

Global Trends in the Payment Card Industry 2012: Issuers

Key challenges faced by card issuers and their implications for the payment card industry



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1. Highlights

Despite the ongoing economic crisis, cards transaction volumes globally have been increasing mainly due to strong growth in APAC, Latin America, and other emerging markets. Card transaction volumes are expected to continue to grow, with Brazil, China and other APAC regions being the main contributors. The average transaction value, however, is declining due to the geographic expansion of cards into emerging countries, and tapping into a low value segment—competing with cash—in mature economies.

Today, enterprise fraud and misuse is on the rise. An increasingly connected world provides multiple opportunities for fraudsters to access private realms of information. Card fraud has evolved from being committed by casual scammers to now being managed by organized crime groups, primarily due to the adoption of sophisticated technology. To combat fraud effectively, the cards industry is likely to shift from traditional in-house fraud management techniques to enterprise-wide fraud management solutions.

In terms of driving card industry growth, mobile and contactless payments are expected to be the fastest growing segments going forward. In addition, technological advancements and innovations coupled with fraud protection measures are expected to further drive expansion in the cards industry.

With the increasing adoption of smart phones and ease of access to internet, consumer preferences have shifted towards mobile based payments over physical credit and debit cards. More users are opting for mobile channels to make their daily payments, and to manage various aspects of both their business and personal activities. This trend makes it a high priority for issuers to protect these mobile transactions from any kind of fraud and security breaches.

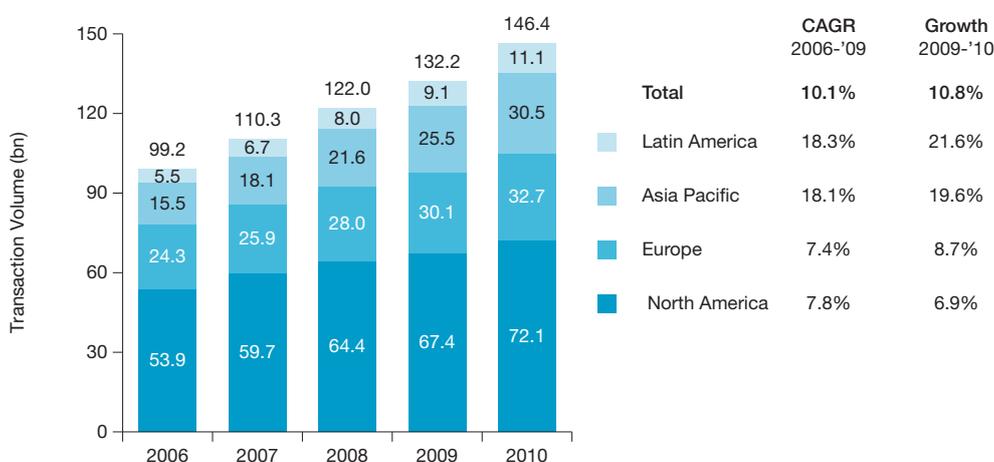
2. Introduction

2.1. Global Payment Card Industry Performance

According to the World Payments Report 2012 from Capgemini, RBS and Efma, cards usage across the globe gained momentum in 2010 after the financial crisis of 2008-2009. Card transaction volume grew at an annual growth rate of 10.8% in 2010, compared to 8.4% growth in 2009, as a result of signs of recovery across global markets, as well as a boost in consumer confidence. In 2010, cards were one of the most preferred non-cash payment instruments globally, with an estimated 55.8% of the global non-cash payments routed through cards. Some of the primary factors leading to the high growth of cards usage may include: increased acceptability of cards; growth of e-commerce; industry collaboration, and government support globally¹.

In developed countries, the market trend of using non-cash payment instruments such as cards for lower value transactions has led to higher transaction volumes. In Europe, consumers have shown a greater tendency to use debit and prepaid cards versus credit cards for low value transactions. Based on a regional comparison, Asia-Pacific has been one of the fastest growing regions in terms of card usage as noted in the following exhibit.

Exhibit 1: Global Card Transactions by Volume (bn), 2006–10



Source: Capgemini Analysis, 2012; ECB; Red Book 2010; World Payments Report 2012, Capgemini, RBS and Efma

In 2010, the payments card industry witnessed strong growth in developing nations, and a relatively slower growth in developed nations. While the transaction volume growth in developed countries was modest, with the U.S. growing by 7.2% and the Eurozone growing by 8.6%, developing nations witnessed higher card usage, with China growing by 38.9%, Russia by 49.8%, and Brazil by 23.3% annually in 2010².

In terms of number of transactions per inhabitant, North America had the highest prevalence of card usage globally. This trend is due to the high adoption of cards as the non-cash payment instrument. Emerging countries have a high growth potential and card usage could grow faster due to the growing culture of using plastic over paper money. Increased acceptance of cards at various points of sale (POS) units could also be the reason for higher volumes in most emerging countries.

¹ World Payments Report 2012, Capgemini, RBS and Efma

² Ibid

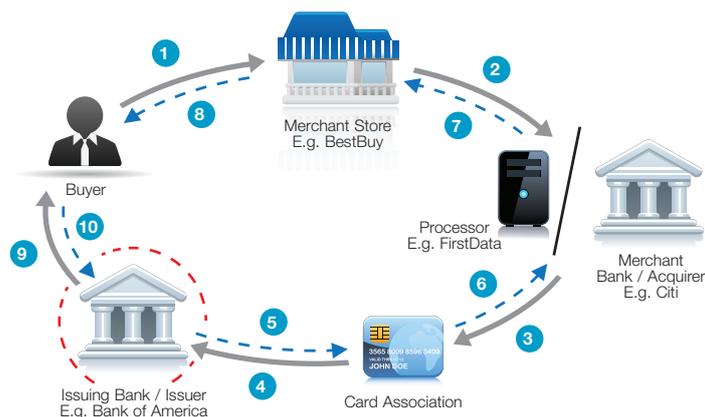
2.2. Key Payment Card Industry Participants

A simple card transaction between a cardholder and a merchant involves several players:

- **Card acquirers:** the merchants' banks.
- **Card processors:** third party organizations that aid in card authorization and settlement processes.
- **Card issuers:** the cardholders' banks that issue the card and maintain the customers' accounts.

Additionally, card association network providers—typically MasterCard® or Visa®—play an essential role in completing the card authorization and settlement cycle, as illustrated below.

Exhibit 2: Typical Card Transaction Flow Structure



- | | |
|--|--|
| <ol style="list-style-type: none"> 1 Cardholder uses a credit card to pay for a purchase transaction 2 Merchant sends transaction information to the acquirer by swiping or manually feeding card information at the POS terminal 3 The acquirer or third-party processor on acquirer's behalf sends the transaction information to the card association 4 The card association sends the transaction information to the issuer for authorization 5 Issuing bank pays the card association network once it validates the transaction (after deducting their charge) | <ol style="list-style-type: none"> 6 Card association pays the acquirer processors on acquirer's behalf (after deducting their charge) 7 Merchants account is credited for the transaction amount by the processor (after deducting their charge) 8 Purchase transaction is completed 9 Issuer bills the buyer for the transaction based on the billing cycle 10 Buyer settles the bill |
|--|--|

Source: Capgemini Analysis, 2012; www.yahoofinance.com, August, 2012

This paper focuses on the key trends that card issuers have been experiencing and how the industry is responding.

3. An Overview of Emerging Trends in Payments Cards Industry: Issuers

Card issuers are responsible for issuing cards, as well as acquiring and retaining customers. A credit card issuer establishes the credit limit available to cardholders and is also responsible for sending payments to merchants for purchases made using these issued credit cards.

Issuers normally generate their revenue in several ways: by charging customers an annual fee for the cards that they issue; by charging interest on any revolving credit; and through the interchange fee that they charge to merchants for every card transaction made by customers.

Since this revenue could be negatively impacted by the increasing incidences of organized fraud, issuers have started to focus on developing robust fraud combating systems. Consequently, issuers are moving from in-house to enterprise fraud management products and systems which enable them to fight fraud more efficiently using integration across channels.

Another key trend that has been observed recently in the cards issuers industry is related to the impact caused by the high prevalence of smart phones and internet. Consumers are increasingly moving towards mobile payments—through direct links with their bank accounts—rather than using credit or debit cards. This could pose a serious problem of decreasing revenues for card issuers, as card issuers then wouldn't be able to charge the corresponding transaction fees.

These changing market dynamics have led to the following two key professional services trends for issuers:

1. Migration from in-house to commercial enterprise fraud management (EFM) products.
2. Increased focus on providing innovative and secure mobile-based card payment products.

Several trends that were covered in the 2011 *Global Trends in the Payment Card Industry* series are still relevant but are not discussed in detail again in this paper.



Global Trends in the Payment Card Industry: Processors



Global Trends in the Payment Card Industry: Acquirers



Global Trends in the Payment Card Industry: Issuers

4. Trend 1: Migration from In-House to Commercial Enterprise Fraud Management (EFM) Products

4.1. Background and Key Drivers

With the widespread usage of the internet and new technology advancements, cards fraud has moved from being committed by casual fraudsters to now being committed by more organized groups. Though the internet and technology have helped the financial services industry in supporting high speed transactions, they have also contributed to a growth in the incidence of card frauds over the years. Fraudsters have now started using more sophisticated methods to take control over of accounts, steal data and commit fraud.

The presence of high-profile identity thefts and online frauds has led issuers and card associations to increasingly focus on enhanced security measures.

The key drivers for issuers to invest in security measures like EFM to prevent customer online fraud and identity theft include:

- An increase in internet-based anonymous collaboration between high-end technology experts and low-end operation criminals has increased the capabilities and scope of scammers.
- The limited capability of in-house fraud management to process large transaction volumes while responding to fraud threats in real time.

4.2. Analysis

Traditionally, most banks used transaction monitoring systems which were home-grown, niche software platforms that required manual intervention in fraud detection—and many still do. However, when systems require manual monitoring, this can lead to error and oversights.

Fraud management processes like fraud detection, alerts, and case management practices are still often viewed by issuers as discrete activities, when they should ideally be managed as a single process.

Primary challenges facing issuers in regards to fraud management can be divided into six categories as shown in the exhibit across. With easy access to the internet and rapid advancements in technology, fraudsters are getting more sophisticated. Current bank fraud management systems rarely monitor customer behavior across multiple accounts, channels and systems. This makes the systems vulnerable to fraud as cyber-criminals can indulge in cross-channel fraud, gaining access to customer information in one channel and using that knowledge to commit fraud through another.

Exhibit 3: Key Challenges for Fraud Management Systems



Source: Capgemini Analysis, 2012

Enterprise fraud management systems use advanced scoring techniques for fraud control and determination of credit worthiness—combining scores based on various algorithms. These systems deliver score that can accurately predict a fraudulent activity within fraction of a second, both within and across channels. Though the system operates on a vast number of records simultaneously it would not bog down the real time decision making and authorization.

The three best-practice steps that need to be followed in order to prevent fraud are illustrated below.

Exhibit 4: Best Practices to be Followed in Enterprise Fraud Management



Source: Capgemini Analysis, 2012

- **Step 1:** The fraud management system should incorporate data from operational and transactional systems across separate business units such as human resources and audit records.
- **Step 2:** Patterns should be identified in the processes and addressed on an enterprise wide basis. Integrated data should be routinely cleansed and validated to maintain the quality of the data.
- **Step 3:** Processes which can automatically assign suspicious cases to an investigator should be adopted. Once an investigator logs into the system, he/she should be presented with a list of tasks and a structured environment to investigate.

Analytics could be used to reveal potentially suspicious patterns and transactions. In real time, the system should check transaction activity against vast, enterprise wide intelligence about the customer and identify possible suspicious activity.

Historically, running thousands of transactions an hour through a complex set of rules has been a slow process. However, with new systems and processors, real time processing has become possible.

4.3. Implications

Issuers need to do a cost to benefit analysis and decide if they need to implement an EFM system. Implementation of EFM systems incurs additional cost for issuers but curtails frauds and builds credibility— leading to an increased customer base.

Once the EFM systems are in place, auto-generated network diagrams would enable analysts to observe patterns and symptoms that lead to improved controls and new monitoring techniques.

Professional services firms can aid financial institutions in the following areas:

- Migration of financial institutions from in-house to commercial enterprise fraud management products.
- Integration of existing systems with the commercial enterprise fraud management products.

5. Trend 2: Increased Focus on Providing Innovative and Secure Mobile-Based Card Payment Products

5.1. Background and Key Drivers

According to the World Payments Report 2012, with advancements in technology and an increasingly high penetration of smartphones, the incidence of payment transactions using mobile devices has increased worldwide. Mobile payments are expected to grow 55.4% annually through 2013, driven by both increased smartphone usage and innovative offerings.

“There is no doubt that from devices, to trials, to full-blown launches, mobile payments are accelerating and starting to look like they will become a real business.”

Drew Sievers
CEO mFoundry

The prevalence of mobile phones to carry on day-to-day communications and business transactions is growing exponentially. Check usage has already started to decline in favor of credit and debit cards. Business organizations have recognized this significant shift in their customer's choices and preferences, notably a constant increase in customer's attraction for mobile based transactions.

Global mobile transactions reached 7.3 billion in 2011 and are expected to cross the 18 billion mark in 2013. The number of mobile payment users worldwide is believed to have surpassed 141 million in 2011³. With such huge growth potential for mobile use in the payments industry, there is an increasing need to implement innovative security measures to prevent fraud in mobile transactions.

The key drivers for the implementation of enhanced security measures in mobile payment transactions are:

- Security has always been a point of concern for customers. To attract more customers into the mobile-payment arena, issuers need to provide high security standards.
- New advancements in mobile phone capabilities, decreasing prices of smartphones, and increased adoption of mobile payments have led to a growth in mobile based payment services. To gain credibility with customers in making mobile transactions, issuers need to provide secure mobile card payments products.

5.2. Analysis

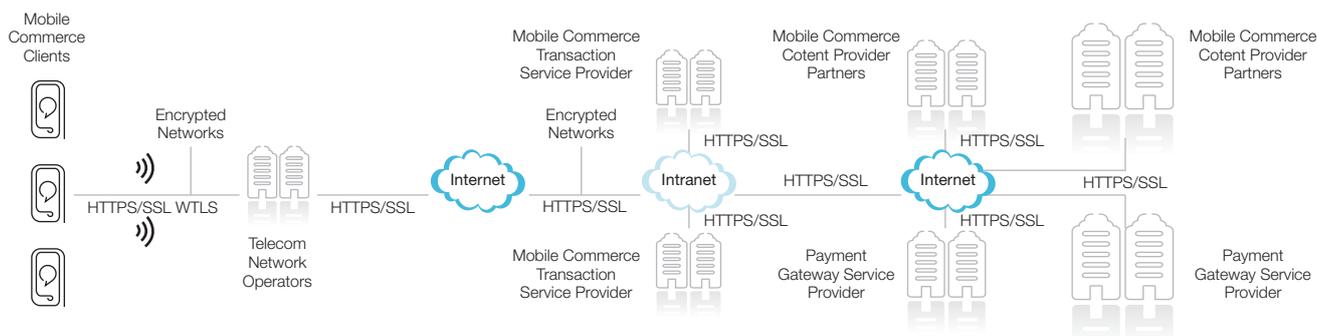
The usage of contactless and NFC-based payment models is increasing due to advancements in mobile wireless technology and communication standards. Mobile wallet technology enables the end-users to make payments with their mobile wallet accounts—without having to use credit or debit cards. The mobile wallet-based payment model is gaining considerable momentum and is currently being seen as one of the key models to promote contactless payment processing practices.

Security is one of the most critical parts of mobile commerce transaction processing, and it is crucial to achieve required compliance with regulatory standards such as Payment Cards Industry-Data Security Standards (PCI-DSS), Data Protection Act (DPA), and Sarbanes Oxley Act (SOX). Encryption, decryption, authentication, authorization, and digital signatures are the bare minimum standards that need to be followed.

Being PCI-DSS compliant ensures end-to-end security of sensitive data—Permanent Account Number (PAN) and Sensitive Authentication Data (SAD)—using strong encryption across all paths of the transactions. Encryption functions in mobile devices ensure that the card holders' data and any other sensitive data are encrypted at the point of entry using strong encryption algorithms such as SSL V3 and high strength public keys.

The exhibit below illustrates how the various paths in mobile processing are secured with transport layer security protocols.

Exhibit 5: Mobile Transaction Processing - End-to-End Security



Source: Mobile transactions and payment processing, Mphasis, 2012

The solution framework is designed so that it does not hold or store any customer's credit card data during transaction processing. No credit card information is stored during the entire course of mobile transaction processing. Any personally identifiable information (PII) stored in the solution, will be encrypted during storage. The tokenized Card Holder Data (CHD) is stored in the system after authorization.

The recently developed Mobile Merchant Manager (MCube) application for mobile phones enables the acceptance of credit card payments or paper checks via smart phones. MCube has an inbuilt industry standard encryption technology and provides a certified PCI-DSS compliant hosted infrastructure. It also provides advanced fraud management tools to detect suspicious behavior anytime and anywhere in the world. Innovative mobile-based card payment offerings, like the Remote Deposit Capture (RDC) solution, enables check deposits from anywhere using smart phone with a camera. Using the MCube application and RDC payment system, customers can experience the benefits of convenience and cost effectiveness— including faster deposit preparation, later deposit cut-off times, faster fund availability, reduced trips to the bank, and enhanced security.

5.3. Implications

Mobile payments through mobile wallets are expected to open new avenues of growth for traditional financial service firms. On the down side, this trend could potentially lead to more competition from new players—especially in countries with strong penetration of smart phones and in emerging markets where consumers lack basic banking facilities.

Mobile payments provide increased convenience at POS but also bring in new risks to the security of cardholder data. Mobile devices and increased connectivity raise the bar for security requirements and may create new roles in the cards system.

The extent of growth the direct account linked mobile payments may achieve is difficult to predict at this point, but any amount of growth in these mobile payments services could have a negative impact on card issuers due to reduced customer accounts. To combat this problem, issuers should come up with secure mobile-based card payment products and more convenient means of payment to retain their customer base.

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The author would like to thank **Kripashankar Rajappa, Prasanth Perumparambil, Deborah Baxley, Venugopal PSV, Christophe Vergne, William Sullivan, David Wilson, Anuj Agarwal,** and **Rajendra Thakur** for their overall contribution on this publication.



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