

Anti-Corruption Clean Construction System

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Organisation: Seoul Metropolitan Infrastructure Headquarters

Country: Korea

Level of government: Local government

Sector: Economic affairs

Type: Digital, Human Resources

Launched in: 2011

Overall development time: 2 years 4 months

Link to the innovation's website

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Description

This new measure can protect the weakest link in the chain, improve construction work efficiency and increase citizens' convenience through easy access to critical information. The measure will protect numerous subcontracted workers who suffer from greater unstable financial conditions than prime contractors. With the Anti-Corruption Clean Construction System, a new way to pay subcontractors was set up. Now, Seoul makes separate payments for prime contractors and subcontractors, and there is also an online platform to check if a payment has actually been made to a subcontractor.

It also saves the client and prime contractor any hassles over documentation and verification. In addition, the city of Seoul has established One-PMIS (Project Manager Information System), whereby all stakeholders in a project can monitor project information in real time. The Construction ALLIMI (informer in English) website provides the public with all the necessary information about projects being carried out in the city. The public can even see pictures of work in progress and web camera images in real time. With this, the public stays informed, construction resources can be managed effectively and corruption during the project implementation stage is prevented.

Why the innovation was developed

- Korea has taken a number of measures to improve the transparency level of its construction industry since the mid-1990s. Currently, however, the domestic construction industry scores at only 54.21 points out of 100 in terms of transparency, which makes it evident that the situation is still serious. There is also a significant problem with unpaid wages for construction workers. According to a survey conducted by the Ministry of Labour, 18,000 construction workers reported that they did not receive wages worth KRW 86 billion (about USD 84.6 million) in 2011. In the past, administrative procedures were processed manually. Contractors' various reports were no exception. All of these had to be submitted to clients' offices in person.
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Objectives

Enhance public trust, Enhance transparency, Improve access, Improve effectiveness, Improve user satisfaction

- Decrease corruption in the construction industry by making the process more transparent.
 - Protecting the underprivileged, enhancing work efficiency, and dealing with inconveniences felt by citizens.
 - Satisfying the citizens' right-to-know by managing construction processes systematically.
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Main beneficiaries

Businesses, Civil Society, General population, Government bodies, Government staff

- Subcontractors: They can monitor their payment online, and see when it has been made.
- Prime contractors: They are still able to maintain power over the subcontractors, even though the payment system has changed.
- Construction workers: The system ensures that payment is made to construction workers.
- Citizens: They can monitor and find out information about construction projects via online platform.

Results

Efficiency

- The system evolved from using paper to electronic documentation, which allowed for less errors and quicker processing. With this, paper use at the construction sites was significantly reduced from 70 000 to less than 14 000. Moreover, by removing redundant working process, the total budget was saved by nearly 10% and work efficiency was improved by 30%. This, in turn, enhanced the overall productivity of the construction industry.
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Effectiveness

- Because of the new subcontractor payment system, subcontractors are now more likely to get paid on-time, and so are the construction workers.
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Service quality

Accessibility:

- The website allows not only subcontractors and prime contractors, but also the public to monitor construction real-time.

Other:

- The Construction Allimi enabled the citizens and stakeholders to track the progress of all construction works online. It also provided detailed information of construction works worth KRW 500 million. Among those worth more than KRW 10 billion, SMG installed 94 web cameras to provide information in real-time.
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Evaluation

The system is being monitored every ten days and there is a regular quarterly evaluation.

Development

Design

The establishment of the system was initiated by the Seoul Metropolitan Infrastructure Headquarters, an associate organisation of the Seoul Metropolitan Government (SMG), which is responsible for the management of all construction projects ordered by the SMG. The public servants in the office agreed that a new system was needed to guarantee that prime contractors paid their subcontractors; the payment failures were creating terrible problems for the subcontractors as well as their workers, equipment renters and construction material suppliers. A task force team was formed with public officials in charge of construction contracts and computerisation in order to develop a computerised payment system that would monitor the whole payment flows.

Design time: 6 months

Testing

- In April 2011, the SMG signed a service contract with Paycoms, a system integrator, for the development and installation of a computerised system to monitor the prime contractors' payment to their subcontractors. Through the contract, the SMG could mobilise the expertise of the company's programmers, financial experts, and risk managers.
- The SMG made an agreement with two reputable banks for the provision of payment information, so that payments to subcontractors can be checked online.

Testing time: 5 months

Implementation

Tools used:

- Using the SMG's financial management system 'E-Hojo', contract data could be accessed by any stakeholder, which enabled the construction fees to be paid to prime contractors and subcontractors separately.
- The SMG automated some of its work processes including subcontract payment and the printing of evidential documents.
- Innovative technologies were applied to construction work processes:
 - 4D simulation was used during decision making process.
 - Digital map using GIS shows exact work locations.

Resources used:

- Staff:
 - A task force team at the SMG was composed of personnel from computer science, finance and construction engineering.
 - NGOs, various agencies and institutions expressed their opinions at various stages of the system development such as planning, design, and operation.
- Budget:
 - Initial Investment in Subcontractor Payment System: KRW 62,423,000 (Step 1: 42 323 Step 2: 20 100 000).
 - Initial Investment in One-PMIS & Allimi: KRW 700 000 000.

Implementation time: 5 months

Diffusion

- Since the system is internet-based, it can be widely used by anyone who has access to the internet.
- Many institutions have visited the SMG to benchmark its system. So far, 19 domestic agencies and 30 foreign institutions have sent their officials and personnel to Seoul. All of them have responded very positively to Seoul's system.

Diffusion time: 1 year

Challenges and solutions

- Since there were no particular models or standards to follow, it was difficult to predict what problems may arise. Also, as the system was related with the payment of money, there were several risks including system glitches and security problems.
 - To tackle the above challenges, the following efforts have been made:
 - Solution 1: efforts were made to prepare for system failures. Measures were taken to restore the system within four hours.
 - Solution 2: a cross-checking system was adopted.
 - Solution 3: a system was configured to prevent data forging or falsifying, and to analyse the problem when any incident occurs.
 - Solution 4: the entire system work log was stored to make a quick analysis of any accidents.
 - Solution 5: information stored in a database was encrypted and a database server access control system was set up.
 - Solution 6: a duplicate server was built and the RAC (Real Application Cluster) of the DB server was also duplicated.
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Partnerships

Paycoms

Private sector

The SMG contracted with Paycoms, a systems integrator, for the development and installation of a computerised system to monitor the prime contractors' payment to their subcontractors.

SangAh Management Consulting Corporation

Private sector

The SGM signed a contract with SangAh Management Consulting Corporation, a professional project management information system developer, in April 2011 to develop a system for city administrators.

Woori Bank and the Industrial Bank of Korea

Private sector

In December 2011, the mayor of The SMG and the presidents of Woori Bank and the Industrial Bank of Korea signed a cooperative agreement to ensure payments on time to subcontractors by sharing banking information.

Diverse

Other

The city held various meetings between relevant bodies in the public and private sectors, such as the Subcontract Improvement Council and Citizen Satisfaction Council, NGOs and Construction Labor Unions. All the opinions and proposals from the meetings were used to develop the system and solve the problems.

Lessons Learned

Lessons Learned

- Seoul has succeeded in projecting an image of 'embracing the underprivileged' and in opening doors to an improved environment for the lives of its people.
 - The new system has proved that the government can bring transparency into the private sector by encouraging cooperation among interest groups.
 - The new construction management system uses innovative technologies and the internet to streamline existing construction work processes. Since there is little fiscal burden except for the expenses incurred for the establishment and operation of the system, it may contribute to reducing the cost of other cities or regions when implementing the system.
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Conditions for success

- Gradual implementation: the SMG adopted a gradual approach to the implementation of the system on-site to give all stakeholders enough time to adapt to the new system.
 - Development of an easy, computerised system: the SMG developed an easy, computerised system that can be run in a variety of environments, so that it can be used not just in Seoul or across the nation, but also in almost any corner of the world.
 - Connections to other computerised systems: the SMG pursued the connection of the new computerised system to existing public systems such as 'E-Hojo', the SMG's financial management system, 'G2B', the national contract information system, and 'GIS', a geographical data system. The purpose was to integrate various information systems. As a result, the new system not only worked as the construction contract and management portal, but also played a role as an alert system.
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Other information

- The system was praised at the 2012 Global e-Government Forum (whereby 50 countries participated), for its efficiency, low-cost, and high quality.
 - In November 2012, it received attention at the 15th International Anti-corruption Conference (IACC), hosted by the IACC Council and Transparency International in Brasilia, Brazil.
 - In mid-June 2013, the system was chosen as one of the excellent programmes at the UN Public Service Awards. It was especially recognised for playing a key role in fighting corruption.
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