

## A Development Strategy of M-commerce against Mobile Internet

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**Abstract**—Digitization, informatization, and networking are the epoch features of the 21st century. Mobile internet, popularizing and developing worldwide with an irresistible momentum, has had a revolutionary effect on our life. Thus, a new research direction has appeared that how the M-commerce meets the consumers' demand better and how to improve the overall level of M-commerce. This essay mainly analyzed the M-commerce development status and problems and put forward corresponding strategies combined with the mobile technology today.

**Keywords**—Mobile internet; M-commerce; Development strategy

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### I. INTRODUCTION

M-commerce is e-commerce of B2B, B2C or C2C operating via wireless terminals like telephone, PDA, and palmtops. It integrates the internet, mobile communication technology, short distance communication technology with other information processing technology perfectly, through which we could shop and trade online and offline, make e-payment and do varies of transactions, businesses, and other related comprehensive services, anytime and anywhere. Comparing with traditional e-commerce, it has a much broader user base, and shows more vitality especially with its advantages in technology and application against mobile internet.

### II. PRESENT OPERATION SITUATION OF M-COMMERCE

#### A. M-commerce developed quickly

##### 1) Market size

With the popularization of 3G network, mobile internet, after a series development, has gained a stable and rapid increase in its market size. By the end of June, 2012, the number of cell-phone internet users in China increased rapidly since China mobile internet market size expand continually from 2008 to 2014, which is expected to reach RMB194.07 billion, as shown in Figure 1. All these create a greater market space for M-commerce. In China, market trade volume of M-commerce was RMB15.67 billion in 2011, an increase of 609%, and is expected to reach

RMB25.15 billion in 2012, RMB150 billion in 2015, according to iResearch.

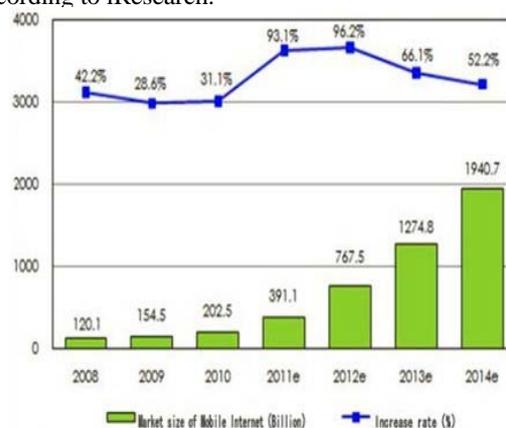


Figure 1. Market size of China Mobile Internet from 2008 to 2014.

The number of internet user is considerable. By the end of June, 2012, the number of Chinese netizen has reached 538million and that of cell-phone internet user reached 388million, according to the 30th China Internet Development Statistics Report. Getting on internet via PC gradually extends to via cell-phone, and traditional web users infiltrate to mobile internet ones. In the 2012 China Internet Conference, some experts believe that on current trend, smart phone will substitute PC, becoming the most commonly used terminal.

##### 2) The application of M-commerce

The development of M-commerce could meet consumers' demand in cell-phone payments, figure-print identification, medical care, travel and tickets. The growth of online banking and online paying accelerated. They provide not only the electronic shopping, but also a totally new kind of method in selling and information release. Up to June, 2012, the numbers of their users were 191 million and 187 million respectively, and the number of user paying online via cell-phone reached 44.4million, an increase of 14million over 2011. In the near future, telecom operators, bank corporations, and the 3rd payment companies will join together to create a mobile payment platform, which will promote the development of the whole mobile payment industrial chain undoubtedly. (Please refer to Figure 2)

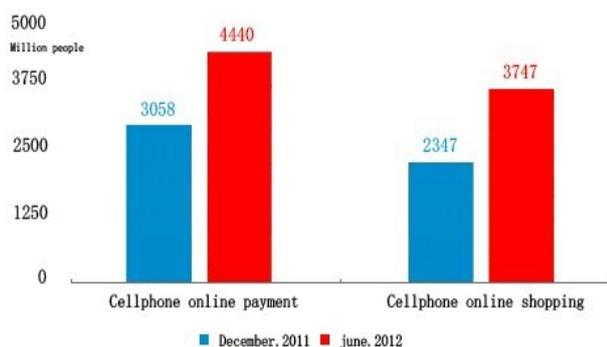


Figure 2. From December, 2011 to June, 2012 User scale of cellphone online payment and cellphone online shopping

### B. Policies

M-commerce has been supported strongly by government and related policies continually get improved. In June, 2007, the National Development and Reform Commission (NDRC) and the State Council Informatization Office jointly released the Eleventh Five-Year Plan in the Development of e-Commerce, in which, mobile electronic business pilot project was listed among the six key leading projects, starting a process of promoting China mobile electronic business to develop swiftly. In 2009, e-commerce was taken as a new development in supporting innovation, according to the National twelfth Five-Year Plan.

### C. Infrastructure

#### 1) The development of mobile terminal technology

With the development of mobile terminal technology, all related traditional e-commerce businesses, including Taobao, 360buy and China Merchants Bank, introduced the mobile application supporting mobile terminals.

#### 2) The upgrade of telecommunications infrastructure

Upgrade of telecom infrastructures and populization of 3G. China Mobile, China Unicom and China Telecom has achieved three 3G licenses respectively issued by Industry and Information Development, and wireless network communication of the new generation widescreen has been listed among sixteen major science and technology programs in Guidelines for the Medium- and Long-Term National Science and Technology Development Program (2006-2012). Up to the second season, the total number of smartphone in China has reached 180 million, according to the China Internet Network Information Centre (CNNIC).

#### 3) Industry chain is becoming more rational

3G network content providers and service providers to provide higher speed and richer mobile data value-added services for mobile users, content providers and service providers has become an important part of the value chain of M-commerce. M-commerce value chain develop into a mobile commerce industry value chain by three mutually linked and mutually independent industry value network.

### D. Challenges and problems

In 2012, M-commerce, flexible, convenient and fast, developed steadily. However, as its development period short, factors encumber M-commerce still exist. Compared with traditional e-commerce, M-commerce, its industry chain more long and situation more complex, need much support from more service sectors.

#### 1) Spending habits

Currently, shopping online is realized mainly through PC terminal. The online trade volume via PC terminal accounts for 95% of the overall online one, based on the data from iResearch 2012Q2. For many factors like payment security and spending habits, it still takes consumers long time to develop the habit of mobile shopping.

#### 2) User experience

M-commerce user experience degree is not high. Compared with shopping through PC terminal, shopping via cell-phone, for many constraints, like screen and network unobstructed degree, is difficult to meet customers' diverse demands standard.

Under such circumstances, a lot of problems appear. For example, using an IPONE to consume, we have to install the APP software on it before to make payment online, which largely reduce the users' experience degree. Only by constantly exploring users' needs, optimizing services and experience can we occupy the rapid development opportunities of the M-commerce.

#### 3) Security issue

The development basis of M-commerce is security issues. Compared with traditional patterns of e-commerce, M-commerce is weaker in security, and user identification, security and privacy protection, these sensitive problems have not been standardized and legalization. According to the statistics released by CNCERT, China intercepted more than 1600 cell-phone malware which totally affected over 8 million smart terminals. The followings problems mainly exist:

- Wireless network security problems of its own could probably leak mobile subscribers' identification, location and something else of.
- Mobile devices are not safety.
- Insecurity caused by software virus.
- Related laws and systems of mobile commerce application are not sound, which causes unclear responsibility and no law to depend on.

#### 4) Wireless channel constraints

Instable data transferring service of current mobile communication network, to a certain degree, reduce the consumption of M-commerce and is not favorable to varies business of M-commerce.

### III. SOLUTIONS AND SUGGESTIONS ON M-COMMERCE

Based on the existing problems and real-world conditions, we still have a lot of work to do in terms of the development and improvement of China's M-commerce. As to the pending problems during the rapid course of M-commerce, we should find out the effective solutions to break through

the development bottleneck. Here are suggestions on the improvement of M-commerce development strategy.

#### A. Strengthening security mechanism

##### 1) Improving the technology of M-commerce security.

- We should adopt the end-to-end security strategy, ensure all ends security while the data is transferring from the transition point to the end, including every transferring phrase, and map out related regulations to set security standards for each end.
- We should strengthen the management of M-commerce subscriber authentication and mobile device identification. For example, the authenticity of the two trade sides could be ensured through the third party's identification or number signature technology. Telefonaktiebolaget LM Ericsson introduced a complete solution for M-commerce by systematically integrating mobile communication network, Internet, online payment and security technology.

##### 2) Improving laws, regulations, and security mechanisms.

- We should set the M-commerce security standard suitable for our country's situation based on our country's demand in M-commerce security, system development and information security standardization, providing basis for security management.
- Improvement of related laws and regulations being the present urgent task, we should strengthen the M-commerce security management and improve related laws and regulations, regulating the industry development and building safety trade environment.

#### B. Honesty mechanism regulations

- Ensuring information authenticity and validity. Both the operators and servicers of M-commerce websites have responsibilities and obligations to ensure that information in their websites are authentic and valid.
- Strengthening the environment building of supervision of public opinion and laws, setting up honesty mechanism and strengthening self-discipline. For instance, credit rating system, introduced by the Internet Society of China, could be extended to Mobile Internet to intensify the punishment to dishonesty.
- Industry enterprises could establish the honesty alliance spontaneously, firmly embracing the honesty concept, actively establishing long-term mechanism of Internet honesty, consciously safeguard the clean environment of Internet and mutually supervising to jointly promote the honesty development of M-commerce Industry.

#### C. Improving users' experience

- Creating a good internet atmosphere and shopping environment.

- Providing customized products and services to meet users' personalized needs, create overall interactive experience for consumers and establish good interactive relationship and trust relationship with consumers. For instance, the venture capital firm Kleiner Perkins Caufield & Byers combined SoLoMo (Social+Location+Mobile) with M-commerce, introducing an innovation of business model that is stringing the offline merchants together by making use of the characteristics of online interactive community and mobile internet, real-time, convenient and communicative, and making shopping more fun and more efficient.

#### D. Technology innovation upgrade

##### 1) Strengthening the building of basic infrastructure and integrating resources of industrial chains.

- Actively pushing mobile network operators to strategically ally with content providers, service providers and terminal device manufacturers, to achieve mutually sharing in technology, capital and information, and promote integration of industry chains. For instance, Alipay and Shanghai Yek Network (a mobile retail service company) reached a strategy cooperation to improve users' shopping and payment experience.
- Meantime, network operators should continually expand value-added service and drive more service providers, including medical care, tourism, transportation, insurance and other industries, to find the innovation business model to meet customers' demands and improve customers' experience.
- Integrating all the mobile service operators' heterogeneous payment platforms to provide a broad mobile payment platform and selecting space for mobile terminal customers.
- Maintaining and inheriting the original advantages, steadily enhancing functions to make it comply with the demand of M-commerce development and realize the smooth upgrade of services

##### 2) Improving application innovation.

- Making sure the right advertisement channels, applying the cell-phone advertisement platform properly and introducing new services. For instance, Vancle, Mecox Lane and other operators cooperated with mobile newspapers to publish cell-phone online shopping ads and give out electronic coupons.
- Learning from other countries' advanced technology experience and design ideas, increasing research and development input for the mobile internet application software, actively employing the new generation information technologies, like cloud computing and Internet of Things, to innovate Internet application software widely and independently. For example, IBM introduced the VIP.

#### IV. CONCLUSION

As a new e-commerce model, M-commerce is a useful supplement to the traditional one. In recent years, although it developed rapidly in China, many problems and potential risks still exist. But I believe, that as the market continues to mature and develop, technology and industry chains to progress, laws, regulations and related securities to improve, against the mobile internet, M-commerce is bound to achieve greater development.

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