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EMERGING MARKETS

The Future Shape of Payments Is Anything But Flat

■ BY WILL WADE

A payment card no longer needs to be a card.

It can be a watch, a camera, a car key, even a sticker, or, as many executives expect will be the next major stage in the evolution of payments technology, a mobile phone.

Contactless technology is driving this transition.

Executives say the most important component of such transactions is the contactless chip; and, because cards with these chips do not need to physically touch the readers at the point of sale, some say that the plastic cards themselves are becoming



ing increasingly unimportant.

Few observers expect the traditional cards to disappear from consumers' wallets, at least not for several years, but most agree that the payment function is evolving rapidly and in many cases is leaving the standard plastic form factor behind.

And even the traditional plastic card is evolving. For example, issuers are now free to tinker with such fundamental design

elements as the embossed lettering that has been a required element for many years.

Divorcing the payment capability from the plastic is giving companies wide latitude to experiment with the shape and form of payment devices, and many companies are starting to incorporate contactless payment capabilities into a variety of everyday objects.

"Contactless is a great evolutionary leap in payments," said

stores information about the cardholder. A plastic card needs to bear the stripe in the correct location so it can be read when it is swiped through a reader, and it must durable enough to be swiped over and over and over again.

But contactless chips have eliminated some of those requirements, he said. Though the San Francisco company expects plastic cards to remain in widespread use for many more years, Mr. Attinger predicted that companies will develop a broad range of new devices that can be used to initiate payments.

"We will see far more variety in form factors," Mr. Attinger said. "We're not pedantic about how the transaction gets into the network."

Tim Attinger, **Visa**

Inc.'s head of global product innovation and development.

"It moves the payment into a chip that can sit anywhere."

CHANGING NEEDS

For credit and debit cards, Mr. Attinger said, form follows function.

The standardized rectangular shape is tied in part to the magnetic stripe that



NEW SHAPES, USES

And that is exactly what is happening.

BMW AG said in October that it is developing a car key that will include a payment chip. The auto company said it envisions the key storing public transit fares, being used to rent other cars, or for other automotive functions.

In 2007, **MasterCard Inc.** and Garanti Bank in Turkey rolled out a watch with payment capabilities.

During last year's holiday season Best Buy Co. began offering a gift card that doubled as a portable speaker.

Target Corp. has a history of developing innovative gift cards; it has built payment features into digital cameras, night lights, candy boxes, toy mazes, and other playful devices.

STICKY PAYMENTS

"Plastic cards have probably evolved as much as they can," said Barry McCarthy, the president of mobile solutions for **First Data Corp.**

"We are no longer tied to the plastic form factor," he said. "Contactless technology is the next great wave of change for payments. If you can let go of the magnetic stripe, you can let go of the plastic."

But this wave will require consumers to learn some new habits, Mr. McCarthy said; putting a payment card inside a camera is a cool idea, but few consumers are automatically going to think of their camera when they are making a purchase at the point of sale.

That is part of the reason First Data, a unit of **Kohlberg Kravis Roberts & Co.**, introduced the Go-Tag, a sticker that also functions as a contactless prepaid debit card, last summer at the Democratic National Convention in Denver.

First Data tested the stickers internally last year. Though they were delivered to users along with a blank plastic card, few people affixed the Go-Tags to them, Mr. McCarthy said; many chose instead to stick them on their company identification cards, or other objects that they carry around most of the time.

Being able to choose their own payment device is tremendously more convenient," he said. "Consumers very quickly understand they don't need the card."

CONSUMER CHOICES

Teaching people they have the freedom to make this choice was one of the reasons First Data introduced the Go-Tag, Mr. McCarthy said.

Most consumers are so wedded to the standard plastic payment card that it

is hard for them to grasp that they can make purchases with any objects that have contactless technology.

The Go-Tag forces people to recognize that objects besides plastic cards can be used for purchases, by requiring them to choose what they want to make into a payment tool, Mr. McCarthy said.

In effect, the sticker is "a pathway" to teaching people that payments need not start with a traditional plastic card, he said. "Over time, there will be a natural evolution to new payment instruments."

Once they absorb this important concept, they quickly start to like the idea, Mr. McCarthy said. "Consumers prefer a device that they can put on an item of their choosing."

WHAT IS A CARD?

Mr. McCarthy said understanding this transition requires grasping the three basic functions of a payment card: Store a unique identifier (typically the cardholder's account number); contain security features to protect this information; and be "portable, and easy to carry around," so people will take them to the store when they go shopping.

Mr. Attinger has an even more basic definition: The fundamental function of a card is "simply to originate a command into a network" to initiate a transaction.

The payment device "contains the information you need to send a message to the network," he said. "The form factor is just a way to identify you and your account."

According to Jennifer Roth, a research director with the global payment practice at TowerGroup Inc., an independent research firm owned by MasterCard, these functions once resided only in traditional payment cards, but that is no longer the case.

Contactless chips allow issuers to put those capabilities almost anywhere, Ms. Roth said. "It does not have to be a card anymore."

DIALING UP PURCHASES

Mr. McCarthy said the Go-Tag gave First Data the chance to see what people want to use as payment devices. Users typically stick the Go-Tags, which are about the size of a quarter, to something they are already accustomed to carrying around, he said.

Many people attached them to their

wallets or their keys, but the most popular device was the mobile phone, he said. "At First Data, we're especially bullish on the handset" becoming a common payment mechanism.

This view is widely shared among payment executives.

"We see payments headed to the phone," and especially the new generation of smart phones, said Mr. Attinger. A contactless chip can be integrated into many objects, "and the really cool thing is you can put it into a mobile computing device."

And given the ways that mobile phones have quickly become part of many users' everyday lives, helping people organize their schedules, store the addresses and phone numbers of friends and colleagues, and keep in contact with others, adding financial tools and payments capabilities seems like the next step.

"The natural meeting of the mobile ecosystem and payments is fairly obvious," Mr. Attinger said.

Worldwide, there are about 3 billion mobile phones in use, and hundreds of millions more are added each quarter, Mr. McCarthy said. In contrast, there are about 1.4 billion payment cards that are actively used.

Those numbers make the mobile phone extremely attractive to payments executives. Turning mobile phones into payments devices "can triple the size of the electronic payments opportunity," Mr. McCarthy said.

"I don't know of any other device that's growing that fast," he said. "Mobile devices, simply because there are so many of them, are a natural place for payments."

DIGITAL WALLET

Simon Pugh, the head of MasterCard's global center of mobile excellence, agrees that the phone would make a good payment device.

"Contactless gives us the freedom to innovate with the form factor," he said. "Cards are still No. 1, but there is a lot of consumer interest in putting payments in the phone."

Linking payment chips with mobile phones offers additional advantages, Mr. Pugh said, notably the ability to use the phone's processing capabilities to store and use multiple card accounts. These capabilities transform the handset into a

wallet and make it even more convenient for consumers.

Art Kranzley, MasterCard's chief emerging technology officer, said such a digital wallet is the kind of feature that would encourage consumers to change their payment habits. "Research shows that people want to carry less cash and want more convenient ways to pay."

MasterCard is testing mobile phones with payment features in several countries, including the United States, Turkey, Romania, France, and Canada. Mr. Pugh said phones are a critical part of the Purchase, N.Y., company's plans to "expand the market" for electronic payments.

Ms. Roth said that because mobile phones are now a part of everyday life for so many people, the market is ready for phones that can handle payments. "You don't leave home without your phone, wallet, and keys, and some people are more concerned about forgetting their phone than their wallet. I do see phones replacing wallets at some point."

Tom O'Donnell, a senior vice president with **JPMorgan Chase & Co.**'s card services division, said adding contactless payments to phones is not a huge "canyon to leap — it's a small step."



The New York company, one of the biggest backers of contactless card technology, introduced its blink brand in 2005, when few people had contactless cards and few retailers accepted them. Many observers say that by solving half of the classic chicken-and-egg conundrum, JPMorgan Chase played a critical role in persuading retailers to install the readers.

"Mobile allows you, with contactless in between, to leverage what already exists in a new way," Mr. O'Donnell said.

MERCHANT ACCEPTANCE

However, one of the reasons executives do not expect the traditional plastic card to disappear anytime soon is because so many merchants accept magnetic stripe payment cards, while the number of places where people can use contactless cards lags far behind.

MasterCard said that at the end of the third quarter there were 135,000 merchant locations worldwide that accepted contactless payment devices, far fewer than the 44 million contactless MasterCard cards that had been issued worldwide.

"Cards are still No. 1," Mr. Kranzley said. Contactless devices, for now, are an addition to the existing card infrastructure, but "we will need universal acceptance of contactless payments" before they can be considered a viable replacement.

Another major hurdle to mobile phone payments is the lack of handsets that have contactless chips. Only a handful of phones available now have the chips, and few U.S. carriers have expressed interest in making the technology widely available.

Part of the reason is that banks and carriers have not been able to work out a business model for sharing the revenue from transactions generated with phones.

Citigroup Inc. is hoping an upcoming test in India will help it address that issue. The banking company plans to study Bangalore consumers' use of mobile

phones with payments capabilities, starting as early as April.

The goal is to use the data gathered there to develop a business case to convince U.S. carriers that they can make money by offering such phones to customers in this country.

FLAT PLASTIC

The basic plastic cards are also evolving. In September, Visa changed its rules and gave issuers permission to offer cards that do not have embossed lettering.

Ms. Roth said the raised lettering is a holdover from the days when retailers put the cards in a swiper that imprinted the cardholder's name and account number on a sheet of carbon paper. These "knuckle buster" swipers are rarely seen anymore, because electronic readers that work with magnetic stripes and contactless chips are much more effective for initiating transactions, she said.

At the point of sale, "I don't care if my card has a number on it," Ms. Roth said, because all the necessary data is on the chip or the stripe. The embossed characters are "no longer necessary."

The St. Petersburg, Fla., issuer **Revolution Money Inc.** has developed a payment card business model that eschews embossing. Duncan Evans, a Revolution executive vice president and the general manager of its RevolutionCard Network, said that for security reasons, its cards do not bear customers' names or account numbers.

Instead, the cards have a unique number that enables the network to recognize the user and the card but cannot be used by itself to make purchases. Cardholders initiate transactions by swiping the card and entering a PIN.

"Without embossing, we can separate the card number from the account number," Mr. Evans said. "The card is just an access device, not a way to carry information." ■

