

RFID-Enabled Credit Cards Apt to Lead

In Asia, the use of RFID-enabled credit cards to make contactless payments is likely to exceed the use of RFID-enabled mobile phones, says a report.

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Mar. 25, 2005—Fusion Consulting, a consultancy to companies serving Asia-Pacific markets, has released a report based on its findings on the adoption of radio frequency identification (RFID) technology for contactless payment devices throughout Asia. The report says that currently, the use of contactless payment methods for public transit systems is the most common application of RFID-enabled payment devices in the region. But it predicts that credit cards with embedded RFID chips will become increasingly common throughout Asia in the years to come—if credit card companies can successfully leverage their existing networks, clearing systems and customer base. The use of mobile phones with embedded RFID chips for payments might also take hold in certain regions, it says, but overall the market for RFID credit cards is stronger.

For the report, Fusion conducted research using articles from industry news sources, as well as documentation generated by RFID vendors, and by interviewing executives from 19 RFID transit fare providers, credit card companies, mobile phone carriers and RFID industry groups. The executives were asked if they were working on RFID projects and asked to characterize the potential of RFID solutions for their industry. They were also asked how RFID could compete with existing technology solutions in their respective industries (such as magnetic stripes on credit cards).

In addition, Fusion selected from its databases 80 individuals from throughout Asia between the ages of 27 and 50, with median local income levels and college degrees. These 80 individuals were asked how many and what types of RFID payment cards they used and for what purposes. Based on these interviews, the report concludes that RFID payment cards are most widely used in Hong Kong, Malaysia and Singapore, followed by Taiwan, the Philippines, Korea and Japan. Public transit fares are the top use of the devices, followed by payments for fast food, vending machines, retail and parking and road tolls. For all of these applications, however, the RFID cards, which come in either disposable or reusable forms, work as stored-value cards (that is, before the cards can be used, they first must be loaded with funds by the user).

Regarding attitudes surrounding the use of RFID and the integrity of consumer's privacy and financial security, Renia Lopez, strategy consultant at Fusion, says, "Overall, Asians are not as worried about security issues as Americans are." But there is concern over being charged twice using an RFID-based payment, which, though uncommon, has been reported by some of the individuals surveyed. There are also concerns about having one's payment device wiped clean by a passerby carrying an RFID reader, despite the fact that there have been no such documented instances (the reader would need to be specially tuned to read an RFID device's data, which is often encrypted). Plus, many of the individuals surveyed by Fusion—especially those already using RFID for payments—indicated discomfort over the notion of integrating all of their RFID payment accounts onto one device, such as a mobile phone.

"There is a reluctance to carry all your personal data in one device," she says, explaining that while much of

the data is encrypted and any reader used to interrogate the device would be set to encrypt that information, there are some applications for RFID-based access cards in Asia in which the user's name is clearly displayed on a reader terminal. The concern is that if a person used one single device with building access information that included the person's name, and that device also carried an identifier for a credit card account, there would be a greater chance that a thief, equipped with the right reader, could access that person's account.

Based on the fact that few of the individuals consulted for the report had a complete or accurate understanding of how RFID works and how the user's identification information on RFID payment devices is secured, Fusion's report concludes that RFID providers need to educate consumers about the safety of RFID systems.

The report notes a number of pilot projects underway throughout Asia to test RFID in credit cards. It says that in Malaysia, Visa is testing a system called VisaWave, a credit card with both a magnetic strip and an embedded RFID chip. In Singapore, American Express is testing a card in the same form factor, as well as key fobs, for use as a credit, debit or stored-value card. In Japan, MasterCard is testing its PayPass card system, also for credit, debit or stored value. MasterCard is also partnering with a mobile phone provider, Motorola, to offer consumers PayPass through their mobile phones. But the report says that integrating RFID with credit and debit cards will be easier than with mobile phones.

The main reason for this, according to the report, is that credit and debit card companies already have established clearinghouses and payments infrastructures. Mobile phone companies need to contract a third party to manage the financial transactions. But there are other factors that favor the adoption of RFID-enabled cards compared with RFID-enabled phones. For one thing, consumers are already familiar with credit and debit cards and how they work. Using an RFID-enabled card requires the user to hold the card in front of a point-of-sale terminal, which is very similar, if not easier, than using a traditional card. Also, in order for consumers to use an RFID-enabled phone to make purchases, they first must purchase a mobile phone. Some consumers are not comfortable enough with the technology to buy and use a cell phone, and they may not be able to afford the initial cost of the phone and phone subscription fees. An RFID-enabled credit card, on the other hand, is free. The report also notes that while Vodafone KK and Sharp are developing an RFID chip that could be transferred from one mobile phone to another, right now users of RFID-enabled phones would not be able to transfer their phone's RFID chip into a new mobile phone if they wanted to update their handset.

But despite these barriers, the report says, manufacturers of cell phones and RFID chips, specifically Sony, Phillips and Nokia, are testing their mobile phone-based contactless payment solutions throughout Asia for applications such as fast food payments, purchasing movie and event tickets, and purchasing transit fares. The three companies also helped found the Near Field Communications (NFC) Forum, which has developed standards around how wireless devices, such as mobile phones, PDAs and other consumer electronics are used for information exchange, including electronic payments. These standards are helping mobile phone carriers enter the RFID market, says the report.

The report notes that mobile phone service providers might have the most success offering contactless payment solutions to mobile users in countries such as Thailand or India, where credit card use is not as prevalent as in other Asian nations. It also says mobile phone service providers might be successful in partnering with already-established RFID public transit fare systems in Asia in order to let consumers use RFID devices in their phones for fare payments. This is because the transit systems have already established the financial infrastructure needed to handle payments, and so would not need the support of a credit card company for this. What's more, the partnerships between the transit companies and mobile phone service providers would allow transit systems to process purchases by Asia's mobile phone subscribers, who are expected to number 700 million in Asia by 2006.

The full 42-page report, "RFID, The Future of Contactless Payment in Asia," is available for download by request from the Fusion Consulting Web site, at www.fusionc.com.

