ICT and the Future of the Retail Industry - Consumer-Centric Retailing

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Abstract

Over the past few years, trends in consumer behavior have undergone dramatic changes. Along with globalization of the economy and rapid evolution of the ICT environment, this has spurred a revolution in the retail industry. Retailers have found themselves forced to compete for consumer attention like never before. In such an environment, they can no longer survive unless they are chosen by consumers. To survive in the future, retailers must commit to consumer-driven models. To help the retail industry adapt to this new environment, NEC has developed ICT strategies to support retail operations in three key areas: improvement of consumer convenience, achievement of operational excellence, and IT service life cycle management (LCM). Furthermore, NEC is focusing on technology/product development and strategic investment aimed at adapting to the evolving needs of consumers and retailers.

Keywords

digital shift, service shift, power shift to the demand side, omni-channel, personalization, increased convenience for consumers, achievement of operational excellence, IT service LCM, Consumer-Centric retailing

1. Introduction

In recent years, the retail environment has changed dramatically as advances in technology and evolving consumer behavior have reached a tipping point. In addition to changes in the value chain of production, distribution, and sales, the globalization of the retail industry itself is also underway. The ICT environment has also undergone rapid and significant change - particularly in terms of networks and mobile devices. All of this has had a huge impact on the retail industry, literally creating an environment where stores must "adapt or die."

With the rapid expansion of online retailing, today's marketing efforts increasingly focus on omni-channel strategies. Traditional retailers with brick-and-mortar stores, such as supermarkets, department stores, convenience stores, and specialized stores, have stepped up their efforts to implement integration of their online and real-world activities. At the same time, online retailers are expanding their reach by partnering with companies that already have stores and service establishments. Today's consumers no longer go to stores merely to shop; instead, they pursue the optimal purchasing experience by gathering information on the Internet and ordering and receiving products anytime and anywhere. By analyzing the impact of the changes taking place in the environment that surrounds the retail industry, we hope to develop an understanding of the future direction of the retail industry and the role of ICT in building that future.

2. Changes in the Retail Environment

There are many changes impacting the environment that surrounds the retail industry. However, for the purpose of this article, we will focus on three areas of change: digital shift, service shift, and power shift to the demand side.

(1) Digital shift

The accelerated growth of the Internet, mobile networks, and smart devices (tablets and smartphones) has had a huge impact on the way consumers shop. Digital merchandise, for instance, is available instantly, regardless of the time and place. At the same time, consumers can research products using social media and other network sources, make their purchases via e-commerce and either have them delivered or pick them up at the store of their choice.

(2) Service shift

The range of merchandise offered by the retail industry is expanding, covering not only traditional physical goods,

but also new more intangible goods called service merchandise. This shift from actual physical goods to intangible goods and service means that retailers can no longer thrive by simply selling goods; now, they must also offer added value by combining actual goods with processes and services. At the same time, the marketing methodology of companies is changing from 4P[*1] to 4C[*2].

(3) Power shift to the demand side

Recent changes are causing a shift in power from manufacturers to retailers and from retailers to consumers. We have entered an era where consumers can choose retailers based on their own judgment. Moreover, the dramatic progress in consumer IT - exemplified by smart devices, and smartphone applications - has shifted the focus of ICT activity from businesses (supply side) to consumers (demand side).

These changes compel retailers to develop more consumer-oriented approaches to marketing and sales. Today's Empowered Consumers - who enjoy easy acquisition of information due to smartphones and other technologies, and can decide on their own what to buy, where to buy, and how to pick up those items - are most likely to choose retailers who can better satisfy their ever-changing demands.

What consumers expect from retailers comprises a number of elements that include product functions, practical values such as price, convenience in buying and receiving methods, and sentimental values such as specific brands. But even with the same consumer, demands can change depending on the environment, situation, time of life, finances, and so on. This results in the selection of a buying method and retailer that matches such values. In other words, we have moved from the age of "10 different persons, 10 different faces" to an age of "1 person, 10 different faces" with more complicated and diversified consumer needs.

It's precisely this kind of transformation of consumers that is leading to dramatic shifts in the retail industry. New-style sharing services and agency-service type retailers that don't have stores and inventories are already beginning to emerge and are predicted to become more common in the future. From the standpoint of the retail industry, the ground is shifting beneath their feet, creating an extremely severe competition environment where only the sure-footed will be able to stay on their feet and only those chosen by consumers will survive.

3. The Future of the Retail Industry

Until now, the retail industry has transformed from the sales-agency type (manufacturer-driven) to the purchase-agency type (retailer-driven), accompanied by the transformation of markets from seller-oriented to buyer-oriented (**Fig. 1**). In the era of mass production and mass consumption, consumer needs were uniform, so producers had the initiative and the role of retailers was to deliver national brands (NBs).

As we entered the era of affluence, the diversification of lifestyles and needs was reflected in consumer demand for more and more varied products to be made available in stores. This has caused a shift in the function of retailers, changing from sales agents for producers to purchase agents for consumers, operating according to Hypothesis & Verification-oriented merchandising (MD) according to store locations and customer demographics.

From here on, the retail industry will increasingly face demands to transform itself into a consumer-centric industry in order to adapt to the changing environment discussed in the previous chapter. The major areas that the retail industry needs to address in order to achieve consumer-centric retailing are examined below (**Fig. 2**).

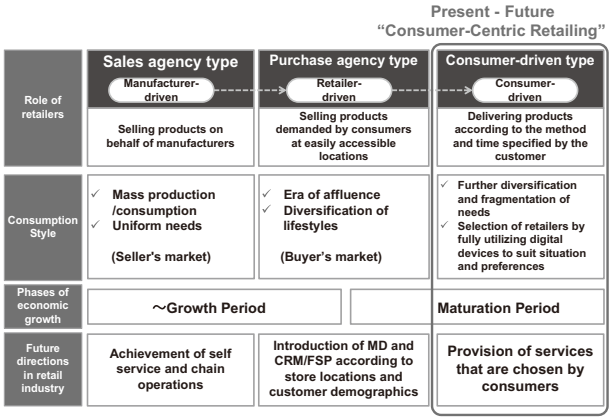

Fig. 1 Changes in the retail industry.

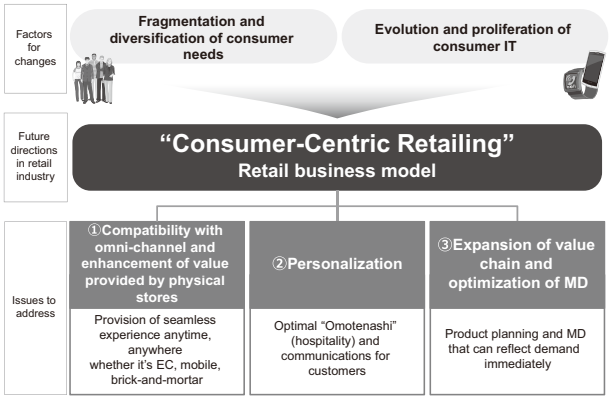

Fig. 2 Future directions in the retail industry.

[*1] Refers to product, price, place, and promotion in marketing terminology.
[*2] Refers to customer value, customer cost, convenience, and communication in marketing terminology.

(1) Compatibility with omni-channel and enhancement of value provided by physical stores

It is important to offer a seamless shopping experience, service, and information no matter what the time and no matter where the consumer visits, whether the location is online, mobile, or brick-and-mortar. Therefore, retailers with brick-and-mortar stores are required not only to provide EC as an alternative, but also to review their physical stores, integrate channels, and execute integrated management of the channels, with a view towards shifting to the omni-channel. Further improvement in ease of use is also crucial so that customers will not find it inconvenient to check out and pay at the physical stores.

(2) Personalization

To meet the demands of today's more knowledgeable and more fickle consumers, it is important to go beyond conventional hospitality to provide each customer with personalized attention and service that reflects that customer's individuality. To achieve this, it is essential to optimize communication in accordance with the customer's whereabouts and interests through new touch points such as social media, as well as through physical stores and websites. Doing so will enable the retailer to better understand the customer's needs and to strengthen the relationship with them. By providing information that is appropriate to the customer's tastes and action characteristics, new demands can be elicited, thereby creating more buying opportunities.

(3) Expansion of value chain and optimization of MD

To ensure that it is able to provide products that meet ever-diversifying, ever-changing needs, as well as to increase the efficiency of distribution and inventory management, the retail industry is expanding its areas of concern upstream to include product development. Retailers also need to be able to address customer demands by effectively utilizing the information obtained by POS and CRM (customer relationship management). Moreover, because high transparency on the Internet facilitates immediate and constant comparison with competitors in terms of product selection, inventories, and prices, it is also important to optimize the product assortment process, inventory management, and price setting.

4. The Contribution of ICT to the Future Retail Industry

In this section, we will examine ICT's contribution to the retail industry from three perspectives: improvement of customer convenience, achievement of operational excellence, and IT service life cycle management (LCM) (**Fig. 3**).

(1) Improvement in customer convenience

ICT enables a convenient, seamless shopping experience. As IoT (Internet of Things) expands, it is expected that cars and refrigerators that can be connected to networks, as well as smartwatches and other wearable devices, will be utilized as sales channels. More convenient and efficient payment using electronic money and biometrics is also emerging. Using ICT to take advantage of these new possibilities can make the customer's shopping experience more pleasant and more convenient.

Communication is also transforming itself into more personal forms. We have entered an era in which we cannot only gather information about a customer's purchases, but also can obtain Internet access logs and even life logs such as hours of sleep and amount of exercise. When ad-

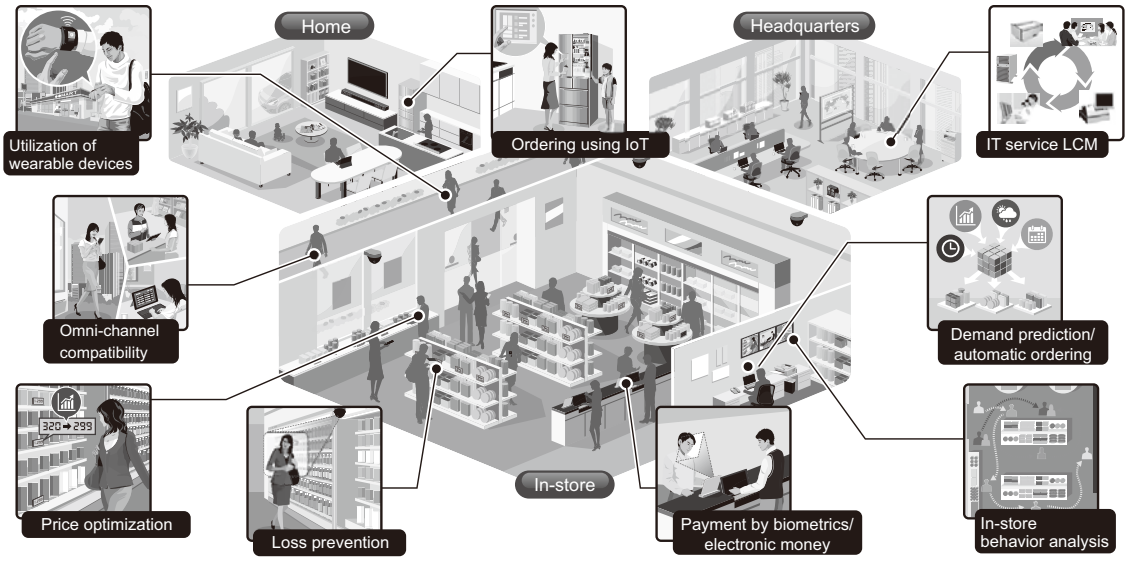

Fig. 3 Conceptual image of retailing in the future.

vanced data analysis techniques are applied to the enormous amount of personal data available, we can obtain important clues that will help us understand and talk to individuals, further enabling us to improve customer convenience.

To help retailers adapt to meet the needs of the evolving retailing climate, NEC is offering sophisticated omni-channel solutions that provide a seamless shopping experience, together with customer analysis technology to help better understand consumers.

(2) Achievement of operational excellence

To achieve operational excellence in the retail industry, ICT applications will expand in the following ways: improved efficiency of operation (labor saving), improved accuracy of operation, and response to newly added value.

From the viewpoint of improved efficiency of operation, we will help achieve efficiency in ordering, product assortment, and pricing through the application of heterogeneous mixture learning technology[*3], which predicts demands based on a variety of data. We will also use technology to collect and reflect the price information of competitors obtained from the Internet.

Secondly, from the viewpoint of improved accuracy of operation, we will contribute to the improvement of quality and accuracy of in-store management and store layout by using security solutions that prevent theft by processing images from surveillance cameras using image analysis technology to detect suspicious activities, while at the same time using marketing solutions that analyze shoppers' in-store movements.

Thirdly and finally, from the viewpoint of response to newly added value, we will assist with technology for customer-specific demand prediction and real-time information sharing for all value chains to make it possible to deliver products that meet the needs of customers as and when appropriate.

(3) IT service LCM to support store operations

ICT equipment and various other facilities and equipment that support the achievement of improved in-store customer convenience and operational excellence are becoming increasingly common. Now, thanks to door-to-door delivery services, these applications are expanding out of stores. In global multi-store deployment, it is very important to be able to maintain stable operation 24 hours a day, 365 days a year. For this reason, it is necessary to support uninterrupted store operation by using sensing technology and cloud technology to track the operating condition of equipment used in the stores in real time and to detect any possibility of failure in advance.

To help retailers achieve these goals, NEC offers its IT service LCM, which provides total support for system life cycles by utilizing issues that have surfaced in support operations in IT system consulting and development, in addition to providing support for management and maintenance.

5. Conclusion

To adapt to today's rapidly evolving retail environment and establish themselves as the customer's preferred choice, retailers must transform their operational focus to one that is consumer-centric. To support retailers, NEC is committed to implementing appropriate technology, developing products, and making strategic investments with a view to addressing the changes in society, economy, ICT environment, consumers, and the retail industry.

By leveraging our years of experience in supporting and providing technology for the retail industry, NEC will continue to support retail business development and growth using ICT to help improve customer convenience and to help build a richer, more dynamic, and more fulfilling society.

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[*3] By analyzing the relationship between data in large, unsorted databases, this technology automatically discovers specific patterns and makes it possible to achieve high-precision prediction and anomaly detection by switching the reference regulation according to the data to be analyzed - even with data whose patterns change, which was conventionally difficult to analyze.

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