Chapter 13
Business Model for Mobile Payment in China

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ABSTRACT

Despite the predicted success of mobile payment, the market remains immature in most countries. Major concerns are the relationship between push and pull technologies, and the role of platforms, service innovation, power and control in ecosystems. As the first step in their mixed-method research approach, using Analytic Hierarchy Process (AHP) as a research approach and the STOF business model as a research framework, the authors aim to identify design issues for m-payment services from mobile network operators' perspectives. Furthermore, the authors compare insights from semi-structured interviews with experts in the field to the empirical findings, to assess how the actual business model of Chinese m-payment services can be improved based on design issues derived from the business model. The results show that components such as building customer trust on payment services, innovative payment experience, and extend market to new segments, guarantee security and privacy issues, user profile management, and hardware problems involving existing infrastructure, customer/merchant relationship, platform interoperability, and cost saving on fraud detection need to be improved to enhance the potential of m-payment, supported by a viable and sustainable business model. There is also a role for policy and regulation to be played.

1. INTRODUCTION

As a consequence of the rapid growth in terms of smartphone users and 3G network, as well as the exponential growth of mobile internet applications, mobile payment (m-payment) is attracting more and more attention throughout the world. Although m-payment has been mentioned by both researchers and practitioners as one of the top mobile applications and service categories for more than a decade (Kim et

al., 2010; Dahlberg et al., 2008), the development of m-payment varies from country to country in terms of maturity and penetration. Adoption rates of m-payment services are marginal, with the exception of a few applications (e.g., ticketing and vending) in a few regions/countries (e.g., Japan, South Korea, Philippines, and Kenya). Mobile network operators (MNOs) in particular play a leading role in the m-payment ecosystem in both Japan (NTT DoCoMo) and Kenya (Safaricom), while MNOs and financial institutions together are the dominant actors, with government support, in the development of m-payment ecosystem in South Korea. Moreover, over the top (OTT) providers, like Google with Google Wallet which so far is only available in the United States, are also interested in offering m-payment services. Financial institutions such as Visa also provide m-payment service with Visa payWave. The development of m-payments is mainly determined by the interaction and competition among the key players in the ecosystem, including financial institutions, MNOs, third party providers, OTT providers, regulators and the m-payment technologies. Different countries have adopted different technologies and business models based on their own realities, which leads us to the question whether or not m-payment would be viable in China.

China has the world's largest mobile subscriber base: the number of mobile subscribers in China reached 1198 million as of August 2013. This number is three times higher than the number of mobile subscribers in the United States and higher than the entire mobile subscriber population in Europe (MobiThinking, 2013). At the same time, 3G is also developing robustly in China and the number of 3G users reached over 300 million (Millward, 2013), which will further boost the growth of mobile internet use in China. The large number of mobile subscribers and mobile internet users, and a total of 3.694 billion bankcards being issued in China (The People's Bank of China, 2013) indicate a huge market and a great potential for future growth. Moreover, China has all the important potential key actors in an m-payment ecosystem including MNOs (i.e. China Mobile, ranked No.1 in the world), handset manufacturers (such as HuaWei), financial institutions/banks (China Unionpay as the second-largest payment network by value of transactions processed (Wu, 2012)), third party providers (such as Alipay supported by Alibaba, one of the world's biggest retail network), etc. On the other hand, China has not yet implemented a large-scale nationwide m-payment scheme, but regulatory authorities and key players are currently in the process of finalizing standards and regulations for the future rollouts of m-payment. As a result of the unification of national standards, which took place in June 2012, China Mobile and China UnionPay Co., Ltd. signed a cooperation agreement to collectively offer m-payment service.

Although the current situation in the China looks positive for m-payment, there are still many challenges. Firstly, m-payment, as an innovative technology, has to be driven by the interplay between technology-push and demand-pull. Technology-push and demand-pull introduced by Schon (1967) are the fundamental driving forces behind the innovation of a new technology (Chidamber et al., 1994). Mowery & Rosenberg (1979) argued that demand-pull and technology-push are "necessary, but not sufficient, for innovation to result; both must exist simultaneously" (p. 138). Secondly, the battles for the platform leadership and the control of critical resources among different actors involved in m-payment ecosystem lead to a conflict of interests. The existence of different m-payment platforms can be traced back to three main reasons. Firstly, actors are competing for the leadership. Actors in m-payment from different industries are mainly giants in their own industry and they want to extend their leadership to the m-payment service. Secondly, core actors cannot agree on sharing critical resources (such as customer relationship). Thirdly, actors are struggling to maintain bargaining power by controlling key value ele-

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