[1]	A system of technology that connects systems and services, as well as systems that connect or link related stakeholders
Y. C., Kim (2011)[2]	Government to create a new ecosystem by creating a place where the government and the private can participate and create value and cause innovation
S. H., Myung (2011)[3]	Through the chapter built by the government, users can access the chapter and create new services. Through this, all the functions of the government that increase the value added of the users are transferred to the conceptual model of the platform government
J. S., Hwang (2010)[4]	The role of the new government to provide a service platform to enable citizens to create and consume public services on their own

In other words, it can be understood as an ecosystem that promotes participation and innovation among ministries, businesses, and the private sector, while in the process of performing electronic administrative tasks and performing electronic public service.

In order to promote such a platform government, the government is promoting innovation in administrative work and services. However, process - oriented information sharing and horizontal service linkage/integration are pushing the evolution to platform government.

The needs of the platform government and the requirements to be discussed are summarized as follows.

The first is appropriate responses to the diversity and variability of information acceptance. As information technology progresses, the demand for information has changed significantly, and traditional information providers are becoming more diverse to meet these demands. In particular, public information is generated and stored by the central government, local government, and the private sector. Although, the utilization of such information is required to be provided in various forms and methods. In other words, it is required to distribute information in a form that combines information integration and flexibility.

The second is the activation of civilian participation and its reflection into the administrative process. The government, which is the largest information holding organization, uses the creativity and vitality of the private sector to generate additional information. Thereby seeking the possibility of developing an intelligent policy through improved administrative and information services. This requires a system in which the private sector can naturally intervene in the evolutionary process of administrative efficiency. That is, it is required to construct a service channel in which the administrative process can be expanded to the outside.

Third, it contributes to administrative efficiency and effective new service development. The administrative paradigm should be changed to active pre - emptive administration that provides service in the existing reaction administration, and that responds passively to complaints. Moreover, the necessity of service development that can contribute to an overall national economic development and life stabilization is

[1] L. S., Shin (2012). "Exploring the Next Generation of E-Government: Possibilities and Limitations of the Platform Government (P_Gov)," Paper presented at the 2012 KAPA Summer Conference".

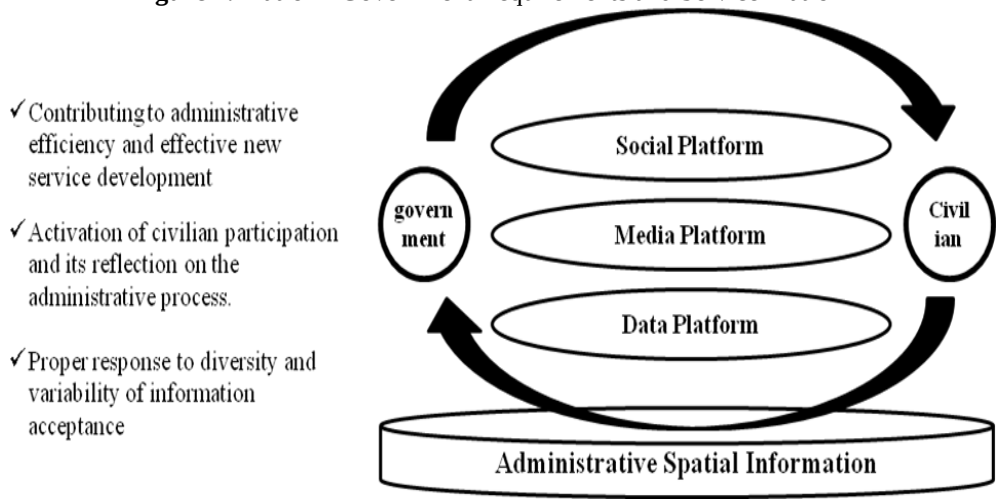
[2] Y. C., Kim, S. A., Shin, and Y. I. Kwon (2011). "A Study on Public Policy Opening and Utilization Platform Policy for Activating Mobile Contents", Special Issue on Korean Information Science Society (1).

[3] S. H., Myung, S. S., Hwang, and C. J. Huh (2011). "The Government of Smart Society: Focusing on the Platform-type Government Model," Paper presented at the Winter Conference of the Korean Public Administration Association, The Korean Association of Public Administration, 2011.

[4] J. S., Hwang (2010). "Seeking a change to a platform-type government with openness of public information," Vol. 21. CIO Report, Korea Information Society Agency.

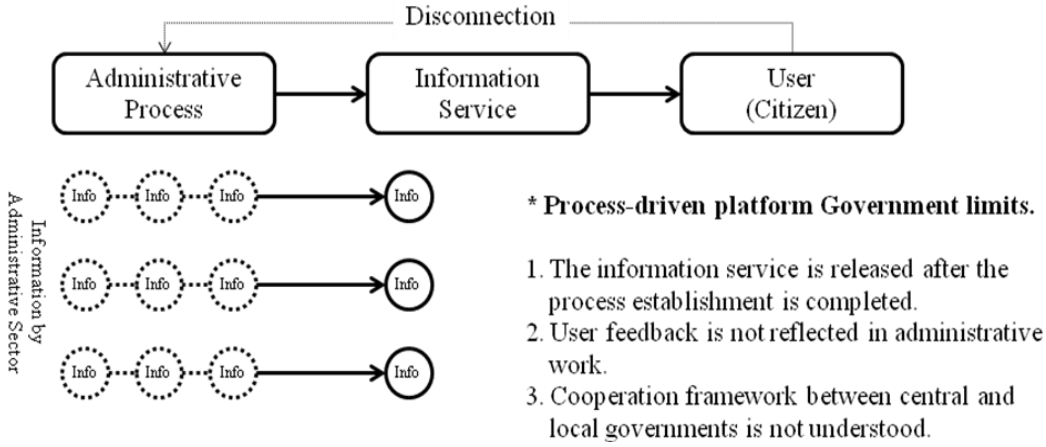
emphasized. In other words, it is required to systematize the system that can re-combine and analyze information according to the situation.

Figure 1. Platform Government Requirements and Service Platform



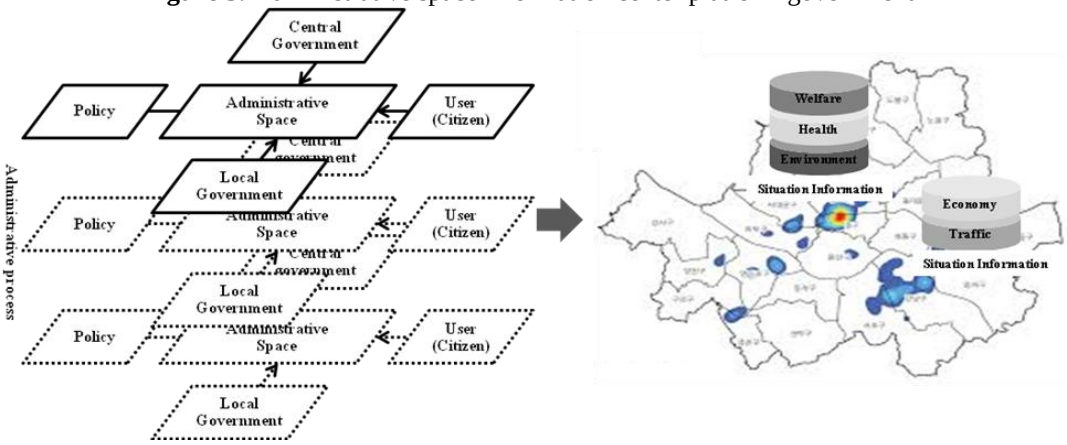
However, the current platform that the government is driven by the process, and it is difficult to organize the system in a flexible, reflective and analytical way. This is because, the information is produced and stored according to the process and the service is provided to the public.

Figure 2. Process-driven platform Government limits



The platform government discussed in this report considers that the intergovernmental and private information and communication is an integrated, linked, and decentralized ecosystem structure. This structure combines analytical and evaluation systems that respond to situations. In addition, there is a limit to expanding the internal administrative process - oriented platform to the outside of public service, private participation and utilization of public data. In other words, a new system infrastructure is required to build a platform that reflects internal processes and takes into account the relationship with the private sector. Such a framework should be able to judge both administrative needs and the private situation, and it should be possible for various subjects to share information. Administrative spatial information is suitable as a new system base of platform construction, because it can collect administrative information and collect and analyze various private situation information based on space. It is possible not only to provide a one-way provider of public information services, but also to create a context for their change, and demand it in exchange with their residents.

Figure 3. Administrative space information center platform government



The basic requirement of the platform government implementation is the data platform, the media platform, and the social platform[5]. And this platform can be based on administrative spatial information.

Table 2. The Role and Requirements of the Three Platforms of the Platform Government

Platform	Information Service Core Role	Platform Requirements
Data Platform	Resources	Horizontal Data Integration (Wide Area Data Center) Vertical data distribution (DW/OLAP)
Media Platform	Delivery	External expansion of administrative process (life ↔ office) Build a service channel based on social media
Social Platform	Collaboration	(Government) Staged Private Opening of Public Information (Private) app-based service and profit model creation

* Source : Korea Information Society Development Institute (2012)

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