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Opportunity for cooperation as a digital government partner on the 60th anniversary of diplomatic ties between Korea and Peru

ABSTRACT

Korea and Peru celebrated their 60th anniversary in 2023, following the establishment of diplomatic ties in 1963. With the advent of the digital age, cooperation in the field of digital governance has become crucial, and both countries recognize the need for further collaboration despite having already experienced various digital innovations. Based on Korea's advanced digital government system and Peru's commitment to government innovation and digital transformation, cooperation has been strengthened by sharing each other's experiences and know-how through DGCC. Through proposals in the field of digital infrastructure and digital governance, the two countries will be able to move forward as partners with continuous cooperation and create a better future.

Key words: e-Government, d-Government, Digital Government, Digital Governance, Digital Transformation, DGCC.

RESUMEN

“El Perú y la República de Corea celebran su 60° aniversario en 2023, tras el establecimiento de relaciones diplomáticas en 1963. Con la llegada de la era digital, la cooperación en el campo de la gobernanza digital se ha vuelto crucial. Más allá de las innovaciones digitales que han experimentado, ambos países reconocen la necesidad de una mayor colaboración. Tomando en cuenta el avanzado sistema de gobierno digital de Corea y el compromiso del Perú con la innovación gubernamental y la transformación digital, la cooperación entre ambos países se ha fortalecido al compartir experiencias y conocimientos a través del Centro Nacional de Cooperación en Innovación y Transformación Digital Perú-Corea. Mediante propuestas en el campo de la infraestructura y la gobernanza digital, los dos países podrán avanzar como socios con cooperación continua y crear un futuro mejor”.

Palabras clave: gobierno electrónico, gobierno digital, gobernanza digital, transformación digital, DGCC.

1. Introduction

Since establishing diplomatic relations on April 1st, 1963, Korea and Peru are celebrating their 60th anniversary in 2023, marking an important milestone in their long history and cultural exchange. In particular, with the advent of the digital era, cooperation in the field of digital government has become increasingly important.

Digital government aims to enhance the transparency, efficiency, and participation of public services through information and communication technologies. The development of digital technology can contribute to improving national competitiveness and citizens' quality of life.

Korea and Peru have built continuous cooperation for 60 years since the establishment of diplomatic relations. Now, both countries can create better outcomes by sharing each other's experiences and knowledge.

Accordingly, this paper aims to analyze and propose ways in which Korea and Peru can cooperate in the field of digital government and the necessity of

such cooperation, promoting continuous cooperation in digital government between the two countries.

2. The status of digital government in Peru

2.1 *The current status of ICT in Peru*

Due to its continental size and mountainous terrain, Peru faces challenges in establishing telecommunications infrastructure.

In ITU's real-time dash board, Peru's Percentage of population using the Internet is 71% as of 2021, and in the case of fixed broadband, Households with Internet access at home (2021) is 49%, Total fixed broadband subscriptions (2021) is 3,013,195 people¹. Regionally, a digital divide still exists between major cities (84% in the city of Lima) and rural areas (46.8%), according to the 2022 Peruvian Statistical Institute (INEI)².

Mobile Internet access is rather high, with Population covered by a mobile-cellular network (2021) at 89%. As of March 2023, Peru's mobile Internet speed measured an average download speed of 18.01 Mbps and upload speed of 12.47 Mbps, ranking it 111th out of 178 countries (International Institute for Management Development).

For reference, as of March 2023, fixed broadband's average download speed was 78.31 Mbps and upload speed was measured at 37.81 Mbps, ranking 54th.

It is worth noting that the Global Competitiveness Index (GCI) announced by the World Economic Forum in 2022 ranked 65th out of 140 countries but ranked 97th in terms of Internet infrastructure.

It also ranked 86th out of 194 countries surveyed in the Global Cyber Security Index (GCI) evaluated by the ITU.

2.2 *The Status of Peru's Digital Government*

The development of e-government in Peru has made significant progress over the past 20 years, starting in the early 2000s.

2.2.1. Law/Governance

Peru established the Administrative Procedure Law in 2001 and Approved the Information Society Development Plan in Peru in 2006^{3,4}. Then, in 2013, the e-Government Policy 2013-2017 was enacted⁵. In addition, the Administrative Procedure Simplification Act in 2016 and the Electronic Document Act in 2017 were enacted.

E-Government actually started as an organization called ONGEI (Oficina Nacional de Gobierno Electrónico e Informática) in 2003, but each ministry had already started before that.

ONGEI was renamed 'Secretaría de Gobierno Digital' (SEGDI) in 2017 in accordance with 'the Regulations on the Organization and Functions of the Prime Minister's Office'. SEGDI replaced the category of e-Government with digital government, and moved from the previous administration to a department of the Prime Minister's Office, but was elevated to a secretariat at the level of a deputy minister on par with ministries. However, there was no autonomy or political authority.

Full-fledged digital government began in 2018 when the Digital Government Act (D1412) and the Act on Opening Public Data were enacted⁶.

In addition, in 2020, the Act for the Establishment of the Digital Trust Framework and Digital Transformation System (006/007-2020) took effect, and 'the regulation for establishing a national digital transformation system' was announced^{7,8}.

In September 2021, the government's digital transformation function, including the private sector, was added and renamed from SEGDI to 'Secretaría de Gobierno y Transformación Digital' (SGTD). Its main missions are almost the same as SEGDI, and it is dedicated to i) planning, establishing and operating national strategies (AI, digital transformation, cyber security, digital certification), ii) improving digital inclusion and accessibility, and iii) international cooperation.

In 2022, Peru's 'PNIC 2025 (National Plan for Building Sustainable Infrastructure for Competitiveness)' was presented.

2.2.2. Plans/Policy

The Peruvian digital agenda (ADP) in 2006 and ADP 2.0 in 2011 were the beginnings of Peru's e-government plan.

In May 2011, the government announced the Broadband Development Plan (NBP) to enhance the IT infrastructure network as a universal service, setting a target of 4 million broadband line installations nationwide and a broadband penetration rate of 12.7% by 2016.

In 2013, the 'National Development Strategy – Public Administration Sector 2013-2016' was established and implemented, and administrative document sharing and digital signatures and certifications were established.

In 2016, by announcing a digital strategic plan called 'Digital Peru 2021', national digital transformation began to be promoted.

Since 2018, when the Digital Government Act was enacted, digital government plans have been established, adjusted, and implemented by the country and each ministry every three years. Currently, 'Digital Government 2021-2023' is being promoted, and 4 portfolios, including digital technology and human resources, and 15 digital transformation strategic tasks (PETDs) are being promoted.

In July 2021, the 'Digital Government Vision 2021-2025' plan was announced, further accelerating the digital transformation, and also recently announced the 'Digital Service and Trust Service Framework'.

2.2.3. Peru's Achievements and Significance in Digital Governance

1) Achievements

In the 2022 UN e-Government Development Index (EGDI) ranking, Peru ranked 59th out of 193 countries, a 12-rank increase from 2020. In particular, the e-Participation Index (EPART) rose to 22nd place, ranking second in Latin America after Brazil, and received high marks for the diversity and convenience of digital services, as well as the ease of online participation.

Additionally, on November 10, 2022, Peru was elected as the new chair country of RED GEALC, the Latin American e-government network.

These improved achievements show that the Peruvian government is continuing its digital government efforts. By further developing the e-government system and accelerating the transition to digital government, people's administrative tasks are being processed more efficiently.

2) Significance

The achievements made by the Peruvian government can be viewed as having the following significance: First, by processing work electronically, the speed of work processing has increased and human errors have decreased, greatly improving the efficiency and accuracy of work. Second, by introducing a digital government system, citizens are able to more easily access a variety of public services. Third, the transparency and reliability of both public and private services have greatly improved, increasing citizens' trust in online services. Fourth, cost savings resulting from the introduction of digital technology are being realized not only by the government, but also by the private sector.

3. Case study of digital government collaboration between Korea and Peru

3.1. Establishment and Operation of Korea-Peru Digital Government Cooperation Center

The Korea-Peru Digital Government Cooperation Center (DGCC) was established to strengthen cooperation between the two countries in the field of digital government.

The center was launched in September 2017 by a MoU between the Ministry of Internal and Security of the Republic of Korea and the Office of the Prime Minister of Peru.

They jointly invested \$1 million each for three years, and designated the Korea Information Society Agency (NIA) and Peru's Secretariat of Digital Government Transformation (SGTD) as the leading agencies and agreed to operate them jointly.

As of 2023, the center is in its second extension and includes the following activities:

- Discovery and promotion of cooperative projects in the field of digital government

- Exchange and share digital technology and know-how
- Establishment and cooperation of digital government policies and strategies
- Digital government education and human resources exchange

Following the successful operation of the center over the past six years, an agreement was considered to extend the operation of the center for an additional three years from 2024, and as of April 2023, Korea's official ODA process is underway. Therefore, it is expected that efforts to achieve development and growth in digital government will continue from next year.

Currently, DGCC are installed and operating in the following 9 countries around the world: Peru, Uzbekistan, Serbia, Laos, Costa Rica, Tunisia, Indonesia, Cambodia and Paraguay.

3.2. Implementation of the Korea-Peru Joint Digital Government Cooperation Project

The two countries have launched the "Korea-Peru Digital Cooperation Project" to enhance cooperation in the field of digital government by DGCC. The goal of these projects is to strengthen Peru's digital government capabilities through Korea's experience and technology, and includes various projects to promote digitization across Peru's administration. Various projects that have been carried out since the establishment of the DGCC are listed in Table 1 below.

Table 1.

List of Korea-Peru Digital Cooperation Projects

Year	Project List
2017	<ul style="list-style-type: none"> • Feasibility Study of e-Document Management • BPR/ISP for administrative work management • A master plan for Local Informatization
2018	<ul style="list-style-type: none"> • Enterprise Architecture introduction • Administrative information sharing system and designing an e-Document sharing platform • A Smart city-based urban integrated control system

- 2019
 - Feasibility study of the Peru National Data Center
 - Capacity building programs for public officials in Peru

 - 2021
 - Roadmap for the establishment of AI-based civil complaint system for the visually impaired
 - Master plan for AI-based customized individual education system

 - 2022
 - BPR/ISP for digital transformation of public services
 - Consulting on introducing the Open Cloud Infrastructure into the document management system
 - Invitational program to Korea

 - 2023
 - Feasibility study of Digital ID introduction
 - A migration strategy to PNGD based on PaaS-TA
 - Invitational training to Korea and holding a forum
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Source: National Information Society Agency

3.3. Enhancement of Capabilities in Korea-Peru Digital Government

3.3.1. Forum

A number of seminars and workshops were held to strengthen the capacity for digital government. The Korea-Peru Digital Government Cooperation Center organized seminars and workshops aimed at enhancing the capacity for digital government among Peruvian government officials every year. The project played a significant role in helping high-level officials in the Peruvian government to acquire the latest trends and technologies in the field of digital government and to strengthen the capacity.

3.3.2. Invitation program to Korea

To enhance the professionalism and competitiveness of Peruvian government officials, a program is held annually in Korea that invites 5-6 officials to experience advanced technology and the current status of Korea's digital government. The program consists of basic lectures, field trips, and corporate cooperation.

3.4. Results and Lessons Learned from Collaboration

Korea and Peru are promoting mutual development through systematic and continuous cooperation in the field of digital government. The key achievements are as follows:

1) The establishment of hardware-based infrastructure

By implementing roadmaps and master plan projects such as the National Data Center (2019), BPR/ISP for administrative work management (2017), and Administrative Information Sharing (2018), there has been a seed role in the upgrade of PIDE (Inter-Ministry Information Sharing) and the construction of PNGD (Digital Government Platform) and duplicated data centers.

2) Implementation of software-based infrastructure

Through projects such as Enterprise Architecture (2018), Administrative Work Management (2018), e-Document Management (2017), and Open Cloud Infrastructure (2022), the cloud-based digital government framework has been completed. Various public services can be loaded onto these bases, enabling more convenient and diverse services for citizens.

3) Sustainable provision of public services based on digital transformation

By carrying out projects such as BPR/ISP for digital transformation (2022), a migration strategy to PNGD (2023), EA (2018), AI-based services (2021), and Digital ID (2023), a foundation has been laid for various and sustainable public services to be applied to cloud systems based on IaaS and PaaS.

In conclusion, these are three key lessons learned from these collaboration cases.

The collaboration strategy of the Korea-Peru DGCC has been promoted in three stages. The center of the first stage was hardware-based infrastructure, the second center was software-based subsystem, and the third center from next year will focus on the digital transformation of public services.

As a result of the first stage collaboration, PNGD, PIDE, data centers, and more have been implemented. In the second stage, PaaS-based eGovernment framework, integrated document management system, National Cyber Security Center, EA, BPR/ISP, and more have been prepared on these infrastructures.

From 2024, Peru's public services will be able to accelerate their digital transformation on a well-designed hardware and software-based infrastructures.

4. Cooperation idea of digital government of the two countries

Both Korea and Peru have achieved significant progress in the field of digital government in recent years. Therefore, the two countries can build a better digital government by sharing their experiences and strengthening mutual cooperation.

Accordingly, the following suggestions are proposed:

1) Strengthen exchange and sharing programs to enhance capacity

Programs for mutual exchange and cooperation among experts in relevant fields, such as government agencies and universities in both countries, are necessary. By sharing the achievements and problems of each country and providing advice and knowledge on each other's issues, problem-solving is possible. In addition, providing education and training programs to experts in the relevant fields in each country can strengthen their capabilities in digital government.

2) Share innovative ideas and technologies and pursue joint projects

Korea and Peru should foster an innovative ecosystem by actively adopting innovative technologies and embracing the diverse experiences of Korea. Both countries need to overcome the problems facing their rapidly changing societies and nations by incorporating ICT technologies. Efforts must be made to actively introduce and apply new technologies such as IoT and big data. Korea and Peru can collaborate on cooperative projects in areas of mutual interest, focusing on utilizing new technologies and discovering and improving new business models and services.

3) Expansion of Digital Infrastructure

Just as a healthy body requires smooth blood flow, a country's system also needs fast logistics flow. In order for Peru to become a leading country in the digital economy, it must first improve its current Internet speed and reduce the digital divide between urban and rural areas by 10

to 100 times. Korea possesses world-class technology and experience in this field, so the two countries can work together to quickly expand their infrastructure. It is important to remember that as Internet speed increases, so does the risk of cyber threats. Therefore, systematic preparation, response, and international cooperation in the field of cybersecurity and information protection are also crucial.

4) Improving Local Informatization and Digital Divide

The gap between urban and rural areas, deserts, and jungle regions in terms of information technology is still significant, with rural areas having slow Internet environments and paper-based work processes. In Korea, the sharing and cooperation of information between urban and local governments are tightly designed and operated. The Korea Local Information Research & Development Institute (KLID) was established to support this effort⁹. Cooperation with KLID is always possible. By overcoming the geographical distance between urban and rural areas and promoting local cooperation, digital government can be accelerated even further.

5) Promotion of digital governance improvement and introduction of national project management methodology

Improvement of governance is also necessary for consistent implementation of digital government policies. The SGTD responsible for this should be reorganized into a separate dedicated organization and reinforced with specialized personnel to match the national competitiveness level.

Introduction of governance design and project management methodology that can systematically manage the Plan-Do-See process is also needed.

The duties specified by law, and the corresponding responsibilities and authorities, should be given. In order for inter-ministerial information sharing and linkage to function smoothly, individual actions by ministries should be avoided, and if violated, budget allocation should be discontinued, and discipline should be enforced through audits.

Of course, basic planning and direction setting should be properly established to be a model. To do this, the new dedicated digital government organization should function as a think tank for the country's ICT field, and be supported by specialized personnel and budget.

5. Conclusion

Both Korea and Peru recognize the importance of the rapidly changing digital economy and digital government. Both countries have already experienced various digital innovations and have overcome many difficulties. In this paper, the achievements of Korea and Peru in building digital infrastructure and key frameworks in the field of digital government are listed, and ways to continue as constant partners in various service and software sectors are suggested.

Based on Korea's advanced digital government system and Peru's efforts to promote government innovation and transparency, the two countries can share their experiences and expertise and strengthen their cooperation. In particular, synergies can be expected in new areas such as artificial intelligence, blockchain, digital ID based on the Internet of Things, smart cities, cybersecurity, and the establishment of a national communication network and digital transformation of various public services. Sharing and supporting experiences with these digital technologies and services will be beneficial for both countries.

Finally, to strengthen this cooperation, strong cooperation and coordination between the two governments are necessary. To this end, each country needs to revise its digital governance and consider political and economic support measures between the two countries.

Through these measures, Korea and Peru can become constant partners in the field of digital government. In the era of the digital economy, we hope that Korea and Peru, the representative countries of Asia and Latin America, will work together and lead the world's digital innovation, creating a better future.

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NOTES

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