

INDUSTRY TRENDS AND CHALLENGES IN ON-DEMAND SERVICES IN SOUTH KOREA

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ABSTRACT. *As the number of mobile Internet users has increased fast and cutting-edge technologies such as IoT (Internet of Things), big data, and FinTech (Financial Technology) have advanced, O2O (Online To Offline) or on-demand services are evolving quickly. This paper reviews a variety of on-demand services from world widely well-known services such as Uber and Airbnb to currently emerging startup services. In particular, a range of cases in leading countries such as the United States and China are presented and various on-demand service areas in Korea are summarized. Several conflicting cases of new on-demand services and existing laws for regulating offline business are introduced, and issues on these cases are reviewed. Important factors that must be considered by on-demand businesses in order for them to perform their sustainable businesses successfully are suggested.*

Keywords: O2O (Online To Offline), On-demand service, On-demand economy

1. Introduction. Recently, numerous mobile Internet users are conveniently shopping various products and consuming services, information, and digital contents via their smartphones [8]. Nowadays, traditional offline service business areas such as real estate, deliverable food, accommodation, and used car auction can be connected to online business areas thanks to the emerging O2O (Online To Offline) services [7]. O2O can be defined as an innovative service that creates new value added services by integrating the advantage of online connectivity and offline consumption on the spot. O2O can be classified into on-demand services and extension of e-commerce [8]. The focus of this research is on-demand services. Inefficiency in offline businesses can be enhanced dramatically by integrating cutting-edge technologies such as IoT (Internet of Things), big data, and FinTech (Financial Technology) and innovating traditional business practices of offline businesses. Thanks to the emergency of O2O or on-demand services, offline businesses can attract potential consumers to their physical stores or on-demand services through online marketing strategies [1].

The conceptual framework and operation flow of typical O2O or on-demand transactions are shown in Figure 1 [2,9]. A consumer searches and requests a necessary service via his or her smartphone, and then an on-demand service platform company such as Uber, Airbnb, and Kakao Taxi intermediates an appropriate service provider according to its own intermediation mechanism. And then a selected offline service provider offers the service to the customer and the customer consumes the offered service on the spot. Finally, the consumer shares his or her experience and reviews the quality of the service using the on-demand service platform.

As on-demand services and economy emerged recently, there have been quite a few researches on this topic published by Chinese researchers [2,4,6,7,9]. Existing researches mainly deal with basic O2O concepts and types in Chinese market. In this paper, we review a variety of on-demand services from world widely well-known services to currently emerging startup services. In particular, a range of cases in leading countries such

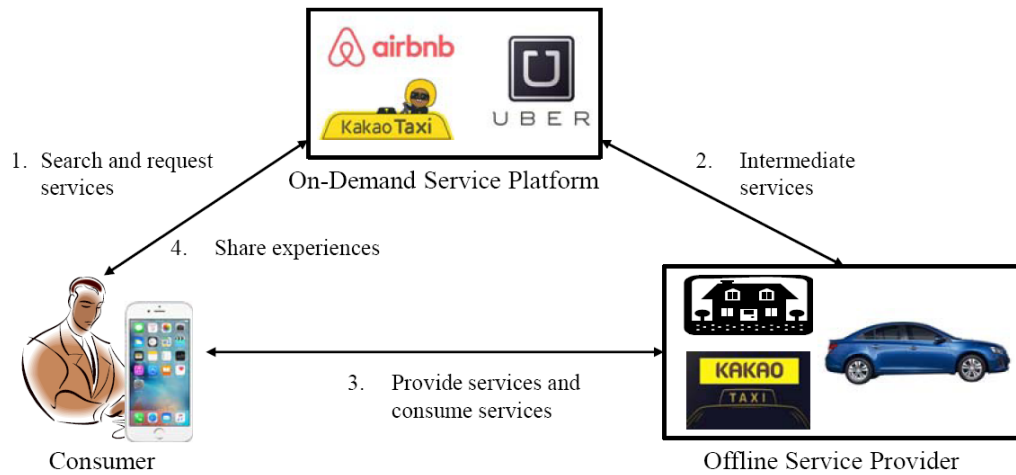


FIGURE 1. Conceptual framework of typical on-demand transactions

as the United States and China are presented briefly and various on-demand services and emerging startup companies in South Korea are summarized. Also, several conflicting cases of new on-demand services and existing laws for regulating offline business are introduced, and issues on these cases are reviewed. Important factors that must be considered by on-demand businesses in order for them to perform their sustainable businesses successfully are suggested. In addition, some negative effects of the advancement of the on-demand service industry such as labor issues, security issues, and consumer protection are described briefly.

The remainder of this paper is organized as follows. Section 2 presents the classification of O2O and summarizes a variety of O2O services. Section 3 describes several conflicting cases of new on-demand services and existing laws. Section 4 suggests important factors for sustainable and successful on-demand businesses and other issues for the advancement of on-demand service industry. Finally, Section 5 offers conclusions.

2. Types of O2O Services. O2O services can be classified into platform services and extension of commerce area as shown in Table 1. Platform services are called on-demand services and are typically regarded as the main type of O2O services. And the focus of this paper is the on-demand service as mentioned in Section 1.

Representative on-demand services in the United States and China are summarized in Tables 2 and 3. In the United States of America, there are a variety of on-demand services such as Uber, Airbnb, AmazonFresh, GrubHub, Homejoy, and Luxe Valet. In China, 3

TABLE 1. Classification of O2O

Classification	Type of O2O services	Description and examples
Platform service (On-demand service)	Platform based service	On-demand services by existing Internet or mobile platform companies such as Google, Baidu, Naver, and Kakao.
	Platform based aggregator	On-demand platforms which aggregate products and services provided by lots of offline businesses. Ex) Uber, Airbnb, Yanolja, Ziggang.
Extension of commerce area	Online → Offline	Online companies open offline stores. Ex) Amazon, and Alibaba.
	Offline → Online	Offline companies add online or mobile channels. Ex) Walmart.com, Lotte.com.

TABLE 2. Well-known on-demand services in United States

On-demand business	Description
Uber	An on-demand transportation service based on sharing economy of cars
Airbnb	An accommodation service based on sharing economy of spaces
AmazonFresh	An on-demand grocery by Amazon which offers same day and early morning delivery
GrubHub	An on-demand food delivery service
Homejoy	An on-demand housecleaning service
Luxe Valet	An on-demand valet parking service

TABLE 3. O2O services provided by 3 major Internet companies in China

O2O service	Description
O2O services by Alibaba	Alipay – mobile payment platform Ele.Me – a food delivery service based in Shanghai
Nuomi by Baidu	Various recommendation services via an intelligent agent ‘Duer’
O2O services by Tencent	WeChat pay – mobile payment platform O2O services via WeChat, a mobile messaging platform
Didi Chuxing	A transportation network company which provides vehicles and taxis for hire

giant companies, the so-called BAT (Baidu, Alibaba, and Tencent), are competing fiercely each other in O2O battle field. Recently, Didi Chuxing (Formerly Didi Kuaidi) was formed from the merger of rival firms Didi Dache and Kuaidi Dache (backed by the two largest Chinese Internet companies, Tencent and Alibaba respectively) [3].

Table 4 summarizes a variety of on-demand service areas currently available in South Korea. Many startup companies and platform based services have been emerging in a lot of daily life-based service areas including real estate, mobile wallet, food delivery, beauty, shopping, transportation, accommodation, home cleaning, car services, etc.

Figure 2 illustrates the size of on-demand market in Korea and direction for its rapid growth. Although it is very hard to predict the exact market size of O2O transactions, the intersection area of online commerce and offline commerce has been expanded rapidly [4]. According to a prediction report published by a Korean research company named DIGIECO, the market size of the domestic O2O industry can be expanded to 267 billion

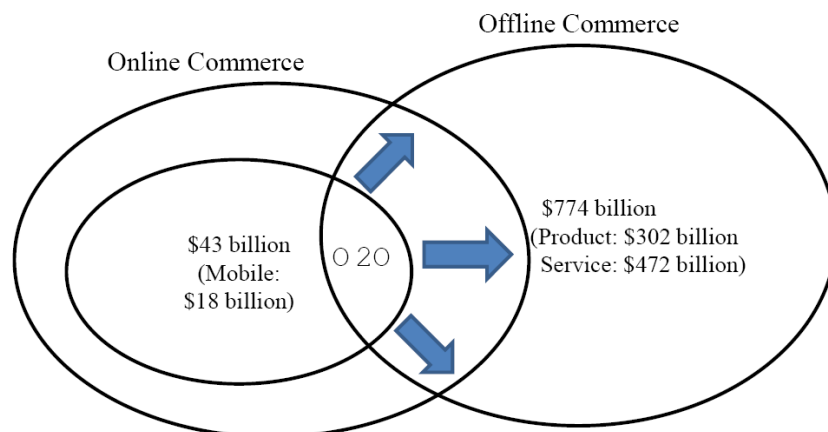


FIGURE 2. Growth direction of the Korean O2O market

TABLE 4. On-demand services areas currently available in Korea

Area	O2O service	Description
Real estate	Dabang, Zigbang, Dukkubisesang	Real estate services which prevent falsely registered and listed items
	YourHome	A housing social commerce which provides curation services and customizing services
	BudongsanDiet	A real estate service targeted to apartments
E-Wallet	Syrup Wallet	An all-in-one wallet which integrates payment, reward point collection, and discount services
	Clip	A mobile wallet which provides the best card recommendation function and mobile payment
	PAYCO	A convenient mobile payment service integrated with T-money
Delivery	BaeMin by Woo-wa Brothers	A food delivery intermediary platform for searching, ordering, delivering various food, and undeliverable restaurant food
	Yogiyo, Baedaltong	Food delivery intermediary platforms for searching, ordering, and delivering various food
Transportation	Kakao Taxi, T Map Taxi	On-demand transportation services which provide taxis for hire with no commission
	Kakao Drive, Button	On-demand replacement driver services for drunken drivers
Accommodation	Yanolja, Yogi-Uttae	Intermediary platforms for a variety of accommodations such as hotels, motels, and pensions.
Car service	Hey Dealer, Bye Car, Chutchu	Transaction platforms for exchanging used cars
	SoCar, Green Car	On-demand car sharing services

US dollars as lots of offline businesses are entering into the O2O industry sector [5]. Also, the global market size of on-demand services is growing very fast world widely [6].

3. Conflicting Cases of New On-demand Services and Existing Laws. This section introduces several cases that showed conflicts between new and innovative on-demand services and existing laws for regulating offline businesses or existing offline businesses. Table 5 summarizes legal issues on new on-demand services in Korea, and detailed issues can be found in [11,12].

In order to advance the on-demand industry as in the United States and China, the South Korean government is trying to improve the regulations and preparing a plan for adjusting these conflicts and helping on-demand companies in legal perspectives. For example, the government has a plan to establish ‘regulation-free zones’ for promoting innovative on-demand & sharing economy services such as Airbnb, Uber, and SoCar, which are currently under debate.

4. Factors for Sustainable and Successful On-demand Businesses and Other Issues. Recently, many on-demand companies are suffering from funding problems with profitability issues. This section suggests important factors for on-demand businesses to be sustainable and successful. First of all, they should develop sustainable and stable business models. A simple intermediation model cannot guarantee a success. Therefore, they should develop high value-added services by integrating IoT, and big data analysis technologies. Secondly, they should thoroughly review the legal issues and other conflicting issues between existing businesses and new on-demand services before starting a

TABLE 5. Legal issues on new on-demand services in Korea

Service name	Relevant laws	Legal issues
Uber	Passenger Transport Service Business Act	The law prohibits fee-paying transport services that use unregistered private or rented vehicles.
Airbnb	Public Health Control Act	The law requires anyone who runs a lodging business to report it to the district office.
Hey Dealer and Bye Car	Automobile Management Act	The law imposes online companies the same facility standards as offline used car auction businesses.
SoCar	Passenger Transport Service Business Act	The law requires a car sharing company should operation branch offices equipped with office facilities and communication facilities in all cities nation-widely. Also it requires that all commercial vehicles have parking spaces with an agreement for long term (more than 2 years) usage.
CallBus	Passenger Transport Service Business Act	Although the CallBus service uses rental buses rather than personal vehicle, taxi companies argue that rental buses cannot operate like regular bus lines and carry unspecified passengers.
Rocket Delivery	Trucking Transport Business Act	Existing companies argue that the service is illegal because the delivery vehicles are not licensed as cargo transporters.

business. Legal consulting services might be helpful to them. Thirdly, they must ensure the consumer safety in order to increase the trust level and customer satisfaction. Consumer safety issues with Uber and Airbnb are occasionally reported. They must prepare the proper procedures for the identification of service providers. Fourthly, on-demand businesses should work closely with the offline businesses and meet their requirements. The importance of offline cannot be overemphasized in the success of on-demand services. In order for offline service providers not to avoid the intermediation, on-demand service platform companies should provide high values to them.

There are some negative effects of the advancement of the on-demand service industry such as labor issues, security issues, and consumer protection issues. These issues seem to be very hard to be settled. However, government-wide efforts to solve these issues are required in order to overcome these negative effects and advance the on-demand service industry.

5. Conclusions. In this paper, we defined and classified O2O and summarized a variety of on-demand services available in USA, China, and Korea. Also, we reviewed several conflicting cases of new innovative on-demand services and existing laws. We suggested important factors for sustainable and successful on-demand businesses.

Although on-demand industries are advancing rapidly, there are a lot of adverse effects due to the innovative features of new on-demand services. For example, a new transportation on-demand service platform can remove many existing jobs. Also, we may experience problems of tax evasion and labor issues in the near future. Therefore, the roles of the government are very important in promoting the on-demand industry and overcoming negative effects of changing environments.

In the future, a more specific case study of successful on-demand businesses will be performed, and then helpful insights can be suggested. Also, cutting-edge technologies for on-demand services may be reviewed and a detailed guideline for on-demand businesses to develop high-tech based on-demand services can be established.

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