FUNDAMENTALS OF EMV CHIP:

THE NEXT REVOLUTION: THE PAYMENT ENVIRONMENT IS QUICKLY CHANGING. ARE YOU READY TO MAKE CONTACT IN THIS BRAVE NEW WORLD?

The payments card revolution in the last half a century – and it was a genuine revolution that changed businesses and consumers alike – was launched with a relatively simple technology. The standards created for using the magnetic stripe for data storage propelled a simple plastic card into the information age.

A quantum leap that brings issuers, merchants and cardholders a whole new realm of possibilities.

In recent years, a second technological revolution in the payments industry has been steadily gathering momentum – the chip-based card, that is poised to change everything again.

This time, it is not just consumers and merchants that will be affected. The migration to chip cards promises to offer new and exciting opportunities that allow many organizations to pursue radically different competitive strategies, create new services and product suites, and fundamentally alter their ability to build relations with their customers.

The move toward chip-based cards – chip migration – is akin to putting a small computer processor with memory, logic and a configuration of software applications into a plastic card that looks no different from the credit cards that we all have today in our wallets. This chip- and PIN-enabled (Personal Identification Number) card is not simply a credit card with functionalities; it literally represents a quantum leap that brings issuers, merchants and cardholders a whole new realm of possibilities in their business and personal lives.

THE POTENTIAL

A chip card offers many more payments applications than the standard payments card today. It allows the cardholder to select different payment methods based on his/her preference at a specific time and place. But these additional payments applications are only a small portion of what a chip card can do. It replaces a signature with a PIN, which enhances security for cardholder authentication. It can also be used for Internet authentication, for business purposes as well as dealing with government and public agencies. The amount of personal data that can be stored in a chip card is many orders of magnitude larger; a wide array of important personal data like passport details, government identification, driver's license, personal health data and medical histories could potentially all be stored in a single chip card.

A more exciting dimension is what a chip card can do in business terms for the cardholder, merchant and issuer. Reward and loyalty programs can be fully integrated with payments applications. The cardholder is informed each time a payment is made, outlining which loyalty programs are available for that payment to accrue to, and what rewards are being offered in terms of instant discount and related benefits.

Merchants can design better and more flexible reward programs that can be activated instantaneously when the right customer shows up and chooses to use a certain payments application. Issuers can manage cardholders' spending profiles and personal lines of credit interactively in real time, eliminating the need for online authorization for certain transactions, and signaling a risk alert for certain other transactions.

It could potentially create a whole new platform to craft more effective and highly differentiated competitive strategies.

All these new applications and functionalities combine to make it possible to think of how the chip card can be made fully compatible with a cardholder's lifestyle needs on a highly customized basis. It also enhances merchants' capability to create more powerful and personalized loyalty and reward programs. From the issuers' point of view, the chip card is not merely a technology for better security and fraud prevention, but it could potentially create a whole new platform for them to craft more effective and highly differentiated competitive strategies.

THE EMV STANDARD

Chip migration has been made easier because of the establishment of a common standard – EMV. This is the standard set of specifications agreed to by the Europay, MasterCard and Visa consortium for smart cards using integrated circuit (chip) and PIN (personal identification number). EMV compliance ensures inter-operability of all chip cards and terminals equipped with chip card readers.

The standard for EMV compliance was established in May 1998, and is defined as: (i) a set of functions for communication between a smart card and a terminal; (ii) a framework for card and cardholder authentication; and (iii) a framework for card and terminal risk management. With universal compliance, a chip card issued in one country would be compatible at any EMV-compliant payment terminal in any country. EMV compliance is therefore a prerequisite for the development of a global smart card network.

EMV compliance is critically important to chip migration because of increasing returns. At its simplest, increasing returns refers to the phenomenon when as more people adopt a product, this leads to more people also adopting it, thus generating a self-perpetuating process. Increasing returns, however, cannot begin if there is no single common standard for introducing the technology or product in question.

In this regard, the EMV standard is of great importance to chip migration. Strict adherence to EMV compliance is nothing less than a necessary condition for the future success of chip migration: the cardholder wants the simple assurance that the chip card in his/her wallet will not run into technological glitches because of different technical standards wherever he/she is; and the merchant simply does not want to have to deal with different technologies that complicate their business operations.

It's a whole new world.

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