C H A P T E R

5

Mobile e-Commerce and Online-to-Offline (O2O)

During the Spring Festival (the lunar New Year), it is a centuries-old custom for Chinese families to hand out red envelopes (called "hongbao") stuffed with crisp money bills to relatives and friends to wish them good fortune. The traditional "hongbao" scene used to be children in red holiday dress kneeling down and kowtowing to their elders to receive the gift, but now in the digital era it has become a fun game on mobile devices. On the eve of the Year of the Ram (early 2015), internet giants Tencent and Alibaba sent out numerous online "hongbao" collectively worth hundreds of millions of dollars to the public, using the traditional custom as a marketing competition for the control of the digital wallets of Chinese customers.

This marketing strategy was first introduced by Tencent during the Spring Festival season for the Year of the Horse (early 2014) on its popular messaging and social network platform WeChat. Individuals sending greetings to family and friends, and corporations showing appreciation to their employees, could conveniently do so by sending digital red envelopes via WeChat. The "hongbao" giver only needed to link the digital "hongbao" function with their payment channel (a bank account, for example). The giver could then directly transfer "hongbao" money from the bank account to the receiver
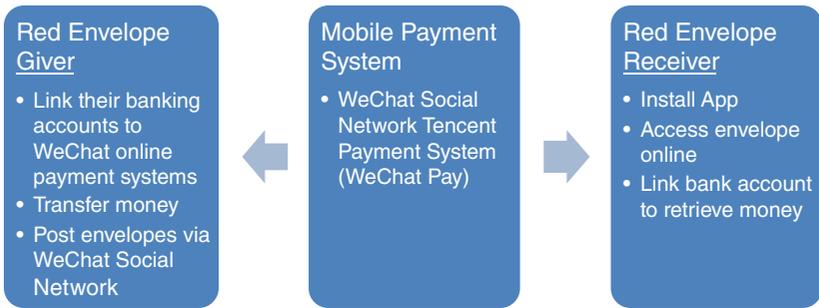
Red Envelope Giver	Mobile Payment System	Red Envelope Receiver
• Link their banking accounts to WeChat online payment systems • Transfer money • Post envelopes via WeChat Social Network	• WeChat Social Network Tencent Payment System (WeChat Pay)	• Install App • Access envelope online • Link bank account to retrieve money

Figure 5.1   The Parties in a Red Envelope – Fun and Value

through Tencent's payment system on WeChat (WeChat Pay). On the receiving end, the receivers also had to link their bank accounts to get their "hongbao" in cash or use the digital cash to pay for e-commerce services and products, such as mobile taxi-hailing (see Figure 5.1).

In addition to the digital red envelopes sent by WeChat users, Tencent itself also sent out a large number of "hongbaos" free to the public. Of course, Tencent was not just playing the "Santa Claus" role for the Chinese netizens' festival celebration. The animated digital envelopes were incentives for users to experience its mobile payment system. Because both the givers and receivers had to install the app linked to the WeChat Pay system, as well as registering their bank accounts or debit cards, Tencent was hoping that netizens would happily become WeChat Pay users while playing a fun game.

To the surprise of many internet firms (including Tencent itself), the concept of digital red envelopes "falling from the internet" received widespread acceptance from Chinese customers almost overnight. Many found gifting through electronic services more convenient and safer (versus traveling with cash). Young people in particular liked the "fun" aspect. Because the number of free red envelopes given out was limited, people had to rush to the links to secure a "hongbao", and this sensational process was referred to as "grab (or fight for) red envelopes!" in Chinese. The "grab" feature turned a passive

custom into a participative activity and added an element of suspense, making the process more entertaining for the users.

In addition, a user could figuratively "throw" money into her WeChat groups of friends, letting the algorithm in the app divide the money randomly among them. No one knew the amount in their virtual red envelope before opening it. This "suspense" feature not only created more fun for the players, but also added "stickiness" to the process: it engaged the attention of the players before the actual results were known, and they would continue talking about the process in terms of joy, pride, jealousy, or disappointment, depending on how much they received from the overall pot of money. At the same time, WeChat designed the process to be very simple so that users at both ends were only a few clicks away from playing the game, and this also helped enhance its popularity.

The fun, stickiness and simplicity features of WeChat red envelopes created an extremely successful marketing campaign for WeChat Pay. With limited cash input, Tencent had multiplied its active users, acquired important data (banking information), and familiarized users with its WeChat payment service. During the 2014 Lunar New Year season, hundreds of millions of users were glued to their smartphones rather than the usual holiday activities, trying to "grab" as much as possible of the virtual red envelopes of money being doled out by their relatives, friends and Tencent itself. As a result, people opened the WeChat Pay app more often than they opened the Alipay app, even though WeChat had only launched the payment service some 10 years after Alibaba started Alipay. (As illustrated by further examples in this chapter, fun, stickiness and simplicity are the three key factors for the success of mobile e-commerce.)

No one was more shocked by the massive popularity of Tencent's new tactic than Alibaba's founder Jack Ma. He knew clearly that the jolly red envelope campaign would soon lead to the ultimate showdown in the battle for Chinese consumers' digital wallets. In his memo to Alibaba staff, Jack Ma called the red envelope campaign by Tencent "The Pearl

Harbor Attack", warning his staff that Alibaba's current dominance in online payments could be severely challenged by Tencent's WeChat Pay and its related mobile services. So in the 2015 Lunar New Year season, Jack Ma himself introduced red envelopes with his own twist to rival Tencent's popularity. On the eve of the Year of the Ram, Jack Ma posted a customized red envelope and a photo of himself with the question: "Who looks like an alien?" on the Twitter-like social network Sina Weibo. Those who gave the correct answer ("I do") received red envelopes directly from the Alibaba founder himself.

According to Chinese media reports, his 99,999 (a lucky number in Chinese tradition) red envelopes with a total amount exceeding $150,000 were "grabbed" within the first three minutes. At company level, the electronic payments unit Alipay handed out 430 million red envelopes with a total value close to $100 million, in addition to several hundred million dollars' worth of digital cash coupons. Meanwhile, Tencent worked hard to maintain its momentum from the previous year. Thanks to its partnership with CCTV during the popular New Year's Eve live TV broadcast that drew around 700 million Chinese viewers globally, WeChat sent out 120 million red envelopes during a segment when the audience "fought" for the cash gifts.

Then the drama turned into something else entirely. Soon the competition escalated to such a level that Tencent blocked Alipay's red envelopes on WeChat in early February to fend off its "invasion". When Alibaba's red envelopes were launched, they included one-click sharing of gifts via Tencent's WeChat and QQ mobile messaging apps, but within a day Tencent blocked the Alipay red envelopes, saying that they might result in a "security threat." In addition to Alipay red envelopes, Tencent cleansed several of its rivals' other entertainment services from its WeChat platform.

Alibaba put up a fight. While Tencent could block the sending of Alibaba red envelopes by users on WeChat, it could not prevent them from sharing pictures of the envelopes. The programmers at Alibaba turned the envelope into a picture that

came with a digital password, together with a function enabling the Alipay user to open WeChat directly and send out the picture to circles of friends. Once friends had seen the picture and memorized the password, they could go to Alipay to retrieve the corresponding red envelope. To the credit of the hardworking Alibaba staff, it was an extraordinarily quick solution to bypass the WeChat block with a minimum of fuss (although the popularity of the Alipay red envelope was impacted to some extent by the disrupted user experience).

Looking beyond the New Year's fun and drama, the battle for red envelopes was a serious engagement between the two internet giants in the war for the future of the mobile internet. With e-commerce in China increasingly turning mobile, competition in the third-party mobile payment market had escalated. For Alibaba, this was a stronghold that it could not afford to lose. Compared to Tencent's WeChat Pay, Alibaba's Alipay had a longer history and a head start with hundreds of millions of active users from its affiliation with Taobao, TMall and Alibaba's other e-commerce sites.

However, building on the explosive penetration of the WeChat app, WeChat Pay has shown strong growth momentum in recent years. In addition, the innovative red envelope campaigns instantly attracted millions of WeChat users to sign up for its payment service for the first time, on the basis of which Tencent doubled its Tenpay market share from 5% to 10% within just a year. That shocked Alibaba's Jack Ma, and in an email to his employees, he wrote in alarm: "I'm worried about us getting lost in the competition and forgetting to do the things we are good at."

When e-commerce goes mobile, it is critical for internet firms to hook the users on their online platforms to their mobile payment systems. But that is only the start of a much broader landscape shift for online transactions. As more examples in this chapter will show, the mobile payment system has become an important link between the mobile internet population and their offline spending activities (known as "online to offline" businesses), such as restaurant bookings, grocery

deliveries, in-home manicures and booking movie tickets, to name but a few. Internet users' familiarity with mobile payment services can facilitate the development in many more new areas of mobile e-commerce than digital retailing.

Compared to the hefty sums they had paid out, Tencent and Alibaba had gained far more value from cultivating a larger number of potential customers through the red envelope game. For the same reason, Jack Ma's concern was more about its competitive edge in the "online to offline" market rather than purely about Alipay's market share in mobile payment. After the "red envelope war": between China's largest e-commerce company (Alibaba) and its most popular mobile social network (Tencent), the question remained as to who would win control of the emerging and promising "online to offline" market?

Online-to-Offline (O2O) Market Potential

With rapid development in mobile internet infrastructure and smartphone usage, China is playing a leading role globally in the development of the online-to-offline (O2O) e-commerce model. O2O can be broadly defined as the integration of offline business opportunities with activities on the internet. O2O growth in China is closely correlated with its increasing urbanization, which has created more middle class spenders for consumer goods and offline activities in the cities year on year. At the same time, Chinese smartphone manufacturers have enabled the wider public to own a mobile device with high specifications, creating the largest smartphone user population in the world.

Empowered by smartphones and social media, Chinese consumers are increasingly using mobile channels to spend. Thanks to the rise of popular internet applications to book tickets, play games, watch videos, etc., China's mobile business has seen explosive growth in recent years. People of all ages and from diverse backgrounds have become accustomed to the internet lifestyle through mobile services. A few short years ago O2O was a mere concept in China, but it is now seen as the

Table 5.1   The Three Lines of O2O Businesses

O2O Parties	Line 1	Line 2	Line 3
Consumers (Goal)	To experience new services or non-standardized goods	Ad hoc purchases out of convenience or offline adverts	To receive promotions and benefits; More convenient delivery and services
Merchants (Goal)	To attract new customers	Online sales of goods	Loyal customers' repeat purchases
Mobile Platforms (Service)	Online "discovery" mechanism (discount coupon, customer review, social network, mobile payment and more)	Mobile payment system to close ad hoc transactions	Customer relationship management (CRM)

most fundamental disruptive force for the e-commerce model going forward.

The O2O market involves three main parties: consumers, offline merchants and online platforms. Their objectives are intertwined to form three main lines of O2O (see Table 5.1), which can be summarized as follows:

1. Merchants inform potential customers of specialized goods and services that customers are not aware of and guide the customers to their shop locations to experience these;
2. Customers make online purchases when they move around in the physical world (mobile e-retailing); and
3. Merchants provide targeted promotions to consumers to encourage repeat spending.

The first scenario covers all services sectors and has the greatest business potential; it is the focus of this chapter.

Line 3 – Online information to the offline world

The basic form of O2O relates to providing customers with consistent promotions and sales online and instore, which has already been covered in previous chapters. For example, in the omni-channel retailing context, e-commerce sites have been discussing with retailers how to send discount information, tailored to suit a customer's shopping habits, to their mobile phone as they enter the store. At a national level, some leading online businesses plan to team with partner stores to link customers in all cities with their distribution networks, allowing customers to collect their online orders from cities anywhere in the country.

Also, social networks like WeChat allow retailers to set up public accounts that could help them both to attract new customers and enhance customer loyalty (potential repeat purchases). They can use WeChat to distribute articles to subscribers, manage memberships, interact with frequent or potential customers and send targeted promotions. Any viable restaurant, flower delivery shop, beauty salon or language school in China has a QR code both on its signage and on WeChat for passers by on the street and the online population to link the offline store information. As mentioned earlier, numerous Western companies have embraced WeChat for direct communications marketing.

Line 2 – Mobile e-retailing

This O2O case can be referred to as "mobile e-retailing", and relates to customers making online purchases from a mobile terminal while they are moving around in the physical world. While Line 3 O2O simply uses customers' smartphones and other mobile devices as a new channel to send product promotion and company information during their everyday offline life, mobile e-retailing enables customers to place online orders anytime and anywhere, which requires many more software

settings to provide a complete purchase process than in the traditional e-commerce sphere.

Mobile payment service is by definition a critical component of mobile e-retailing, which aligns with the Chinese consumer's desire for the speed and convenience of "any time" shopping. Many of these purchases are spur of the moment decisions arising from offline world advertisements, social conversations or simply random thoughts. As a result, a large percentage of purchase decisions may not eventually turn into actual transactions, if the e-retailing platform does not have a ready and convenient mobile payment function attached to it.

Launched by the Alibaba Group in 2004, Alipay has the longest history in China's third-party payment market. After the restructuring around its 2014 IPO, Alipay is not owned by Alibaba, nor is it part of the Alibaba IPO, but it is controlled by Alibaba's top executives. Alipay runs a PayPal-like internet-payment service and it is already the world's No. 1 processor of mobile payments. Alipay not only processes payments on Alibaba's Taobao and Tmall online marketplaces, but also handles many other types of online and offline payments, including utility bills, ticket booking, restaurant meals and taxi rides.

Mobile payment is much more widely used in China than in developed markets like the US or Europe. A large part of the Chinese population have never even used credit cards are now using the internet to manage their payments, savings and investments, just as in many parts of China people are skipping landline phones in favor of a smartphone to access the internet for the first time in their lives. This phenomenon is best illustrated by the mobile payment usage difference between more urbanized eastern coastal cities and the less developed western regions in China itself.

According to findings published by Alipay in early 2016, mobile payment is more popular – to the surprise of many – in China's underdeveloped western regions. With 83.3% of online transactions paid by consumers with mobile devices in 2015, the Tibet autonomous region led the country in mobile payment

adoption. Tibet was followed by four provinces in Western China – Guizhou, Gansu, Shaanxi and Qinghai, where on average consumers processed nearly 80% of online payment transactions via mobile devices. The reason may well be very straightforward: there is a lack of bricks-and-mortar retail infrastructure in those regions, so the people there turn to online shopping more frequently for the products they are looking for, and they make more ad hoc purchases at random offline convenience stores while they travel in less populated areas.

In contrast to traditional e-retailing from PC terminals, mobile e-retailing can take place from online platforms other than e-commerce apps. Tencent lacks a platform similar to that of Taobao or Tmall, but social engagement and shopping behavior are so intertwined in China that WeChat is an ideal place to introduce offerings that are heavily influenced by word-of-mouth recommendation and peer reviews. Tencent has used WeChat to create a different e-commerce platform based on a social context, and its development process shows the importance of mobile payment systems for internet firms' mobile businesses.

In September 2013, Tencent started its "Wei Sheng-huo" system ("WeLife" or Micro Life in English), a merchant service package for O2O business on WeChat. But WeLife only gained limited attention, the major issue being the lack of an integrated payment system. As background, the WeChat development team had taken careful measures to limit excessive marketing and advertising on its platform. Even within Tencent management, there was concern that commercial activities on the WeChat platform could damage the user experience. At the same time, Tencent's own payment system was not yet widely adopted by internet users. Therefore, without the online payment function linkage, WeLife could hardly form a complete business circle for both e-commerce players and offline businesses, and the feedback was highlighted as "good advertisement, but few closings".

As mentioned at the beginning of this chapter, through the innovative digital red envelope campaign during the 2014

Chinese New Year, WeChat Pay successfully made its major push into the online payment business territory long held by Alipay. Shortly thereafter, Tencent permitted merchants to set up "little WeChat stores" ("Weixin Xiaodian" in Chinese) via verified public accounts linked to the app's own payment system. A WeChat store can use WeChat to advertise and offer discounts. Meanwhile the app users could pay for these goods directly by using WeChat Pay. The built-in payment feature further enabled the businesses to track transactions and analyze customers' shopping habits and preferences.

In addition, with the WeChat Stores Tencent officially permitted individual WeChat users to establish in-app stores to sell goods to their friends and followers. Based on the circles of friends, WeChat users could develop a "social distribution platform" to form franchising and pyramid sales. For example, one franchise manager of a branded face mask product in Shanghai was reported to be a beneficiary of this new "social sale" channel. This franchise manager used to rely on beauty parlors as his main sales channel, but with the WeChat store function, an increasing number of his goods were sold through WeChat users. The key was the multiplying factor of the "circles": the manager recruited no more than 100 top-active-level WeChat users, who then recruited other users to help them conduct further sales.

Seen from the perspective of small vendors, the little WeChat stores are an interesting alternative to selling on Taobao. The profit margin is potentially higher, not only because Tencent charges no fees, but also because it is becoming harder and more expensive for vendors to get noticed on Taobao. Alibaba has built up a network effect on the Taobao marketplace (it is costly for a buyer to leave an existing network of sellers, and vice versa for a seller), but once Alibaba monetizes the traffic, vendors have begun to explore other traffic channels to lower the cost. Overall, Tencent having major brands opening stores inside WeChat is a threat to Alibaba's Tmall, and its inclusion of smaller merchants is a challenge to Alibaba's Taobao.

   As mentioned in the previous chapter, Alibaba's main e-retailing rival JD.com has set up an alliance with WeChat since 2014, but is still testing ways to convert WeChat user traffic into buyer traffic on JD.com's e-retailing platform. The WeChat stores, however, create a natural closed loop on the WeChat platform itself, covering the whole process of information gathering from the social network, initiating purchasing intent and placing orders, making payments using WeChat Pay, and sharing feedback with social circles. It will be interesting to see whether the WeChat shops become a direct challenge to Alibaba's e-retailing dominance in a significant way.

Line 1 – The biggest O2O market potential

The Line 1 of O2O business fits with the popular definition of O2O, which basically means attracting retail customers online, and then directing them to physical stores for the purchase of actual goods or real-life experiences such as movie going, dining out, shopping, taxi hailing and so on. It broadly covers almost every part of the economy, which is the focus of this chapter.

   What makes this O2O model different from traditional e-commerce? The latter only covers standard goods, such as packages delivered in the mail, and cannot offer personalized social experiences like going to restaurants, bars and museums, or signing up for a yoga class or tennis lesson. The growth in "experience" consumption is at the core of the O2O trends in China, because the market sees the second or third generation of young consumers in the cities looking beyond necessities, and seeking out and being willing to pay for specialized leisure and entertainment consumption.

   As reflected in CNNIC's December 2014 report, 39.2% of consumers in the country's biggest cities, including Beijing, Shanghai, Guangzhou and Shenzhen, used O2O services in that year, and the number in second- and third-tier cities was also gradually increasing. Along the same lines, the CNNIC report also found that restaurants, food catering and

leisure O2O business started early and their market mode had become increasingly mature and the services more refined. For instance, mobile apps for travel reservation beat other mobile apps with an annual user growth rate of 194.6% in 2014.

And the O2O potential does not end with youth and leisure. More and more O2O models are emerging in many economic sectors. For instance, the O2O business for medical and domestic services started to take off in response to the strong demand from an ageing population. Healthcare providers are implementing remote patient monitoring to stretch their footprints to under-served patient populations while substantially saving costs for patients with chronic disease. Overall the O2O market is growing rapidly in both size and quality.

As previously outlined, since 2014 more Chinese people are users of mobile devices as the main entry point to the internet. Urban residents mostly turn to their smartphones to navigate their daily lives as they commute in the cities. In smaller cities and rural towns, those who do not own PCs at home are using mobile devices to experience their first internet connection, and they have also quickly adapted to mobile online transactions. Because China is more densely populated than many developed countries – for example, Chinese cities with a population of over 1 million significantly outnumber US cities of the same size – the O2O market potential for all kinds of services is huge in China. **(See the "O2O Services for Sperm Donation and Egg Freezing" Box.)**

O2O Services for Sperm Donation and Egg Freezing

Few would have expected that O2O would find its way into people's sex lives and reproductive plans. But it seems that O2O is going into every possible niche market offline.

In 2015, Alibaba's e-commerce platform Taobao and KingMed Diagnostics, China's biggest third-party medical laboratory group, jointly offered great deals online for paternity tests and sperm donation.

During the three-day campaign, sperm donors were able to register their personal information online, avoiding an embarrassing first visit to the sperm collection centers. Volunteers only needed to provide their name, the last six digits of their ID card and email address to complete the online registration. After their sperm donation, each volunteer would receive a subsidy somewhere between around $475 and $800. Within 72 hours, more than 22,000 men reportedly signed up for sperm donations at one of seven sperm banks nationwide.

The Taobao campaign also offered paternity testing services without customers having to make visits to hospitals, costing just over $100, a huge discount compared to the average cost of about $650. A testing kit was sent to the customer after he or she placed an online order. The consumer only needed to collect and send a saliva sample to a test center, which would provide the test result after 10 working days. During the same period, Taobao attracted 137 applications for paternity tests and 4,060 for sperm fertility testing.

Following the success of Taobao's online sperm-donation program, Southern California Reproductive Center, a Los Angeles reproductive clinic, started discussions with Alibaba's group-buying website Juhuasuan to promote its egg-freezing treatment. Its prospective customers included white collar women in their 30s who work in big cities, and who had chosen to delay motherhood due to career considerations. This was another example where O2O business continues to integrate with more niche demands and expand into overseas technology and services.

In short, O2O is simultaneously "creating a bigger pie" and "dividing a pie in new ways" among customers, offline business and internet firms. For businesses whose products or services, such as movie cinemas and stylish restaurants, cannot be packed up and shipped in bulk to customers, O2O helps win more business through the internet; for internet firms, they come to share the profits that used to be exclusively owned by offline merchants or service providers. Because the O2O market covers all services and non-standardized consumer goods, it potentially has a much larger market size than mobile e-retailing. As such, all of the major internet firms as well as numerous start-ups are competing for their positions in this promising market.

O2O Market: Still an Open Battlefield

It should be highlighted that O2O business aims to capture the users' "mind share" when they are in between the online and offline worlds. In other words, O2O happens at the fragmented time "in between" the two worlds, such as waiting in line for a bus, taking a taxi ride or sitting in the subway on the way home. This time could be used to go online and arrange offline activities at a later time (see Figure 5.2). As such, whoever can provide a fun, sticky and convenient link among consumers, online platforms and offline service providers is the ultimate winner.

The most direct link for new customers is for internet firms to send out discount coupons online that can be redeemed at stores on the street. This "subsidies for initial customer traffic" approach featured in almost every O2O start-up. Those ventures often started in a single niche, whether for car washes or massages, and many would use venture capital cash for subsidies to pull in customers and suppliers. (Another similar important sponge or trap for netizens' fragmented time is free entertainment content on mobile devices, which will be discussed in detail in the next few chapters.)

To use an example, unlike clothing and shoes, seafood is not a standardized product. It is difficult for consumers to gauge the quality of the product purely from the information
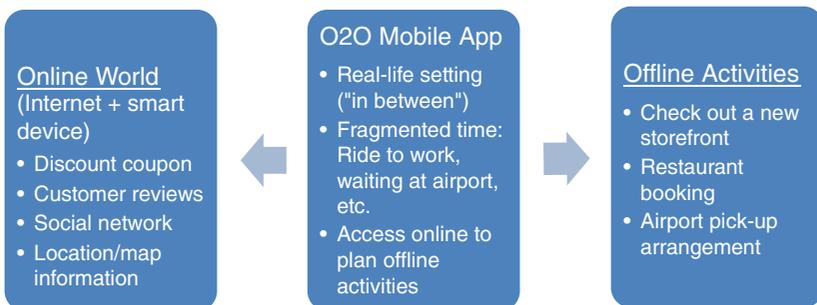

Figure 5.2   O2O – The "In-Between" World

provided online. Besides, most ordinary Chinese consumers are unfamiliar with imported seafood. In the O2O context, after the customer receives an online coupon, they have to turn up to redeem it, and this process enables them to interact with representatives from traditional outlets to get to know the products better.

Middle-aged shoppers in particular have more trust in the traditional stores where they can check out seafood directly. They prefer the situation where they can first buy imported seafood at stores before ordering the same products online in the future. In addition, if they are not satisfied with the products ordered online, they also have the option to return the food to the traditional stores, which is important in the context of non-standardized products that have a high probability of return or post-sale service requirements.

Investors, and the market itself, are beginning to have concerns about the subsidies model as there is too much competition and there are too many copycat products (i.e. a question of the "stickiness" of customers). The case of the group purchase sector later in this chapter will illustrate the ongoing price war and accelerating consolidation in the O2O market. At the same time, the internet giants BAT – Baidu, Alibaba and Tencent – are working on using their unique capabilities in the mobile world to link their online user traffic effectively with offline businesses. Because the whole O2O spending process includes many different linkage points, it is a test of an internet firm's overall strength, not its leadership position in one or two areas.

The main search engine in China, Baidu, has Google-like predominance in China's search and maps services, and it naturally centered its O2O initiatives around those capabilities. The best showcase of Baidu's expertise in location-based services is an interactive heat map on its website that visualizes the movement of people during the country's one-month spring festival travel rush, when millions of Chinese travel across the country for the Spring Festival holiday family gatherings. On top of that, Baidu also releases the "Spring Festival Homecoming Tool

Kit" on Baidu Maps. During the chaotic holiday travel season, the tool kit provides users with information about each city's weather conditions, traffic conditions, railway timetables, flight schedules and the location of holiday train tickets sales agents.

According to Baidu's data, searches on smartphones exceeded those on PCs for the first time in the second half of 2014, and the company continues R&D efforts to improve search services in the mobile context. In 2015, Baidu launched Siri-like O2O personal assistant "Duer" within the Baidu Mobile Search app. Users could verbally ask Duer various questions and the AI (artificial intelligence)-based Duer would respond with appropriate recommendations. For example, a user could ask Duer to find a pet service store near the movie theater she was going to, and Duer would search online to find a suitable one for her.

Baidu's Mobile Maps app has also been hugely popular. Baidu reported that the Maps app reached 300 million monthly active users in late 2015. According to Baidu's data, its Maps app covered "the largest number of points of interest (POI) of any map in the industry," with over 20 million POIs related to service providers. Over 70% of the search queries from Baidu Maps were about services, such as dining, transportation, education and pet-related services.

However, in the mobile world, customers' searches are more fragmented. Instead of being glued to a PC screen and using a search engine like Baidu, people tend to use multiple channels to seek information when they move around with their mobile devices. For example, they may use Alibaba's Taobao to check out imported seafood, or Tencent's WeChat to ask friends for new movie information, or customer review apps for promotion deals from nearby restaurants.

In addition, Baidu has not yet found a way to consolidate information in various apps. In the service market, the third-party service providers have their information in respective apps. For users to find specific service information, they have to install and open up those specific apps. Baidu and global search engines are all working on a solution to provide a search

that could go "deep" into individual apps. So far, this kind of technology is still at an early stage even in the global markets, and no single solution stands out as the most effective to this "search on top of a search" question. The main reason is that most of the apps on the mobile internet have been developed independently and therefore are not interconnected. For these reasons, Baidu's leading position in search may not be as dominant in the mobile world as in the desktop PC world.

Tencent's WeChat, on the other hand, has as its special strength in attracting users' attention during fragmented time intervals. It can be difficult for anyone outside of China to fathom how deeply WeChat has become woven into daily life in the short period since its creation. Many WeChat users are addicted to checking it throughout the day, whenever they have a few seconds of free time. This is invaluable for Tencent's O2O businesses (as mentioned before, O2O transactions happen during users' "in-between" moments). Furthermore, the most active users on WeChat – dubbed "WeChat Bees" – have created a free distribution system of service information for Tencent.

According to a recent market survey by the Advertisement School at China Media University, a remarkable 55% of internet users in China may be categorized as "high frequency information receivers and distributors" on social networks like WeChat. This term was defined by the Advertisement School report as someone who received and re-distributed information on new products or new services more than twice a week. The survey covered overseas cities such as Tokyo, Osaka, New York and Los Angeles, and the results showed that the figure of 55% in China was much higher than in Japan (10%) and the US (40%).

Apparently these "high frequency information receivers and distributors" seek three things when busy collecting and distributing online information: to strengthen individual relationships within the circle, to demonstrate superior information-access capability, and to bring new life experiences to their circles after their initial testing. Like honey bees, these people not only share information with their circles of friends

but also actively search for new product and service information, hence they are referred to by the Advertisement School report as "WeChat Bees." Overall, the social network channel is the most important link in Tencent's O2O businesses.

For Alibaba, Alipay's dominant position in the mobile payment field is a significant advantage that no competitor can ignore. Alibaba Group disclosed at the end of 2014 that Alipay had more than 300 million registered users and processed more than 80 million transactions each day. More importantly, the company also announced that Alipay is increasingly processing transactions through mobile devices. According to the company's data, 54 out of every 100 payments made with Alipay came from mobile devices, as the popularity of mobile devices has encouraged more than half of Alipay users to use their handsets and mobile apps as payment tools. (By contrast, only 22 out of every 100 Alipay payments were mobile payments in 2013.)

There is no better illustration of Alipay's competitive advantage than the war of red envelopes itself. Although WeChat Pay gained a lot of popularity through the campaign, there was a bottom line question about the digital gifts: how would people spend the money in the WeChat Pay account? The answer to the question highlighted one critical hurdle that the WeChat ecosystem still had to overcome: namely the limited usage of WeChat payments in the business context (the O2O play), especially in lower-tier cities and rural areas. In some areas, people could only think of applying "hongbao" money in WeChat to taxi-hailing and mobile phone service charges, which greatly reduced the broader public interest in using WeChat Pay, even though the people in these areas – typically the older generations – joined the New Year "hongbao" fun with the younger generations who were living in first- and second-tier cities.

By contrast, over a period of years, Alipay has become firmly established in numerous business settings. These include offline settings like restaurants, shops, supermarkets, convenience stores, taxi-hailing, hospitals and more. It also includes

online settings like credit card payment, money transfers, lottery tickets, membership cards and more, in addition to the retail marketplaces of Taobao and T-mall e-commerce. (To develop its O2O business, Tencent has expended great effort in building partnerships with offline stores and service providers.)

Naturally, the more physical stores and offline settings that set up the linkage to Alibaba's Alipay system, the more customers will use Alipay for their daily purchases. The more familiar and comfortable those customers become with mobile payment, the more likely they are to use digital subsidies to check out offline service offerings. Over the years Alibaba's two main shopping sites – Taobao and Tmall – have also accumulated enormous customer data, which should generate synergy when it partners with traditional businesses in the O2O markets.

In addition, Alibaba has invested aggressively in social networks, mobile apps and mobile search areas, which are at the root of Tencent and Baidu. In April 2013, Alibaba acquired an 18% stake in Sina Weibo, China's version of Twitter, for $586m, with the option to raise that stake to 30%. This investment provided an important social link to Alibaba's e-commerce. After the investment, Alibaba made the effort to merge the accounts between Weibo and Taobao so that users could access each other's platforms with Sina Weibo or Taobao ID.

For one thing, Weibo provides a new reason for users to get onto Alibaba's platforms. Alibaba's e-commerce sites are already widely known in China; but they are not really fun places to "hang out" – in fact, people go to Taobao only when they want to buy something quickly. Weibo, however, is a social place for users to post their views, check out opinion leaders and so on. Through the tie-up with Weibo, Alibaba may not significantly increase the user base of its e-commerce sites, but it may keep the Alibaba platforms visible for a little longer. The Weibo connection also speeds up Alibaba's effort to establish its own social-based e-commerce platform to compete with WeChat shops. For example, when Weibo users post emotional

comments about polluted air in Beijing, an air filter advertisement on Taobao could appear nearby.

Furthermore, Alibaba invested its way into the messaging app business directly after its effort to build an Alibaba version of WeChat, named "LaiWang", failed to take off. In March 2014, Alibaba invested $215 million in return for a minority stake in the messaging and free-calling app Tango in the US. Having started as a video-calling application to rival Skype and FaceTime, Tango's service stood out, with an early focus on video messaging. Just like WeChat, Tango was broadening into a social platform for users to play games, stream music and share photos.

Soon after that, in June 2014, Alibaba bought the whole of UCWeb, a popular mobile browser company in China, after it had acquired two-thirds of the company in 2009 and 2013. UCWeb is one of the biggest web browser companies in China, with more than 50% market share. With full control, Alibaba turned UCWeb into a division of its own, overseeing the browser, mobile search, gaming, apps store and mobile reader operations, as well as working with Alibaba's mapping unit to provide location-based services. In addition, Alibaba also bought a 28% stake in Chinese mobile-mapping firm AutoNavi Holdings to gain a secure foothold in the mobile map service.

Apart from the three internet giants, another important player in the O2O market is the commercial real estate giant the Dalian Wanda Group. In contrast to internet firms, Dalian Wanda enters into the competition from offline roots. Dalian Wanda is China's biggest private property developer and runs more than 100 shopping malls and the largest movie theater chain across the country. For quite a while, the founder Jianling Wang and Alibaba's Jack Ma have been alternating as holder of the title "the country's richest man". As will be discussed in later chapters, Wanda's holding of movie theaters makes it a particularly strong player in the O2O movie market.

In summary, the O2O market has so much potential that all the internet giants and commercial real estate conglomerates

are pouring resources and efforts into related areas. With O2O, the online and offline shopping experience is increasingly merged and unified. To be successful in O2O markets, important as it is for brick-and-mortar retailers to have an online presence, it is equally important for e-commerce companies to associate with physical stores. So it remains to be seen whether the companies with internet roots (BAT) or with offline strongholds (Wanda) will emerge as the ultimate winners.

Even within the internet firms, no single firm dominates in every area of the mobile linkages relating to the O2O market. If Baidu is understood to be the best link between people and information (search), Alibaba between people and goods (e-commerce), Tencent between people and people (social network), then O2O is the link between people and service, which requires the support of all three of the above links. To conclude this section, Table 5.2 provides a summary of the major players' relative O2O strengths. There is still no obvious single dominating winner in the O2O market. The case outlined in

Table 5.2   Comparison of the Major O2O Players

Connections	Mobile Technology and Resources	Leading Companies
People and smart devices	Smartphone	Xiaomi, LeTV
People and information	Search engine, mobile map	Baidu
People and goods	e-Retailing marketplaces, vendor network, mobile payment system	Alibaba, JD
People and people	Social network	Tencent
People and in-person shopping environment	Shopping malls	Dalian Wanda
People and services (O2O)	**All of the above**	**BAT is leading the competition, but still an open battlefield for all players**

the next section on the O2O dining market will illustrate that O2O competition is far more complicated than the red envelope war.

The Case of O2O Meal Services

Within the broad O2O markets in China, restaurants and food catering businesses were early movers, and their market mode is more mature than other fields. The reasons are simple. First the sheer numbers of the population: feeding nearly 1.4 billion people is a massive market by itself. Eating is also probably the most important and frequent social activity for the Chinese, who have a proverb that states "people regard food as their prime want" (or, as the Chinese character describes it, "heaven"). On top of that, the number of young professionals and workers in the cities is steadily increasing along with the trend towards urbanization, and they tend to eat out frequently due to their busy lifestyle.

Steep discounts in the form of group purchases have been a significant driver for growth in this sector. Group-discount apps generally sell batches of vouchers from merchants at a discount if a minimum number of buyers sign up, and they earn a commission on each voucher sold. A large number of Chinese companies entered the group-discount business in 2010 and 2011, often as clones of Groupon Inc. in the US, but many once high-flyers quickly burned through their investment dollars without ever reaching profitability. In this ultracompetitive field, Dianping, Meituan and Nuomi, each backed by one of China's top three internet companies, were the main survivors (before the 2015 Meituan/Dianping merger), while numerous other similar apps have emerged and failed (see Figure 5.3).

The biggest player, Meituan, had Alibaba as an important shareholder. Founded in 2010, Meituan had around a 50% share of the group-buying market, and it was the largest platform in China for services such as restaurant bookings, hotel reservations and movie-ticket purchases. After its fundraising round in January 2015, the company was valued at $7 billion, whereas its closest equivalent in the US, Groupon, was valued
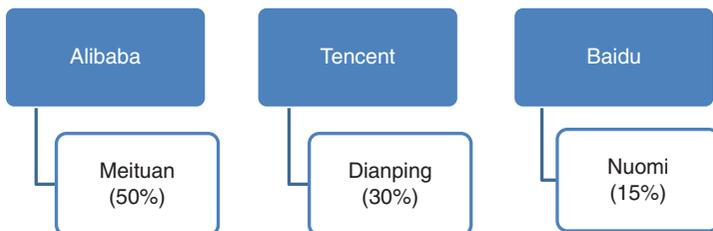
Alibaba	Tencent	Baidu
Meituan (50%)	Dianping (30%)	Nuomi (15%)

Figure 5.3   Main Players and Their Market Shares in O2O Meal Services
(Data Sources: Wall Street Journal, Economist, 2015)

at only $5.4 billion at that time. The company claimed to have 20 million daily mobile users and to operate in more than 1,000 Chinese cities, representing a substantially larger user base than Groupon.

Dianping was a major competitor to Meituan, and its key shareholder included Tencent. The company had established itself as the go-to platform in China for customer reviews since it was founded in 2003. Yelp was often viewed as its closest equivalent in the US. It also had a major fundraising round in early 2015, which gave the company a valuation of around $4 billion (also above that of Yelp). Strictly speaking, Dianping is part Yelp and part Groupon, because the Dianping app is for both restaurant reviews and group buying. Before the merger with Meituan, Dianping had about 30% of the market share, and the third player Nuomi, which was fully owned by Baidu, about 15%.

The important driving force behind the faster growth for the Chinese firms compared to their US counterparts was the generous subsidies that these companies paid out to win users. (This could be compared to the internet firms doling out red envelopes to gain mobile payment user sign-ups, or providing cash rebates to taxi drivers and passengers for using taxi hailing apps.) The group-discount companies were at war, offering freebies and deep discounts to gain the attention of both consumers buying and merchants selling. As such, some parts of the market were skeptical about the valuation of these firms,

as the valuations were largely based on user numbers (which is not very different from the "eyeballs" metrics from the earlier tech boom). From their perspective, the existing players were mere survivors who were still trying to figure out a consistent revenue model (and then hopefully a profit model).

The biggest concern on valuation was the "stickiness" of the customers, meaning the customer might have their purchase choices based predominantly on the size of subsidies instead of the services. They would then likely move to a different service provider once the subsidies were reduced. The offline merchants also worried that the internet companies would eventually reduce or even stop subsidizing the O2O businesses once they became the dominant channels for service booking, leaving merchants to deal with customers who were used to artificially low prices. But the optimists believed that once customers were accustomed to O2O businesses, they would continue using the services out of convenience, even without the subsidies.

When Meituan and Dianping announced in October 2015 that the two companies would merge, the market had high hopes that the price war in group buying would soon come to an end. At the time of the merger, the combined company was estimated to be worth $15 billion. Shortly after that, the combined Meituan-Dianping raised $3.3 billion in January 2016, constituting the largest private fundraising round globally for a venture capital-backed start-up. Tencent led the latest round of funding, and it subsequently became the key investor in the new Meituan-Dianping.

As a result of the Meituan-Dianping merger, Alibaba decided to sell its stake, which represented about 7% of the company. The stake was reportedly sold in January 2016 to a group of investors that included some existing shareholders. For its future strategy in the O2O dining service market, Alibaba has signaled that it would refocus on its own online food coupon site Koubei and the Alipay payment system, which is commonly used in restaurants across the country. In response, Baidu has set up Baidu Waimai, a
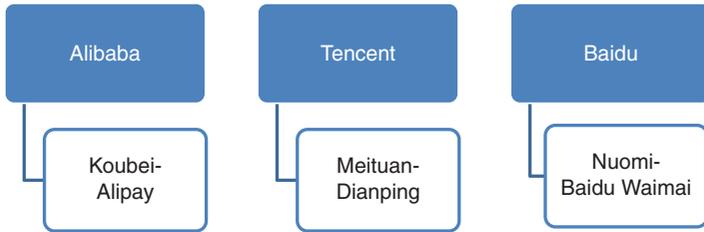
Figure 5.4   The Competitive Landscape Post-Meituan/Dianping Merger

food-ordering and delivery platform on which Baidu plans to build up its own catering logistical team to have better quality control. Its fully-owned Nuomi subsidiary announced that it would invest $3.2 billion in the business over the next three years. The competitive landscape has changed significantly since the Meituan-Dianping merger (see Figure 5.4).

Tencent's continuous involvement in the merged Meituan/Dianping is consistent with its strategy in many other internet areas. Because its messaging and social networking app has hundreds of millions of active users, rather than running its own operations, Tencent's strategy has been to take minority stakes in other technology companies and use the alliances to offer a wider range of services. In particular, the restaurant review aspect of Dianping is a perfect fit for Tencent's WeChat platform, given the social nature of meals and the customers' preference for peer opinion in China.

Dining at a restaurant involves interpersonal relationships, in much the same way as buying a car does. The basic principle for merchants is to treat customers well, so that they will sing the praises of the service to friends, family and so on. In this context, adding online reviews to social networks is not dramatically different from the old days. For merchants and shops, having a "social page" or "public account" on the WeChat social network is similar to having a Yellow Page listing in the past. Most of the companies are in the Yellow Pages, but this listing alone does not drive a merchant's business automatically. Personal recommendations are much more critical in instigating purchase-related activities such as signing up group deals.

The WeChat bees discussed earlier in this chapter provide the link between restaurant reviews and their circle of friends on the social network. In fact, a large part of the discussions among WeChat users is about where to book tables at restaurants for group get-togethers and where to find deals. In addition, although there is no question that WeChat is the most popular mobile social network in China (the consumer–consumer side), without a mobile map service its business connections with the merchants' side (the business–business side) are still catching up. Therefore the alliance with Meituan-Dianping provides a lot more relevant content to WeChat users, including merchant locations, special offers and catering services

For Baidu, its existing and unique competitive advantage is its location-based searches and services, as many daily deals are offered on the Nuomi site based on geography. By integrating group-buying business and map information into its searches, Baidu could turn a simple Sichuan restaurant search into a real-life dinner trip. This means that in one search, the Baidu system could figure out where the user's current location is, where the nearby locations for dining are, which restaurants have special deals available and then provide a map guiding the customer from the mobile screen to the chosen physical store. Furthermore, Baidu as mentioned earlier has developed a voice assistant – similar to Apple's Siri or Google Now – to improve users' search experience. But compared to Alipay and WeChat Pay, Baidu's mobile payment system is a relatively weak link in its O2O business.

Alibaba, on the other hand, seems to put Alipay at the center of its future O2O businesses. In a direct competition with the group-buying apps, Alipay has also sent out coupons to consumers. The trick was that consumers could download coupons directly and the discounts could only be realized when users paid for their meals with Alipay. Because Alipay has already been widely used by many merchants and shops, it is fairly easy for users to become accustomed to completing a meal purchase exclusively with Alipay.

In addition, Alibaba has made important investments in "deep mobile search" technology to potentially provide users with a fast and convenient search tool for the information scattered across various apps. For example, if one user wants to find a Sichuan cuisine restaurant with open seating in Shanghai's financial district, the user has to download Dianping or a similar app and then check the booking information embedded in the app. Ideally, users would like a program to first search for all relevant apps and then consolidate the information within each app before presenting it in the same way as a keyword search on the web. In the case of the Sichuan restaurant example above, the user likes to see the program search through Dianping, Meituan and Nuomi directly (without having to launch them on the handset) and list all the nearby places on one single screen.

In October 2014, Alibaba formed a partnership with the US "app search" company Quixey (for which Alibaba was also an early stage investor) in China, which will bring Quixey's search capabilities to Alibaba's mobile operating system YunOS. Quixey's core business is to help app developers modify or build their apps to have "deep linking" which facilitates "deep mobile search". Since Alibaba has controlled many internet businesses through acquisitions, those related apps could potentially add in deep links among them so that Alibaba's mobile search can easily find the information within them and consolidate it accordingly (see Figure 5.5). In the ultra-competitive O2O market, this feature could be highly attractive to users and a differentiator among peers.

Will the price war end soon in the new landscape post-Meituan-Dianping merger? The market's hope for a ceasefire was short-lived. Baidu's Nuomi has reiterated its commitment to putting more capital investment into the business, Alipay has actually become a new channel of coupons for consumers, and the new Meituan-Dianping has just received new investment for expansion. In addition, once known as group-discount sites, they are all broadening their services into other "life services" such as wedding ceremonies. Therefore, the price war among

Mobile Search Results
on One Screen

Deep Search App/YunOS:
"Search on top of a search"
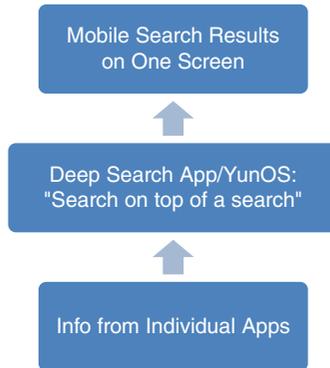
Info from Individual Apps

Figure 5.5   Quixey/Alibaba Partnership: Deep Mobile Search

them and their backers is likely to get increasingly intensive in more areas.

It is worth noting that although the new Meituan-Dianping financing was the single largest funding round on record for a closely held start-up with venture capital investors, there were also signs of investors' growing concern about the subsidy model and the company valuation. In 2015, Meituan sounded out investors on a fundraising at valuations as high as $20 billion, but investors pushed the company to lower its asking price and encouraged the merger with rival Dianping to cut spending on subsidies. The new Meituan-Dianping financing in January 2016 reportedly gave the combined company about $18 billion.

Today many O2O start-ups have burned out in the battle to attract users with heavy discounts and subsidies, but the internet giants like BAT have much bigger balance sheets and more related business, giving them an edge over other competitors. User growth remains strong as O2O spreads into more third- and fourth-tier cities in China, so internet firms are content to delay the use of revenue and profit metrics for valuation. But a shakeout is surely beginning, particularly among the apps offering generic services, and entrepreneurs will have to tighten spending and consider merging with rivals if they cannot provide distinguishable offerings.

The Biggest Cake: O2O + Omni-Channel

As we reach the end of this chapter, it becomes clear that the future e-commerce model – if the term e-commerce still applies – is a seamless platform that links customers across multiple screens of mobile devices, providing standardized products as well as specialized goods and experience offerings, and connecting online content with offline activities. In other words, future e-commerce will become O2O, integrating with omni-channel (as discussed in the previous chapter) for each and every consumer.

This concept is being tested by an ambitious venture between the commercial property conglomerate Wanda and the two e-commerce giants Tencent and Baidu. In August 2014, the three firms collectively invested about $800 million in a joint venture, upon which Wanda's chairman Wang Jianlin commented that the online-to-offline opportunity was the biggest "cake" left in e-commerce. The market seemed to agree with the concept and has high expectations for the venture. In early 2015, Wanda announced the closing of a funding round for the venture where the implied valuation for the venture exceeded $3 billion.

This joint venture was referred to by Tencent's founder Pony Ma as a "Smart Plaza", suggesting it was a platform that was open-minded to every possible retailing and O2O combination. Baidu's co-founder Robin Li described how smooth the future O2O purchase would be through the powerful consortium in the following example: One day a girl walks along the street and observes a girl with a new style dress; she can just take a picture of her, and know immediately which store in the nearby Wanda shopping mall is selling the dress. Then, the Baidu map will provide the directions to the store where she can try the dress on. When she decides to make the purchase, she pulls out WeChat Pay on her smartphone to close the transaction.

As part of the partnership (see Figure 5.6), Tencent's WeChat Pay was implemented at Wanda's shops, and it also
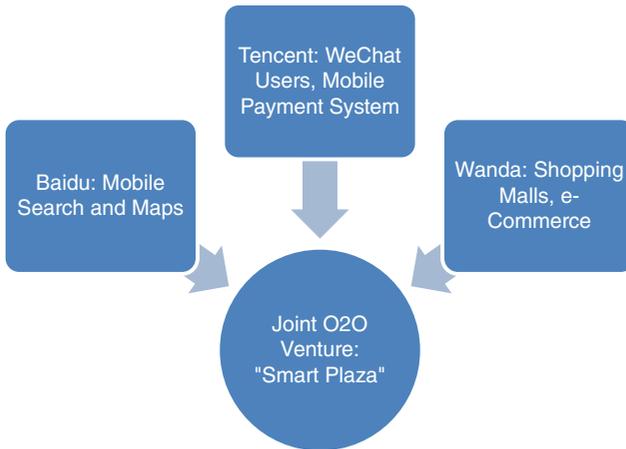
Figure 5.6   Smart Plaza – Combining O2O with Omni-Channel

brought in more than half a billion active WeChat users, while Baidu supported the users with location-based searches and maps. In addition, Wanda wired up all of its shopping centers with Wi-Fi and Bluetooth sensors so that shoppers could be monitored intensely. A new app was developed to ping customers with promotions and information as they step inside the malls. Consumers could peruse goods on the shelves but still pay on their mobile phones for purchases to save queuing, and have their goods delivered straight to their homes.

Some Chinese people jokingly referred to this joint platform as "three top rich people teaming together to challenge another big billionaire in e-commerce". However, some observers have cautioned that it may take some time for the new venture to become integrated and become a realistic challenge to Alibaba, as Alibaba has all its online resources under one umbrella. In fact, as explained in his 2016 New Year speech (see Figure 5.7), the future of e-commerce in the mind of Alibaba's CEO Daniel Zhang is essentially the same as the rationale behind the "smart plaza".

Back to the fight for New Year red envelopes: although it was a "Pearl Harbor attack" in the words of Alibaba Founder
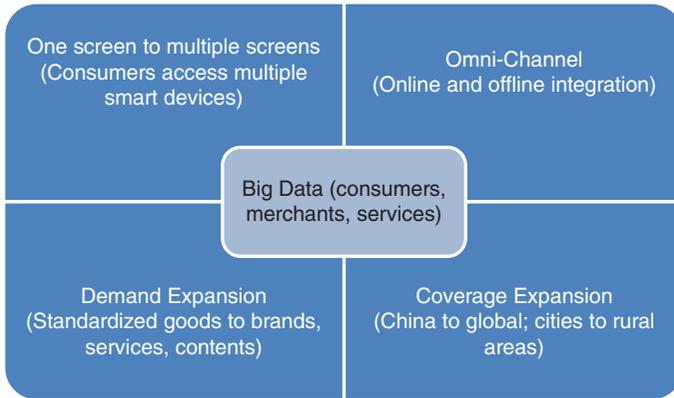
One screen to multiple screens (Consumers access multiple smart devices)	Omni-Channel (Online and offline integration)
Big Data (consumers, merchants, services)	
Demand Expansion (Standardized goods to brands, services, contents)	Coverage Expansion (China to global; cities to rural areas)

Figure 5.7   The Future Directions of e-Commerce

Jack Ma's warning to his staff, the outcome of that battle is far from determining the winner of the O2O war. Because of the mobile and social DNA of its WeChat app, Tencent has a unique advantage in online-and-offline e-commerce, but Alibaba is a similarly formidable contender in the O2O market with its dominating position in e-retailing and e-payment businesses. Meanwhile, both Baidu and Wanda have their distinctive core competence to compete for the O2O "cake".

Also, if the history of the Pearl Harbor attack is of any reference value, the addition of a new super-weapon, like the A-bomb, could change the balance of the war altogether. Therefore, each of the players has to continue innovating while vying for supremacy in the market for internet services, and the one with the strongest collective power will eventually win. That is why Japanese Admiral Isoroku Yamamoto, the commander-in-chief of the Combined Fleet, famously said after the successful Pearl Harbor attack: "The war still has a long way to go." The same is true for the war in the young O2O market.