

IT solutions for workers with disabilities in the retail industry

The Japanese service industry has been facing serious labor shortages due to demographic changes. In response, NRI is stimulating the employment of people with disabilities as an untapped workforce in the convenience store industry through the development of workplace-based IT solutions, such as AI-based work support apps.

Within the Japanese retail industry, convenience stores are particularly confronted with the challenge of labor shortage. Consequently, major convenience store and retail chains have implemented a variety of measures with the goal to reduce staffing needs, i.e. the number of workers required for store operations.

NRI, however, opted for an alternative solution and decided to train and hire from the talented but so far largely untapped workforce of people with disabilities. Using the potential of this productive population not only leads to enhanced workforce productivity and ROI but also to more diversity and a stronger corporate culture.

To facilitate the inclusion of people with disabilities in stores through AI and other advanced technologies, in 2018, [NRI Retail Next](#) started a feasibility study and test project involving snack stands (also known as "satellite stands") together with [NRI Mirai, Ltd.](#) at NRI's Yokohama Nomura office building.

In six lounge areas, where employees take breaks and socialize, around a dozen snacks and drinks are provided to staff through sales points, and on each floor of the building a small pantry offers several foods and beverages. To operate these stands, NRI Mirai employs a small number of staff with disabilities. Twice a week, a team of two people checks and replenished the stock, cleans the stands and arranges the snacks.

For the employees to carry out these tasks independently and without assistance from their supervisors, NRI involved people with disabilities in the development and prototyping of a work support system. This system consists of an easy-to-understand

iPad app that provides people with intellectual disabilities with detailed instructions to carry out their tasks.

A non-disabled person may quickly understand the required steps after reading the instructions, but for a person with an intellectual handicap or a mental disorder, procedures need to be broken down into more specific steps and activities. So, instead of being told to do a task "properly", the app asks e.g. to "wipe the surface five times."

As the application is very simple and user-friendly, it can not only be used by people with disabilities but also by people speaking different languages, elderly employees, or those who make their first experiences in a retail job.

The agile methodology is a fairly new concept in Japanese IT and requires to continuously improve the application in real time as its design and functionalities are based on ongoing user experience and feedback. As such, users are now part of the development process rather than just being given a tool to work with. This not only leads to more inclusive work environments but also to a high level of empowerment and skills development in the workplace.



The iPad app is still undergoing an internal proof of concept phase. Going forward, NRI aims to promote this initiative and scale up the solutions it develops by expanding its use to other retail stores.