

# How IT Can Meet the Needs of an Aging Society

By Yoshioka Ryo

## Electronic Voting and Information Devices “Yume Net” (“Dream Network”)

Niimi City is situated in a mountainous region of northwest Okayama Prefecture. Disembarking at the JR Niimi station in the center of town, one finds a monument in front of the station, which says “Niimi City, the city of electronic voting.” In the election of the mayor and council members on June 23<sup>rd</sup>, 2002, the city implemented Japan’s first electronic voting system. Mayor Ishigaki Masao, who was re-elected in that election, says, “The realization of electronic voting has become a source of pride for the citizens.”

The commonly known advantages of electronic voting include the voiding of disputed and disqualified ballots and the speedy tallying of ballots, but Niimi City had a distinct objective. Senior citizens over the age of 65 comprise 30% of the city’s population. And according to Ishigaki, “There is a need to further implementation of IT here, specifically because we have a small population with an aging community.” He believed that electronic voting would give a large segment of the population the opportunity to come in contact with computers and would serve as a catalyst for the explosive diffusion of IT in the city.

## Electronic voting lessons for senior citizens

The electronic voting system adopted by Niimi City is one in which the voter selects a candidate from among those displayed on the monitor and indicates his or her choice using the touch panel. The system is similar to the automated teller machine (ATMs) in banks. Operation consists of: (1) casting a vote for a mayoral candidate; (2) confirmation of the selection; (3) casting a vote for a city council candidate; and (4) confirmation of the selection. Unless a

voter changes his or her selection, he or she need only touch the monitor a mere four times. The process is so simple that, after balloting, many voters are left with an odd feeling, thinking, “That’s it?”

However, prior to installation, some expressed strong objections to the conversion from the traditional manual method to the electronic system. A substantial segment of those opposed cited the problem of intolerance based on preconceived ideas, as articulated by a council member who stated, “They say that the operation is simple, but there are many seniors who have an aversion to ATMs. What happens if these people shy away from voting?”

The city’s Election Administration Commission made extra efforts with respect to educational activities for citizens. Electronic voting lessons to try out the equipment in advance were held at a supermarket in the city center as well as at public facilities throughout the city. There was also a “house call” service in which the equipment was transported to locations in response to requests from senior citizens groups. The equipment was also loaded onto a minivan that cruised the city, approaching people working in the fields as well as pedestrians, offering them a chance to sample the system.

These efforts contributed significantly to the mitigation of intolerance on the part of citizens. According to the results of a survey completed by the 575 citizens who experienced the city’s simulated voting system, 47% said that they “had anxiety about electronic voting” before trying out the system. After the trial, 93% responded, “It was easier than expected.” Moreover, the equipment, accompanied by city staff, made several round trips on mountain roads but did not sustain any damage.

On Election Day, although there were minor mishaps, the electronic voting system was a success. Just 25 minutes

after the ballot counting started, all of the electronic votes, which constituted 90% of the total ballots (the other 10% consisted of paper ballots used for absentee voting), had been tallied. The election results were ready in no time. Representatives from other local governments who were on hand to review the performance expressed their surprise at how fast the system worked. Above all, the reaction of the citizenry was generally very positive. A 76-year-old woman said, “I didn’t have to second guess the spelling. If it’s this easy, it should be no problem for a senior citizen.” Many remarked that the system is “easy,” “clearly identifiable” and “enjoyable.”

One problem associated with electronic voting is the high cost of installation. Niimi City determined that purchasing the system would be too expensive, so it rented the entire system. But electronic voting has not yet caught on, and a market has not been established, so it was not clear how much money can be saved by renting. The city was prepared to pay more than a hundred million yen.

Because this was the first implementation in Japan, however, the rental fee was set at ¥2.5 million. According to the manufacturer, “We simply calculated the cost of the temporary labor that would have to be hired to install the device for Election Day and the cost of recording media and the like. The actual rental fee was essentially nothing.” For the city, it was an unexpected windfall. After the election, city officers reflected, “Being the first attempt in the whole country, it was widely broadcast by the media. Considering the incidental publicity, ¥2.5 million was a real bargain.”

## Shopping and disaster information delivered by one device

Just as the city had hoped, the success of electronic voting played a big role in gaining citizen’s understanding for IT measures. The next measure initiated



An electronic voting lesson for senior citizens



The display is operated using touch panels

by the city was the “Yume Net,” (Dream Network) a service in which devices that act like simplified PCs are distributed to each family and connected through an optical fiber network in the sewer system.

A trial service began in July 2003. The display is operated using touch panels, which citizens gained familiarity with through electronic voting. It employs no keyboards and uses the Internet to access valuable information. In addition, it is equipped with: (1) a bulletin board that displays disaster information; (2) an automatic inspection meter system in which the user and the city can mutually verify water consumption and the monthly fee at any time; and (3) an IP telephone service similar to an internal line through which users can communicate with one another at no charge.

The city’s future vision includes expanded services such as online doctor’s examinations utilizing a videoconferrence system.

At the time of the launch, this service was provided to 130 households in the city. Although there are uncertainties about potential municipal mergers involving the cities, towns and villages, the plan is to provide the service to 5,600 households (15,000 people), over half of the city’s population by 2020.

The overall cost of the project, including the cost of improving the sewer system, is estimated at ¥8 billion.

As with electronic voting, the biggest issue is how to persuade senior citizens to use the system. The person in charge of system development says, “We wanted to implement a multi-functional system that could recognize handwritten characters and provide directions using maps via the device, but we opted for a simple system that senior citizens could use.”

Mayor Ishigaki emphasizes that electronic voting has helped to reduce citizens’ intolerance of IT, saying, “In Niimi City, seniors have experienced electronic voting and realized that touch panels are easy to use, and their reaction has been very positive.”

We asked users of the system to share their thoughts. One middle-aged housewife living in the city said, “In the past we had trouble hearing the disaster-related information announced every evening due to the echoing effect of the mountains, but now the information is displayed on the monitors so we can verify it at any time.” She goes on to express her hopes for the further expansion of the system, saying, “It would be nice to be able to summon an ambulance with the push of a button and to have other services that could be of use

in emergencies. And if the fire department could automatically identify the origin of an alert, we wouldn’t have to explain our location over the phone.”

Niimi City, for its part, remains receptive to the voices of its citizenry and hopes to make improvements to the device itself as well as its contents and functions. Ishigaki provides an example, “It would be great if we could have a system of health maintenance featuring toilets that can measure body fat and examine blood pressure. By connecting with the center, the data can be automatically recorded on a daily basis. Blood pressure exams are already available at clinics, but senior citizens tend to avoid going because they regard it as a cumbersome task. It would be wonderful if one’s health could automatically be examined by simply using the toilet.”

At a glance, one would think that the aging of a society would hamper the trend toward IT implementation, but Niimi City’s approach makes IT a central part of its policies to expand residential services. It will continue to attract interest as a model case in local government administration. **JS**

Yoshioka Ryo is a staff writer in the Foreign News Section of Jiji Press.