

Expectations for Technological Development to Improve Convenience in Food Distribution



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Buying things on the Internet namely online shopping has become common practice these days. In the 2015 White Paper on Information and Communications published by the Ministry of Internal Affairs and Communications of Japan, they say that over 70% of people across all generations have purchased goods online, and the population's shopping behavior in physical retailing establishments, which is "real stores," is undergoing some changes. It is not simply that fewer people shop in real stores; the implication of these changes extends to the emergence of new commercial models that integrate real stores with online stores. This trend has also touched the food industry, notably in such areas as fresh grocery, which has long resisted the integration into e-commerce, since technological advancement in food preservation has enabled online shopping, backed by the logistic systems that can have purchased items delivered on the same day or the next day.

Amid the changes in the market, engineers have tended to pursue their technological development to support food distribution, basically, by picking up issues suggested by real stores, where end-customer needs were truly understood. However, this passive approach is no longer sufficient to sell technology no matter how good it may be. Today, a proactive approach to suggest improvements is essential, and the ability to come up with a good proposal is a prerequisite. For this reason, expectations are moving from the business to business (BtoB) model, which aims to meet business operators' requirements, to the business-to-business-to-customer (BtoBtoC) model, which captures and realizes end-customer needs quickly and accurately.

Meanwhile, Japan is facing signs of a population decline, and the decrease of the population in the productive age 15 or more and less than 65 years of age, is clearly shown in the prevalent shortage of labor. This is particularly evident in food distribution sectors such as convenience stores (CVS) and restaurants. In CVS, for example, a variety of services are being introduced to improve convenience and to cater to diversifying customer needs, and they are putting more workload on employees as workflow becomes increasingly complex. The increas-

ingly demanding work is likely to deter potential workers from joining, possibly exacerbating the labor shortage.

Given these situations as a context, improving convenience in the food distribution industry requires innovations, mainly through two approaches. One takes a customer perspective, and the other has the perspective of workers in food distribution.

First, taking the end-customer perspective, it is necessary to reconsider the ways in which fun is provided in shopping in real stores. A shop floor is recognized as a "selling space" seen from the proprietor's point of view, but this can be redefined as a "buying space," taking the customer point of view. Efforts should continue to make best use of shelf space to display products effectively and make them look attractive. More importantly, however, there is a need for creating enhanced experiential value in that customers can easily imagine how the products are used in their everyday context and enjoy the shopping itself—leading to an enhanced buying experience. This may be about the in-store ambiance, customer services, visual effects, convenience in shopping or positive sensations. The point is how to make shoppers enjoy themselves, which may, in some cases, even call for entertainment value. Recently, CVS have been developing a new collaboration with other businesses to create "extra purchases." Together with this, efforts must be made in designing stores with a system to prompt customers to visit and buy products in physical stores.

From the perspective of the workers, the workforce shortage suggests a need for labor saving and an improved work environment so that stores can be managed by fewer staff members. These challenges may be eased by the recent emergence of the IoT and AI, which connect many things to the Internet. However, considering that work manuals at CVS are growing in volume, basic improvements to shop furniture and other equipment are also necessary to enhance the efficiency of each work process. Meanwhile, employees also want to have their working experience enhanced. Automation for labor saving is liable to make actual work redundant and, as a result, adversely affect workers' morale as well as their skill development. The way to move forward is to enable workers to be involved in customers' buying experience, contribute to the enhancement of customer satisfaction, and increase their own satisfaction. There must still be more possibilities that need exploring.

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In R&D, therefore, we need to regularly engage in cross-sectional thinking rather than focusing solely on our own areas of specialization. Thus, an open attitude is

expected toward incorporating diverse ideas so as to improve convenience in the food distribution industry.





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