SUMMARY

A Study on Building and Utilization of Spatial Knowledge Platform for Collaborative Policy Making Research

Kim Daejong, Seo Kihwan, Im Ryunghyeok, Shin Gaweon,
Kim Yunkwon, Han Injae

Collaboration among researchers within government sponsored research institutes for public policy is more required than ever before. Many problems are intrinsically complex and multi-lateral. Collaborative diagnosis and development of creative and effective policy alternatives are critical for solving those problems. Collaboration through off-line meeting, email and telephone has limitation in sharing knowledge, information resources, mutual learning and development of collective intelligence. Time is not enough to learn each other and to come up with new ideas through cultivation and fermentation. Meeting room is sometimes not spacious to accommodate all researchers and stakeholder. Information resources are mostly scattered to individual researchers in the process of research.

On the other hand, there are many organizations who are leveraging information technologies to create collective intelligence to solve complicated problems. JAM by IBM is one of the best practices. Every employers are

participating one week long workshop across the world to develop agendas for future. JAM is enabled by online platform to connect all employers and by real time big data analytics to understand and learn what's going on online workshop. OSM(Open Street Map) is a collaborative map creating project and Climate CoLab makes use of collective intelligence through internet to cope with climate change.

In this research project, we have developed a collaboration platform based on geospatial data since it is effective and easy to understand and communicate problems and alternatives with visualized maps. For effective and efficient collaborative research, the platform is designed to communicate each other based on their organization and project group. Any project group can be created under their organization and existing group. Members can share information resources such as data, documents, analytical tools and spatial knowledge including visualized map within their group. They can open their information resources to public if they want to.

The collaboration platform is also designed to provide and share information resources and functions required in the process of research. Common spatial data sets such as parcel map, administrative boundary, road, buildings etc. are established for fusion with table data and others. A geo-coding service for converting table data with location information into spatial data, and a function for joining spatial data with table data is developed. Visualization tools based on contents management system are available too. An analytical tool with chaining unit functions into a model is developed as well. The tool can access all kinds of data including statistical data, spatial data and big data on hadoop platform. Finally, collaborative knowledge creation is possible through a customized WIKI system linked with all contents created on

the platform. Experimental applications to school abolition and creation data using the platform verifies usefulness and effectiveness for data fusion, visualization, analysis and sharing.

Lastly, the research suggests some ideas for a guideline to create and facilitate knowledge ecosystem on the platform. First, information resources created during research should be accumulated and shared on the platform, and it should used for evaluating research performance. Second, data driven policy development should be carried out on the platform by researchers. Third, institutional system should be created for collaboration online. Fourth, promotion and training courses must be given to users. Finally, following projects must be carried out for keeping the platform stabilized and advanced.

Keywords: Collaboration, Collective intelligence, Geospatial Platform, Data-driven policy