"New Retail" in Action – Issue 4

Bingo Box - The revolutionary unmanned convenience store

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Introduction

A dvanced technologies are altering the retail landscape, and are gradually replacing humans. The trending unmanned convenience store exemplifies this. Unmanned convenience stores are stores which use advanced technologies, especially Artificial Intelligence (AI) to replace manpower in their operations to improve efficiencies. Recently, they have been a global rising trend, as exemplified by the launch of Amazon Go in the U.S., 7-Eleven Signature in South Korea, and Regi-robo in Japan. These are all unmanned convenience stores which mirror the hybrid of vending machines and convenience stores, representing a new business model to be spread globally.

In China, quite a number of players are testing the unmanned convenience store model, including Internet giant Alibaba and several large-scale retailers such as Sun Art and Easyhome. According to iiMedia Research, the turnover for unmanned convenience stores is expected to reach 38.94 billion yuan in 2017. The transaction value of the market will exceed 1.8 trillion yuan by 2022.

Indeed, many new business models of unmanned convenience store are evolving as a trial of retail transformation. Different models orienting the new unmanned convenience stores are currently being experimented or practiced. For the purpose of this article, we categorize these stores into three types according to their different technologies applied (Exhibit 1), which include:

1. 'Self-scanning' on a designated counter or plate to complete payment before leaving the store;
2. 'Just walk-out experience' where customers do not need to pay for products nor queue before leaving the store; bills will be settled afterwards;
3. 'Palm-vein scanning' or 'facial recognition' where a store linking customers' identification through hands or faces with purchases by scanning their palm veins or faces.

Exhibit 1: Selected examples of self-served convenience stores, as of July 2017

Technology	Project name	Launched by	Location	Date launched	Size	No. of stores
Self-scanning	Regi-robo	Lawson and Panasonic	Japan	Dec 2016	Similar to ar normal CVS	Under experimentation
	Bingo Box	Sun Art Retail Group and Bingo Fresh	China	Jun 2017	12.5/15.6 sqm	10
	Xiao E Shop	Xiao E Daoja	China	End-2016	Shelves and racks	n/a
	Eatbox	Easyhome	China	Jul 2017	30 sqm	2
Just walk-out experience	Amazon Go	Amazon	U.S.	Dec 2016	100-1000 sqm	Under experimentation
	Wheelys Moby Mart	Wheelys	China	Jun 2017	n/a	Under experimentation
	Tao Café	Alibaba	China	Jul 2017	200 sqm	Under experimentation
Palm-vein scanning	7-Eleven Signature	7-Eleven	South Korea	May 2017	Similar to a normal CVS	Under experimentation
Facial recognition	Take Go	QuiXmart	China	Feb 2017	n/a	Under experimentation

Source: iyiou, respective company websites, modified by Fung Business Intelligence

In this article, particularly, we look at the business model of "Bingo Box", an unmanned convenience store launched by Sun Art Retail Group in June 2017.

Bingo Box

Key highlights

Sun Art Retail Group Ltd.'s Auchan opened its first cashier-free convenience store – Bingo Box in Yangpu district of Shanghai in June 2017. Following this, it launched another store under the RT Mart brand in Shanghai's Zhabei district. Bingo Box is a self-service 24-hour convenience store developed by Bingo Fresh. Bingo Fresh and Sun Art Retail Group collaborated with each other to promote this new business model. Aside from operating throughout the day, one of the major innovations of this new retail format is that shoppers can complete the whole shopping process from purchase to payment on their own, with no staff presents in the store. The size of each Bingo Box varies – from medium size with a floor space of 12.48 sqm (4.8m (L) X 2.6m (W) X 2.76m (H)) to large size with a floor space of 15.6 sqm (6m (L) X 2.6m (W) x 2.76m (H)). The store sells 500 SKU to 800 SKU food products and other general merchandise accordingly.

Source: http://www.timeoutshanghai.com

Bingo Box **How it works**

BingoBox 缤果盒子

Shoppers can scan the QR code at the store entrance and complete the registration process with its app via their mobile device before entering the store.

Simply check out items at the self-checkout counter for purchasing.

Pay using Wechat Pay or Alipay.

Take and go when the payment process is done. Security alarm will ring if any unpaid items leaving the shop are detected.

Source: Internet resources, compiled by Fung Business Intelligence

Bingo Box

Profit model

Bingo Box is a 'cashierless' new retail format. The profit model of Bingo Box consists of four major elements – (1) franchise fee from franchisees; (2) commission fee of 3-5% from franchisee every month; (3) advertising fee; (4) profits from selling self-owned merchandise.

Advantages and Disadvantages

Advantages
Reduced operational costs: Costs have been lowered by 80% or above in comparison to traditional convenience stores due to factors such as lower labor costs (e.g. no cashier is needed) and decreased rental costs as a smaller store requires less space.
Less staff needed: Self-service convenient stores do not need regular staff for manning; only 1-2 workers are needed to replenish goods for 5-7 stores.
Short replenishment time: Intelligent store checking and daily maintenance can be done in 20 minutes per day; operation costs can be reduced by 15%.
High store security: Since all products carry a RFID tag, the security system can detect whether or not one has purchased all products taken. Door will open only when all payment is completed. Additionally, its security system features CCTV and face recognition of customers.
High mobility: Self-service convenience stores are usually small and mobile.
Customer service is available 24/7: Customer service is available. Consumers just need to press button for help at the checkout counter.

Source: Internet resources, Fung Business Intelligence analysis

Disadvantages
Poor customer experience: Customers need to check out chosen products by themselves, and some may find it difficult to handle, especially for the elderly.
Long queues: The door will only open for the specific person who swiped in their QR code, hence there may be long queues outside if many people want to enter the store at the same time.
Damaged goods or facilities: Customers may cover up or damage the monitoring system so they could damage things such as tearing down posters or ruining the packaging of merchandise. If there are damaged labels and products without being noticed, consumers may encounter problems when purchasing.
High maintenance costs: The installing and maintenance costs for security systems are high.
Higher training costs of technicians: More well-trained technicians are needed to maintain the system; the cost of training technician is much higher than training a sales person.
Messy shelves: Consumers may make the racks messy after shopping, extra staff may be needed to tidy up the shelves.
Expensive RFID tags: The average cost of the embedded RFID tags is around 0.7-1.4 yuan. This cost is inevitable especially for FMCG which has lower profit margin.
Place for homeless people to stay: With easy access, unmanned convenience store may become popular destinations for homeless people to stay overnight.

Source: Internet resources, Fung Business Intelligence analysis

Expansion timeline

Currently, there are 10 Bingo Box stores in China. The first Bingo Box store was trialed in Zhongshan in Guangdong since August 2016. It has recorded a customer repurchase rate of close to 80%. During the ten months of trial operation, there is zero case of shop lifting and vandalism according to the company.

Bingo Box completed Series A round of funding in July 2017 and raised more than 100 million yuan from various venture capital firms led by GGV and supported by Qiming Ventures Partners, Source Code Capital, and Ventech Capital.

According to Bingo Box, it is ready to roll out the new retail concept nationally. Bingo Box plans to open 5,000 stores in the Pearl River Delta area in 2017, and a Research and Development Centre in Shenzhen. After testing the waters in tier-1 cities such as Beijing and Shanghai, they will rapidly spread to tier-2 and tier-3 cities across China.

Indeed, the Bingo Box does not work perfectly for the time being. Apart from the disadvantages mentioned earlier, some other possible malfunctions of the Bingo Box include incorrect identification of goods; incorrect payment information; and limitation of only five items at a time when checking out. Further improvements would be made in the future. Also, the variety of products available for purchase may be increased when the operations become more mature.

Source: http://www.readhouse.net

Comments from Fung Business Intelligence

Labor costs can be reduced for unmanned convenience stores due to the usage of advanced technologies to replace manpower. Intelligent Detection System (IDS) replaces staff for both security and checking out purposes. Customers only need to place the items on the detected platform for checkout. It can save up to 75% of the costs of traditional convenience store. However, staff is still needed for stock replenishment and keeping the store tidy and clean.

The number of SKUs of unmanned convenience store is usually smaller than convenience stores but larger than automatic vending machines. For the time being, these unmanned convenience stores are all selling mainly snacks, drinks, and daily necessities. Backed by large-scale retailers, product procurement can be done easily. For example, Auchan and RT Mart can replenish the goods for Bingo Box frequently, and Bingo Box can adjust the product mix easily. The price will be more competitive as it can leverage the sourcing capabilities of large supermarket chains. But one major challenge of the unmanned convenience store remained to be solved is how to balance the heavy investment in technologies with the low margin of return of selling FMCG.

The unmanned convenience store could be a good way to demonstrate online-and-offline (O2O) integration – linking offline stores with mobile apps, advanced technologies and big data, allowing consumers to have an offline shopping experience but with everything else completing online.

Unmanned convenience stores cannot be installed anywhere in the city. They can only be installed in non-public areas. That said, property management companies can place them in their own managed properties, meaning that locations such as offices, schools, residential communities, and technology are some feasible locations for installation. In these places, the unmanned convenience stores can have a higher consumer footfall.

However, the setup costs of such operation are still high and it takes time for these unmanned convenience stores to spread nationally. It also requires a strong back-end support to process the heavy data involved. Improving logistics for product replenishment, enhancing the shopping experience, better applying the technologies, lowering the setup costs are some of the issues yet to be solved in order to get the unmanned convenience stores popularised.

The current model of Bingo Box is not mature yet. Consumers may not be familiar with how to check out themselves. Indeed, other players in the market are trying out other business models as well. For example, Alibaba launched Tao Café in July 2017 to test a more convenient model of self-service convenience store – just take and go. It may be a better solution in terms of providing better shopping experience to consumers.

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