Proceedings of 2022 Asian Conference on Crisisonomy
(20 ~ 23 July, 2022; Jeju National University; Asian Association for Crisisonomy)

Current Status of Disaster Safety Platform in Local Government

Min Ah Lee[1]

[1]Department of Public Administration, Chungbuk National University

A B S T R A C T

Entering the era of the 4th Industrial Revolution, countries around the world are experiencing a major digital transition from the existing analog method. The Korean government has made efforts to integrate administrative data by announcing plans to promote digital government innovation. Currently, government has declared a "government as a digital platform" and is promoting changes by applying new technologies represented by 4th industries such as artificial intelligence (AI) and blockchain to public services. These technological advances are expected to provide a greater amount of data and convenient accessibility to the public. Recently, due to the spread of COVID-19 infectious diseases, going out has been restricted and contact with others has to be minimized. In this situation, it seems that there is a need for a platform that can check related information non-contact. In this study, the concept of the platform and the currently implemented disaster safety platform are examined. In addition, we would like to consider whether the platform can continue to be developed and developed in the future and be used where necessary.

Key words: Platform, Disaster Safety

1. Introduction

Recently, due to the spread of COVID-19, there was a situation in which going out was restricted and contact with others had to be minimized. Usually, we could go to school to take classes or go to work, but in the COVID-19 situation, we had to avoid human-to-human contact, so we took a step forward to the era of "untact" such as online classes and telecommuting. Non-contact services have existed before, but have not been widely used. However, as the spread of COVID-19 did not decrease, the social distancing period was extended, which brought limitations to face-to-face work. Now almost everyone is forced to experience online non-contact services.

Already entering the era of the 4th industrial revolution, countries around the world are experiencing a major digital transformation from the existing analog method. The government announced a plan to promote digital government innovation in 2019, innovating existing processes and solving social problems, and is currently applying new technologies represented by artificial intelligence (AI) and blockchain to public services. Recently, the platform government, which strengthens data-based administration as it experiences COVID-19, and promotes innovation and change by expanding public participation and public data infrastructure, is drawing attention. Through cooperation between the public and private sectors, apps that can check the movement of confirmed patients or Vaccine pass that can prove whether they are vaccinated have been developed. In addition, COVID-19-related applications produced by the general public, such as guiding the movement of COVID-19 confirmed patients and checking the status of COVID-19 confirmed patients, also drew attention. As social distancing was lifted from April 18, 2022, the above services disappeared or their scope was reduced (e.g., KI-PASS, etc.). However, the data or technology accumulated to respond to COVID-19 is expected to be helpful in the spread of other infectious diseases after COVID-19. In addition, as citizens' perceptions have changed due to the COVID-19 infectious disease, the expansion of online non-face-to-face services has become a daily routine, and the transition to a digital society has accelerated. In the future, the necessity of an Internet social network and platform in the field of disaster safety that can obtain and share information related to various disaster damage such as infectious diseases such as COVID-19, typhoons, and earthquakes should be discussed.

With the increasing complexity and unpredictability of disasters in modern society, disaster management is understood as one of the important government's policy capabilities directly related to the

quality of life of the people (Yum Young-ho et al., 2020: 88). Meanwhile, the initial response case of Daegu, which was the beginning of the massive spread of COVID-19, shows that an independent response at the urban government level is needed rather than relying on the central government in the event of a disaster (Seo Hyung-joon, 2020:41). According to Wallace E. Oates', local governments have more contact with citizens than the central government, making it easier to understand the current status and demand of citizens, so local governments can supply certain public goods more efficiently than the central government(Oates 1972; Jeon Sang-kyung, 2011). Therefore, this study aims to find out about platforms where people can share information in various disaster situations, such as the recent infectious disease outbreak. In addition, we would like to investigate the disaster management-related platforms currently operated by local governments, which have more contacts with citizens than the central government and can provide close-knit services to residents, and find out future improvements.

2. Platform and Disaster Safety

2-1. Concept of platform

Platform is a combination of 'plat' and 'form', and has a dictionary meaning of 'a form of divided land'. The term "platform" has been used in business, art, etc. (Baldwin & Woodard, 2009) and is now widely used as a universal concept applicable to various fields. Already the market was forming an ecosystem created by suppliers and consumers as a business model, and with the success of this private platform business, O'reilly insisted on the government's platformization in the public sector and the introduction of the platform concept in the public sector expanded (Seo Hyung-joon, 2021: 45). The reason why the government is pushing for a new digital platform government based on digital technology and big data is to provide services based on scientific data, 2) preemptively provide services to citizens who have not found rights because they do not know how to do it, and 3) provide fair and honest services to all citizens. Some argue that such a digital platform government has no difference from the existing e-government and that only words have changed, but it should be noted that the concept of public services is changing from portal to platform. The portal is mainly used as a stepping stone for using Internet services, but the platform can be seen as an ecosystem where several people can interact within the service. It is truly a digital platform government and a digital transformation of administration only when various public opinions are collected and actual administrative changes are made through government feedback and interaction. (Han Se-eok, 2022: 581)

2-2. Disaster and safety management with local governments

In the event of an emergency such as a disaster, or terrorism that threatens the safety of citizens, an appropriate response is needed to establish and operate a quick and effective disaster safety management system (Kim Young-mi, 2017: 62). In order to respond to complex disaster situations, an integrated consultative system involving local (regional) researchers as well as related ministries and local governments is required. Major European countries, including the United States, Japan, have already established a cooperative governance system for disaster management (Um Young-ho, 2020: 88). If the existing disaster management was centered on central government-led orders and controls, it has recently changed to a form of governance based on communication and cooperation between central and local governments (Lee Dae-woong, 2019: 254). In addition, local governments are the primary responsible agencies and response agencies for disaster management at the forefront of disaster sites, and it is necessary to establish a cooperative network between local governments to manage disasters that cause complex administrative demands.

2-3. Resident participation platform

The emergence of participatory democracy encouraged citizens to directly participate in politics, but it still shows a formal aspect. Citizens' participation in the policy process was guaranteed, but the actual participating groups were limited, and even if participation was possible, information asymmetry was not overcome, and as a result, citizens' opinions had insufficient impact on the decision-making process. Accordingly, Choi Joon-kyu (2019) saw that the platform can operate as an alternative space to solve the needs of residents composed of communities. Recently, the online platform has been expanded to enable citizen participation services online, not offline. The Ministry of Public Administration and Security and 17 cities and provinces participated in the online platform jumin-e-jikjub(www.juminegov.go.kr), which began in February 2022, allows residents to request residents' ordinances, referendums, or electronic signatures on claims, and various certificates and results (Ministry of the Interior and Safety, 2022). In addition, there are online community participation platforms centered on local community such as Cheongju Siseon(www.siseon.cheongju.go.kr), DaejeonC (www.daejeonc.kr), Gwangju-si maeuil-e-chuck-chuck(maeuli.com), and Gyeonggi-do Dominic (domini.or.kr). However, in such an online platform

for residents' participation, the scope of contents related to disaster safety was narrow, such as policy proposals. Therefore, for the progress of the study, an online platform focused on disaster safety was investigated.

3. Local Government Disaster Safety Online Platform

In a study by Jung Ji-hye et al. (2021), the case of applications that provide disaster safety-related information services by the state and local governments was analyzed. In this study, a total of six applications were introduced: "Safety Stepping Stone" by the Ministry of the Interior and Safety, "Seoul Safety" by Seoul-si, "Gyeonggi Safety Daedongyeojido" by Chungcheongnam-do, "Smart Safety Center" in Gwangju-si, Gyeonggi-do and "Safety Jeju" by Jeju Special Self-Governing Province. In this study, an online platform created mainly in the field of disaster safety was investigated. When searching for the "Disaster Safety Platform" through the search engine (Google, Naver), the results were small, and the disaster safety platform project conducted by the private sector was also released. In the case of searching with the Disaster and Safety Countermeasures Headquarters, the website of the Disaster and Safety Countermeasures Headquarters by city and county could be found, but it excluded cases where the management of posts such as notices did not proceed for more than a year. To sum up, the local government's disaster safety platforms were Daejeon-si Safe Daejeon, Gyeongsangnam-do Smart Space Information Platform, Daegu-si Ansim Heiso, and Chungcheongnam-do 안전해 U.

< Picture 1. Local government Disaster Platform>

Safe 대전

경상남도 스마트 공간정보 플랫폼

안심하이소

안전해 U

3-1. Safe Daejeon (Daejeon-si)

Safe Daejeon(www.daejeon.go.kr) provides various information such as disaster information, disaster evacuation guidelines, safety and cultural movements, and weather information. At the top of the website, Daejeon Metropolitan City's weather report, real-time hydrologic data, real-time road communication information, and river water level videos are connected. You can check the daily disaster safety management situation and real-time radioactive information of Daejeon-si through the situation breaking bulletin board. Educational materials on natural and social disasters are provided through safety guides on the website.

3-2. Gyeongsangnam-do Smart Spatial Information Platform (Gyeongsangnam-do)

The Gyeongsangnam-do Smart Spatial Information Platform(gis.gyeongnam.go.kr) is a smart spatial information platform that allows anyone to easily use spatial information in Gyeongsangnam-do by combining distributed administrative information such as central ministries, public institutions, all departments and cities in the province with maps. Among them, you can click "Disaster Safety Data Map" on the initial screen of the website for disaster safety-related information. On the page, you can access weather information, weather information, and real-time emergency disaster text messages in Gyeongsangnam-do online, and you can check natural and social disaster occurrence data at a glance through a map.

3-3. Ansim Heiso (Daegu-si)

At Ansim Heiso(safehi.daegu.go.kr), you can check population information, traffic flow, earth-

quake-resistant design buildings, dangerous facilities (harmful chemical handling facilities, environmental discharge facilities, gas facilities), disaster facilities (heat centers, temporary residential facilities, outdoor shelters, and indoor relief centers). On the safe map, you can check the desired data at a glance. Ansim Heiso has not only a website but also an application, which can report disaster damage sites through photos or videos, and can additionally use the function to share weather information and disaster information to people in Daegu and other regions. One of the functions that Ansim Heiso is putting forward is "Off-line Navigation for Safe Evacuation." The function is used in existing travel applications, but it is the first in the world to find an evacuation route even when communication is lost due to a disaster.

3-4. Safe U (Yesan-gun)

At the top of the website of Safe Safety U(safe.yesan.go.kr), a disaster safety portal in Yesan-gun, there are general weather, safety information, disaster safety measures headquarters, safety bulletin boards, and disaster text service banners. Through the comprehensive weather, it is possible to find out the living weather, rainfall information, snowfall information, and precipitation prediction in Yesan-gun. In the life safety information, real-time disaster situations can be checked through disaster prevention information, disaster safety insurance, disaster safety apps, and disaster safety maps, and information related to disasters is provided. You can apply for disaster text service on Yesan-gun's Safe U website, so you can receive disaster information text messages when you apply.

4. Conclusions

As a result of the analysis, the characteristics of the local government's investigation of the disaster safety platform are as follows. Currently, disaster safety-related services were provided only in some areas, and the place of communication where residents could share real-time disaster information was limited. It was found that the website currently in operation lacked the function of interaction, such as portals, rather than the concept of the platform defined earlier. In order to revitalize the platform, it is necessary to prepare a place for communication on topics related to disaster safety. In the case of Daejeon Metropolitan City, there was a case in which a lecture on safety culture, a forum, a talk concert, and a metaverse exhibition hall and an experience hall were prepared by holding a Safe Daejeon Safety Experience Hanmadang in 2021.

It was also necessary to check whether a platform environment that people could trust was well established. Except for the platform introduced above, it seems that it is poorly managed or that the update has not been performed smoothly. This can act as an obstacle to obtaining disaster safety-related information from residents who are users. The Ansim Heiso Disaster Safety Platform in Daegu Metropolitan City operates an application with a website and creates a window for citizens to communicate, functioning as a platform. Ansim Heiso, which was selected as a leading project for disaster safety by the Ministry of Public Administration and Security, is planning to create a model that can spread nationwide through regular updates. The success of this platform government is ultimately determined by the quality data and information it provides to the public (Robinson, Yu & Felten, 2010).

On the other hand, this study has a limitation in that it did not present a direct development plan in that it only investigated the platform related to disaster safety. With the spread of COVID-19, non-face-to-face services are growing one step further and naturally appearing in our daily lives. After this study, it is expected that research on the construction of online platforms will be activated in disaster safety-related fields.

References

Lee Dae-woong. 2019. Factors affecting disaster resilience in Korean local government: Focusing on the rainfall in a natural disaster. Korean Public Administration Review, 53(1), 253-283.

Jung Ji-hye and Pyo Kyung-soo. 2021. A case study of disaster safety information application for elderly users.Journal of the Korean Communications Association, 46(1), 114-121.

Kim, Lee Soo, Choi, YeNa. 2020. A Study on the Effect of Digital Participation of Local Residents on Subjective Well-being: Focusing On the Moderating Effect of Digital Literacy. The Korean Journal of Local Government Studies, 24(3), 253-281.

Han Se eok. 2022. AI-based Platform Government: Success Conditions and Limitations. Journal of the Seoul Society of Public Administration, ( ), 579-602.

Seo Yong-yoon and Park Yong-tae. 2012. Mobile Platform and Mobile Product-Service System Concept and Structure, Journal of the Korean Society of Management Sciences, ( ), 468-475.

Eom, Young Ho, Eom, Kwangho, Son, Sun Hwa. 2020. R&D Alliance Operation Plan to Strengthen Competitiveness of Disaster Safety Technology Development. Journal of local government studies, 32(1), 87-109.

Nam Tae-woo, Kim Song-eun, Kim Yoo-seok, Kim Jong-woo, and Jung Joo-yong. 2021. Mobile Platform for Residents' Participation. Journal of the Korean Association of Information Chemistry Academic Presentation, ( ), 33-40.

Choi Junkyu. 2019. [Policy Proposal] Meaning of a village policy platform for daily participation and growth of residents. Monthly public policy, 167(), 53-55.

Seo, Hyungjun.2021.Online Civic Engagement in Government as a Platform: Focusing on Petitions about COVID-19 in Incheon eun Sotong eGadeug with Using Topic Modeling. Urban Research,(20),39-78.

Nam Tae-woo, Kim Song-eun, Kim Yoo-seok, Kim Jong-woo, and Jung Joo-yong. 2021. Mobile Platform for Residents' Participation. Journal of the Korean Association of Information Chemistry Academic Presentation, ( ), 33-40.

Profile

Min Ah Lee (leeminah@chungbuk.ac.kr)