

## KT Contactless Mobile Payment



### EXECUTIVE SUMMARY

#### COMPANY PROFILE

Korea Telecom (KT) is a prominent South Korean integrated wired/wireless telecommunication service provider. KT has the largest portion of the South Korean local telephone and high-speed Internet business. It is the second largest mobile operator in Korea, with a subscriber base of nearly 16 million customers. It also has a global presence; of note is its Russian mobile subsidiary NTC with over a million subscribers in 2007.

#### COMPANY HISTORY

KT was established when it spun off from the Ministry of Communications in 1981. It became a government-funded corporation in 1997 and changed its focus to wireless and Internet services instead of fixed telephony. KT became privately owned company in 2002. In 2009, the company merged with KTF.

### Challenge/Opportunity

Korea Telecom (KT) has launched the first commercial near field communication (NFC) offering in South Korea, which supports the popular T-money transit application, mobile-credit card apps, and mobile-banking services that enable subscribers to make mobile contactless withdrawals from ATMs. The NFC-capable handset service is called Show Touch payment service.

In launching a mobile NFC payment service, KT faced the following challenges:

- Resistance from banks and financial institutions; early initiatives fell apart due to mutual distrust on the part of financial institutions and telecom operators.
  - The NeMo (later called Moneta Cash) initiative by SK Telecom (SKT) in 2001 was launched in partnership with nine financial institutions. However, SKT's strategy aimed at Moneta Cash ultimately becoming a replacement for credit cards, which led to tension between the mobile operator and the financial institutions.
- Competing hardware offerings among carriers further fragmented the market. There is a lack of attractive handsets supporting the technology; KT notes that it will offer various additional services, utilizing unique NFC capabilities depending on penetration of handsets in the future. Currently, only a handful of devices have been available, including terminals from Nokia, Samsung, and Sagem.
- The mobile payment market is currently dominated by Short Message Service (SMS) payment transactions, which pose a challenge for contactless mobile payment.

However, this service has also provided a number of opportunities to KT:

- The success of contactless mobile payment services in South Korea is ensured due to an existing contactless ecosystem and the dominant role of mobile operators in pushing such solutions.
- South Korea already has in place a contactless mobile payment infrastructure, and most retail stores are already equipped with devices (readers) that can carry out such transactions. Along with this, the high degree of mobile penetration (101.92 percent in 2010 growing to 117.59 percent in 2015) and the advanced technological awareness of the South Koreans, makes South Korea an ideal market for contactless mobile payment.
- Transportation ticketing is a key opportunity as well as a driver for mobile contactless payment in South Korea. The target demographic includes businessmen, women in their 30s and 40s, and college students who frequently use public transportation, discount retail shops, and franchise shops.
- Contactless payment has a great potential to increase KT's Average Revenue Per User (ARPU) and also to combat domestic rival SK Telecom, which is working with SoftBank Mobile and KDDI to offer interoperable services across South Korea and Japan.

**"NFC is a key technology for developing a business model with telecommunications and other industries."**

—Spokesperson, KT

### Alliances/Partnerships

KT has partnered with financial institutions (BC Card), technology vendors (KEB Technology), and device vendors (Samsung, LG) to execute its strategy.

- KT has planned to invest in a 20 percent stake in BC Card to further strengthen its presence in the mobile payment and credit card sector. The BC Card stake will also enable KT to counter any moves from SKT. The deal will also strengthen its strategic alliance with Woori bank, which is selling its 20 percent stake in BC Card to KT.
- Device vendor partnerships include Samsung for the handsets. KT also plans to source NFC phones from domestic handset makers KT Tech and Pantech, and also a smartphone from LG.
- KT is partnering with Smart Card Co.'s T-money for its solution in Seoul, which will enable ticketing on public transportation.
- Retail partnerships are the key to a new NFC business model. KT is creating a network of alliances with retail outlets to spread the use of contactless mobile payment. Current partners include GS Caltex, Lotte, Dunkin' Donuts, and Baskin Robbins.
- Korean subscriber identity module (SIM) suppliers Solacia and later KEBTechnology are expected to develop the high-capacity SIMs, along with France-based Gemalto.

## Experience Innovation

KT was the first operator in the world to test the Groupe Speciale Mobile Association's (GSMA's) Pay-Buy-Mobile initiative, which is designed to provide a single global approach to enabling contactless payments using a mobile phone. The Pay-Buy-Mobile trials in South Korea led to the conclusion that there is significant customer demand for NFC Mobile Payment services and that the technology can match the high expectations of customers for simplicity and convenience.

KT surveys have shown that the technology is quickly understood and its usage readily adopted by the customer. The trials even suggest that a higher volume of "impulse" transactions will be encouraged. Consumers' daily routines require the use of an ever-increasing number of plastic cards, keys, tickets, and cash. The possibility to combine these applications into a single mobile device will bring still greater convenience to customers.

"(With) NFC-based USIM with a high capacity on the memory side, we can preload various entertainments: games, music content, and video (on-demand) clips. This is a very profitable service for telcos."

—Eun-Seok Kim, Deputy Director, Mobile Data Business Unit, M-Financial Business Team, KT

## Success Factors/Metrics/Monetization

- The commercial launch of the KT NFC project was a follow-up to the success of the GSMA-initiated Pay-Buy-Mobile trial.
  - The Pay-Buy-Mobile trial, especially the T-money service, was adopted by 450,000 users, because it was convenient and compatible with existing readers.
  - 85 percent of users indicated satisfaction levels as extremely high for the T-money service.
  - According to KT's survey, 85 percent of mobile transportation users indicated satisfaction levels were "very high."
  - 85 percent of users also felt that using a contactless mobile phone is much more convenient than getting their wallet out to use public transportation, and would continue to use the mobile service.
- KT has competitively priced the service at KRW2000 (US\$1.78) per month to use, with US\$2 of coupons provided.
- KT predicts that by 2015, NFC phones will account for 47 percent of sales.

"The inter-industry convergence trend will be further accelerated amongst banking, retail, and consumer electronics. KT plans to steadily explore new win-win convergence business models by securing additional NFC handset line-up and excellent alliance partners, such as the Android smart phone set."

—Yang Hyeon-mi, Managing Director, Unit of Personal Customer Strategy, KT

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## Company Background

- Read [KT overview](#)

Case Study Source: Cisco sponsored research developed by [Ovum](#)

“If Korea is going to take NFC to greater lengths, then you get models from LG and Samsung, which will benefit the rest of the world.

...The Korea market is going all crazy with mobile payment.”

—David Chen, Vice President Product Sales and Delivery, Advanced Payment Systems, MasterCard Asia-Pacific Region



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