

# Digital Transformation of Toyosu Market's Sanitation Inspection: Implementation of an HACCP-compliant system through tablets and cloud computing



## Background and Reason for the Project

Due to the revision of the Food Sanitation Act, sanitation management in accordance with HACCP (Hazard Analysis and Critical Control Point) has been mandatory since June 2021, and the number of items to be inspected during monitoring and guidance has increased significantly. To maintain appropriate levels of monitoring and guidance, there was an urgent need to reform operations through digitisation.

## Project Aims

Utilise ICT technology to improve the overall efficiency of the sanitation inspection system, in accordance with HACCP compliance.

## Project Outline

Toyosu Market originally had the following issues but was unable to find the best way to address them while keeping in line with their everyday operations.

- The results of on-site monitoring and guidance were recorded on paper and then later transcribed into Excel at the office, which made it difficult to calculate totals and added extra manual work, and it was difficult to check previous guidance records, making continuous guidance difficult.

- Those carrying out monitoring and guidance need to confirm the latest information, but since all the

data was on paper, a large amount of paper was needed, and there was the chance that papers could be lost.

- There were no tools for simple exchange of information between the on-site inspection teams or between the site and the office, making information sharing and emergency communication difficult.

To solve these issues, a digital transformation team headed by the director of sanitary inspections was formed within the inspection team to reform the entire operation, including HACCP-based guidelines, using tablets and cloud computing.

## Features and Innovations

A specialized inspection system was developed by on-site staff with the support of ICT personnel using no-code/low-code tools and agile development.

## Results of the Project

The following results were achieved through the creation of various applications such as one to record and reference the HACCP implementation status of each store, one to store data, and the construction of a message board feature.

1. Improved efficiency and quality of sanitation inspections

Managing operations has become more efficient with continuous recording of interviews with operators and when checking operation records. By quantifying the level required for each HACCP guideline, it has also become possible to provide guidance in a well-structured manner; for example, by identifying and focusing on those operators who are behind in their efforts. In addition, software that allows data to be handwritten directly onto the screen and an inspection checklist was also added to the application. By entering interview data on the checklist image on the spot by hand, even detailed information that cannot be compiled into numerical data can be stored and referenced with the system.

## 2. Digitalisation

On-site fish identification has been improved and made more convenient by digitising the toxic fish catalogue, which used to be carried on paper, and by moving it to the cloud together with databases such as examples of received goods. In addition, the 'list of shipping restrictions due to shellfish poisoning', which previously had to be printed out and carried by each team each time a notice came in, is now stored electronically in the cloud, and can be referenced through the tablet, resulting in a significant reduction of paper use and the reliable sharing of the latest information.

## 3. Revitalised communication

Communication between staff members was difficult as they work according to the market opening date on a rotating shift from early morning inspections (wholesale market) to regular inspections (intermediate wholesalers, etc.). However, it is now possible to chat and share notices on the app's message board regardless of the time or location, which has helped increased communication within the entire team. In addition, information can now be shared simultaneously between on-site inspectors, inspection teams, and the office, improving crisis management measures in the event of an emergency.



Digitalised Inspection 1



Digitalised Inspection 2



Inspection Tools

## Issues, Problems and Responses

With this project, the use of digital tools changed the very way of doing business and solved the issues that had been present. In addition, inspectors are now better able to present information, such as being able to answer questions from operators with on-site evidence, a result that is beneficial not only to the staff but also to the operators.

This project has shown the secret to a successful digital transformation to be the following:

- For no-code development, the staff should learn how to use the tools and be able to use the standard functions on their own, while still receiving appropriate support from the ICT staff. This helps in a variety of ways, such as allowing the staff to accurately communicate necessary functions to the ICT staff, and simple improvements can be made on their own, without waiting for a meeting with the ICT staff, which dramatically speeds up the development process.
- The digital transformation team must have a strong desire to improve operations. The methods proposed by the ICT professionals may not be the best on-site solution. It is also expected that some staff members may be uncomfortable with digital technology. The digital transformation team needs to be persistent in coordinating with relevant parties to ensure a system that is easy for on-site use.
- For no-code development, an agile development approach is the best choice. This is when a portion of the data is digitised to start, and then improved upon while listening to user feedback. It is also important not to be overzealous in trying to create something perfect from the start, and for the supervisor to understand that it may be necessary to go back and make corrections.

### **Future Developments (expected effects, project outlook, and issues)**

For this project, the digitalization of sanitation inspections was achieved by utilising tablets, cloud computing, and no-code/low-code tools. Through DevOps, a process of repeated user testing and refinement, a dedicated system was developed and put into use in a short period of 5 months. Currently, the system continues to evolve, not only monitoring the seafood market at Toyosu Market, but also expanding the scope of users to include sub-branches and the fruit and vegetable market. We will

continue to reflect the opinions of the staff who utilise the system in their daily inspections to improve the system, and we will also refer to successful cases in other offices and municipalities to further promote digital transformation in the Wholesale Market Sanitary Inspection Station.

### **Reference URL**

<https://note.com/kouzoukaikaku/n/n316fb9afa927>

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