

A vision for electronic card payments

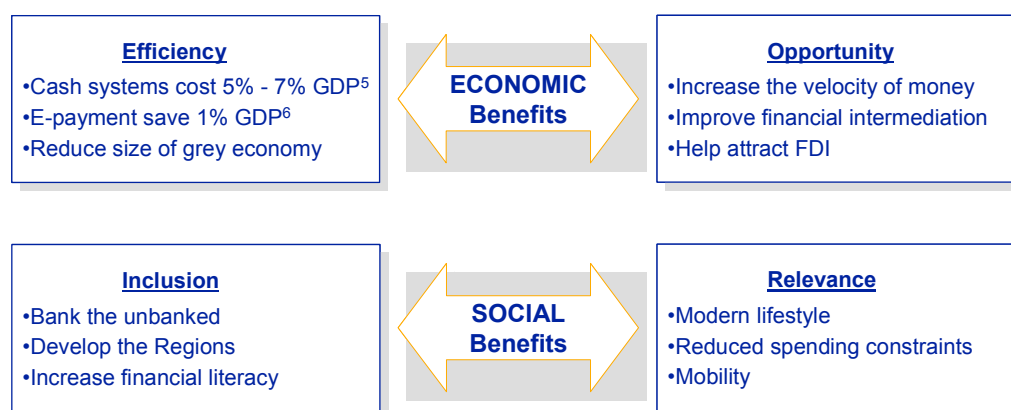
N Essame¹

Economic and social benefits of electronic payments for transitional economies

Numerous studies around the world have concluded that the growth of electronic payments has measurable economic benefits for countries. This is primarily because electronic payments are much more cost-effective on a large scale than cash payments. The total cost of a cash-based payment system has been estimated to be between 5 per cent and 7 per cent of GDP².

These costs are often underestimated and are created by the burden of printing, designing, distributing and storing cash, and processing cash at the banking and retail levels. The high cost of cash is borne by the entire economy, including consumers and merchants, banks and the government.

Figure 1: Electronic payment system growth will bring economic and social benefits to transitional economies



Studies have concluded that the efficiencies of electronic payments over cash-based systems can help generate cost savings for countries equivalent to 1 per cent of GDP which can equate to significant saving for any economy³. Electronic payments provide greater transparency of financial transactions which will help governments of transitional economies reduce the size of their grey economies⁴.

Electronic payments generate a range of other benefits. For instance, they can decrease the unbanked population considerably through the continued use of salary card schemes. Greater retail deposits and the increased velocity of money generated by electronic payments will contribute to improved financial intermediation which stimulates economic growth. Indeed, a study by Global Insight estimates that every extra dollar deposited in a bank results in 10 to 15 more dollars of credit and subsequent economic output⁵.

The growth of electronic card payments in emerging economies will also accelerate essential social development. Banking the population and establishing effective non-cash payment

¹ The author can be contacted directly for further details regarding all references used in the paper.

² The Importance of Effective Retail Payment Systems (Donges, 2002).

³ Humphrey, Willeson and Bergendahl (2004)

⁴ IMF estimates that the size of grey economies in Organisation for Economic Co-operation and Development countries is typically 14 per cent to 16 per cent of GDP whereas for developing economies, the figure can be between 35 per cent and 44 per cent.

⁵ "The virtuous circle: Electronic Payments and Economic Growth" (Global Insight, 2003).

mechanisms will facilitate inter-regional commerce within a country and help stimulate regional economies. Concerted educational campaigns driven by the payments industry will also raise consumers' financial literacy and lead to a clearer understanding of the benefits of the financial system and payment cards.

Visa believes that all developing and transitional economies can capitalise on their existing successes in building electronic payment systems. The payment industries within countries should discuss the challenges they face in light of the understood economic and social benefits electronic payments can bring, and with governments and central banks collectively develop a roadmap for the future of electronic payments.

Requirements for growing payment systems

The majority of emerging markets have already begun to develop the foundations of well-functioning electronic payment systems. This will allow countries to realise the understood beneficial effects world-class payment systems have on the efficiency of the real economy and financial markets⁶.

To provide these benefits, a world-class payment system must be an effective money transfer mechanism which is economically viable and future proof. Whatever decisions a country's payment industry takes, it must ensure the solution fulfils these requirements.

Countries must have an effective money transfer mechanism to provide governments, businesses and individuals with a reliable means of exchanging goods and services for currency. The system should be secure to reduce crime and operational costs for banks and payment schemes, and increase confidence in the system.

Economic viability is important for payment systems because of their central role in a modern economy. Payment systems have a high proportion of fixed costs relative to cash, which means they can use economics of scale cost-effectively. It is important to leverage economies of scale by processing large volumes of transactions. Achieving this will require a high degree of trust created by market participants' confidence in the security of their systems, the use of open, international standards to reduce the cost of scaling operations, and an equitable business model to encourage use.

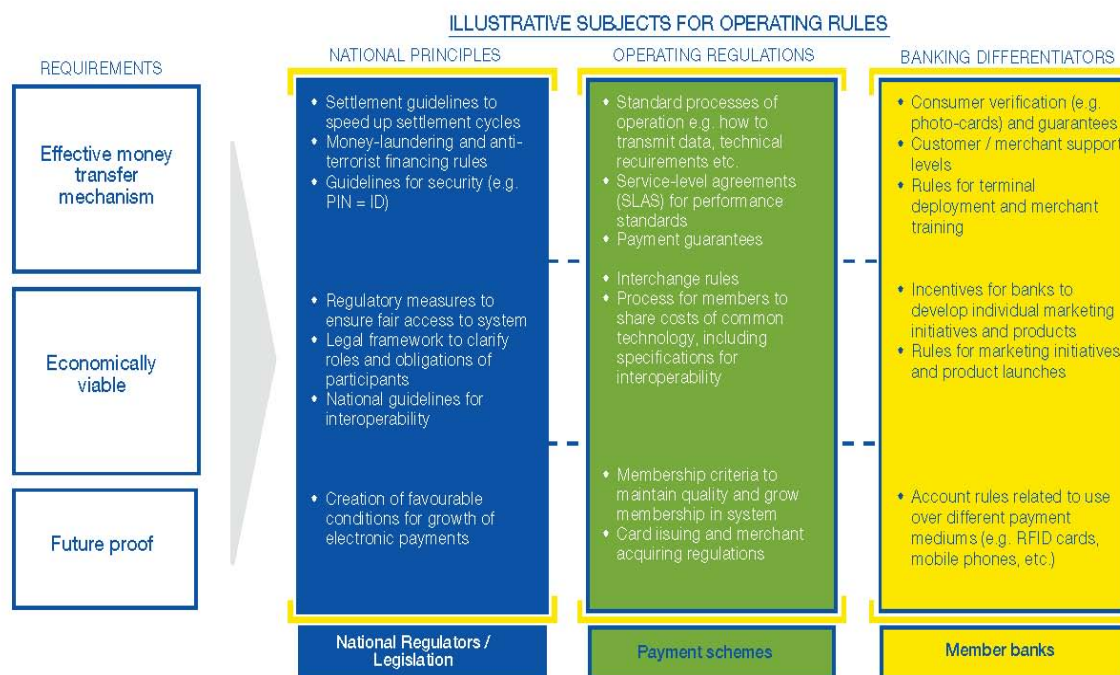
A country's payment system must stay abreast of current and future trends in technology in order for participants to use this flexibility to innovate, differentiate and create increasingly tailored, secure and convenient payment systems.

To meet these requirements, a payment system must have **rules** to ensure it operates smoothly, consistently and transparently, should have a reliable, quick and secure **systems infrastructure**, and a **strong brand** to encourage adoption. These three enablers are mutually reinforcing and the strength of a payment system depends on the interaction between them.

Rules and regulations ensure the systematic and transparent operation of the payment system by clarifying the roles and responsibilities of all stakeholders and providing a governance framework which ensures a balance between equitable competition and co-operation. To deliver these requirements, a payment system needs three layers of rules and regulation – national regulation, payment scheme rules and banking differentiators (see Figure 2).

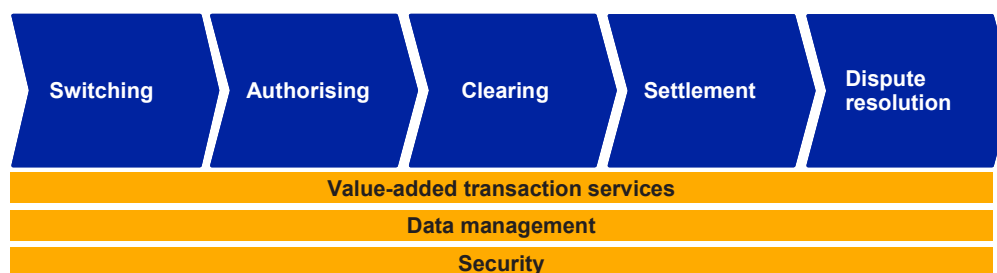
National regulators, central banks and governments must set out the guidelines or regulations for stable, equitable and efficient payments systems. They should also proactively monitor and regulate the market.

⁶ White paper on payment system oversight, Banca D'Italia (1999).

Figure 2: Framework for rules and regulation

However, it is the payment schemes that have to create clear rules for the handling of day-to-day operations. This includes data transmission standards, service level agreements and procedures for dispute resolution. It is then the role of the banks to operate within the established payment model. They must bring compelling and differentiated propositions to the market through the mechanism of competition, assured that a stable and transparent regulatory “infrastructure” is in place.

There are five core processing activities of a payment system (see Figure 3), but to maximise the economic benefits and efficiencies to participants, a payment infrastructure needs to also incorporate value-added services, data management and security.

Figure 3: Overview of processing components of a payment system

Value-added transaction services will help payment systems access the mass market. The following are key capabilities which should be incorporated:

A. Exception item processing

Automated robust processes which reduce charge backs, and hence overhead costs, are effective pre-emptive measures to avoid full-scale dispute resolution and arbitration.

B. Implementation and testing services

Provision of a dedicated and extensive environment and tools for testing new card-based products and services help the early identification of all technical issue and ensure the smooth introduction of new payment programmes and products.

C. Staggered adoption of new technology

This allows banks to adopt new solutions quickly rather than having to wait for all banks to adopt the change at the same time.

Data accuracy and integrity are vital to the successful operation of a well-functioning payment system. These important elements of the service are often overlooked, but the experience required to handle vast quantities of data robustly must not be underestimated. Common issues include data being incomplete, inaccurate and inconsistent. To minimise these data problems, a payment system needs to have built-in data checks to ensure data integrity, mandated data requirements to reduce cases where incomplete data are transmitted and continuous improvement through proactive monitoring.

These measures help to increase the number of successfully completed transactions, and in the long run play an important role in maintaining a reliable, robustly backed-up, and high-velocity processing system.

System security is also fundamentally important. According to The Nilson Report, global card fraud was estimated to be \$30bn in 2005⁷. Without proper fraud processes and technologies, fraud levels will rise, resulting in falling levels of trust in the system and decreasing usage.

Experiences from across the globe show that the use of smart cards can bring about a significant reduction in fraud, and the vast majority of mature payment markets are moving towards the use of EMV⁸ chip-based technology to reduce fraud. The United Kingdom (UK) has been one of the fastest adopters of EMV in the world, with most of its Visa cards carrying an EMV chip, and it is seeing impressive results with regard to fraud control. A Visa study shows that even before the infrastructure upgrade was complete, domestic counterfeit fraud among issuers who had already upgraded was 43 per cent lower than that among similar banks who still issued magnetic strip cards.⁹

Reporting processes are essential to a fraud management system as they help participant members to track and analyse trends in fraud levels. Payment systems need to establish reporting mechanisms that can generate reports for issuers and acquirers that provide information such as summaries of fraudulent activity of the past 3 months. Early identification and reporting of fraudulent or other risk-related activities at merchant locations are also beneficial.

Once all the required rules and systems are in place, a trustworthy and easily recognisable brand will encourage usage and acceptance across all users in a payment system. This can be achieved through maintaining strong system and security standards, having high interoperability, and active marketing.

Many lessons can be learnt from the development of electronic payments in other markets. Industry participants can use these best practices to meet the unique requirements and objectives of the electronic payment market in their countries. The benchmarks show that countries' payment systems generally evolve from having proprietary domestic systems to leveraging open standards, competition and international interoperability to accelerate adoption,

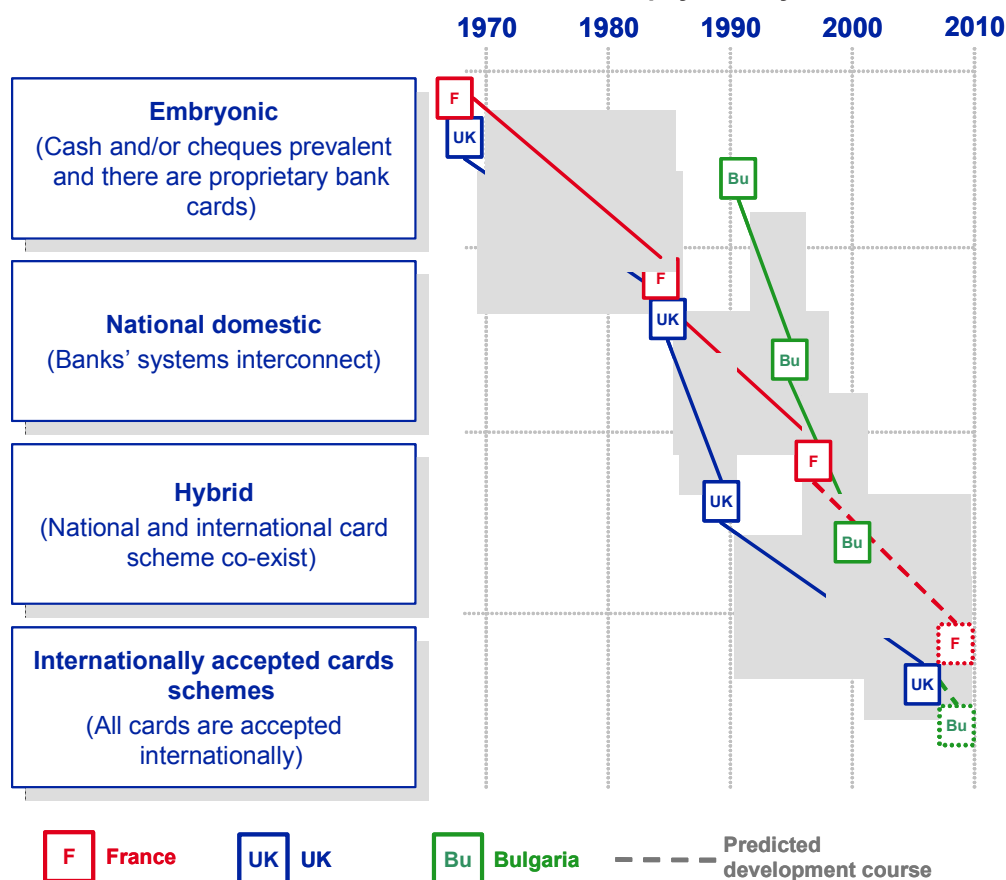
⁷ The Nilson Report (2003). Available online: <http://www.nilsonreport.com>

⁸ EMV is a standard for interoperation of Chip cards and IC capable *POS terminals*, for authenticating credit and debit card payments. The name EMV comes from the initial letters of Europay, MasterCard and VISA, the three companies which originally cooperated to develop the standard.

⁹ Securing payments: Building robust global commerce, Visa.

and hence maximise economic benefits and foster social development. Indeed, they ultimately progress to a market in which international schemes are a major part of the payment landscape.

Figure 4: International benchmarks for the evolution of card payment systems¹⁰



The other conclusion that can be drawn from international experience is that transitional economies which do not have legacy payment systems (such as Bulgaria – see Figure 6) can take the opportunity to develop quickly to become mature card markets which leverage international card schemes.

Whatever decisions the payment industry in a transitional economy collectively takes, Visa believes the following points will remain important (as seen in Figure 5):

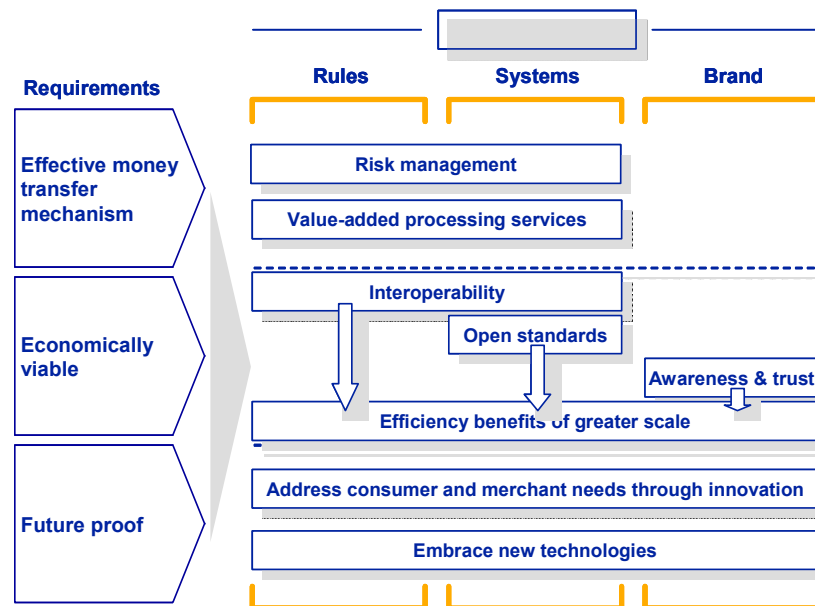
The industry must work together to raise levels of security and ensure risk management is world-class, whilst harnessing value-added processing services to ensure that operations can scale.

Economies of scale will benefit payment schemes. This will be achieved by having greater interoperability, leveraging open standards, reducing unit cost, and improving trust and awareness to increase consumer and merchant adoption.

Countries must ensure that they continue to allow banks and payment schemes to address consumer and merchant needs through innovation and new technologies.

The electronic payments market must provide opportunities for multiple parties to participate in it to ensure the successful development of electronic payment solutions.

¹⁰ From Domestic to International: Case studies on the development of card payment systems (LECG, 2005 and Visa International).

Figure 5: Requirements for electronic payment systems in transitional economies

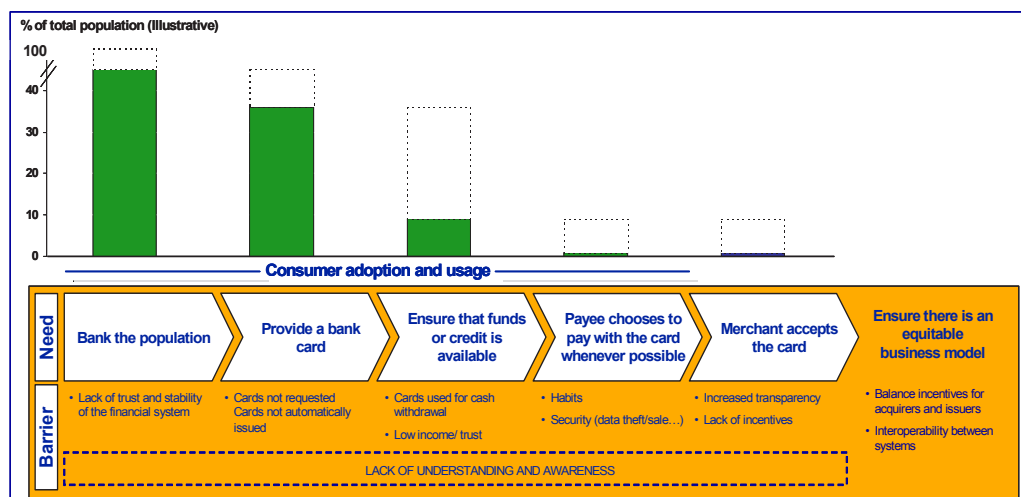
Accelerating the growth of electronic payments

In most emerging countries, electronic payment mechanisms exist, although they have yet to mature fully into mass-market retail payment instruments. The banks, payment schemes, government and the central bank must all work together to determine the best way to overcome barriers to card payment usage. The most common barriers in these countries are a lack of understanding of the benefits of banking and card payments, security and trust concerns, a lack of incentives to use cards and the legacy of a cash-based economy.

These characteristics translate into specific “needs” for card payments to be adopted in any given country. Figure 6 illustrates the steps which must be taken before a cardholder can use his/her card for purchases. Specifically, these steps are:

- Banking the population
- Providing a card
- Ensuring that funds or credit is available on the cards
- Encouraging the payee to choose to pay with the card wherever possible
- Ensuring merchants accept card payments
- Ensuring there is an equitable business model for all participants

Figure 6: Needs chain for point-of-sale usage and key barriers for adoption



Clearly, the lack of consumer understanding of the benefits of being banked and using payment cards is an important issue and the industry must work together to educate the market. A concerted education campaign would increase trust in the financial services sector by providing a better understanding of the processes and benefits. Merchant education is equally important to ensure that an acceptance network is widened in a country, and this has been a core component of accelerating adoption in many other markets.

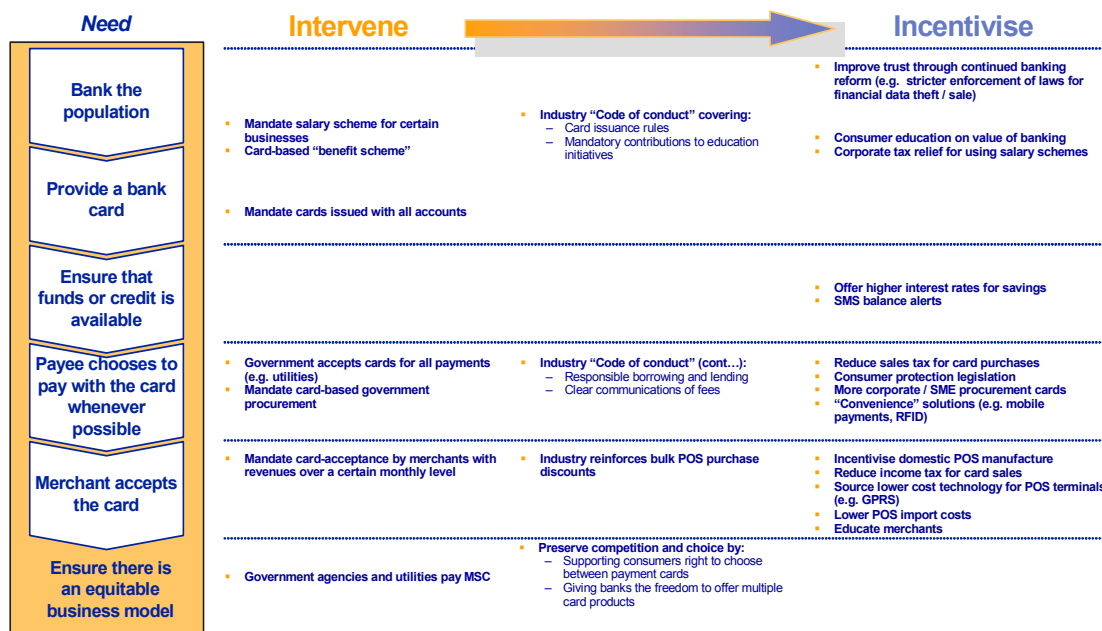
There is a range of options for overcoming the barriers countries in transition face for the adoption of electronic payments. These options span selective legislative changes, mandating acceptance or usage, introducing government or industry guidelines and recommendations, and providing incentives to consumers and merchants. Some examples include the following:

- A. Increase the banked population with cards
 - Increase the use of company salary schemes by reducing corporate tax for companies which adopt them.
 - Extend the use of salary schemes to all major government departments.
 - Increase voluntary bank account applications by improving trust in the banking system e.g. implement banking reform and develop a “banking code” of good banking practice.
- B. Ensure that funds or credit is available
 - Modernise funds transfer mechanisms for convenient movement of funds between accounts.
 - Offer higher interest rates to incentivise customers to retain some or more of their funds in bank accounts.
- C. Encourage cardholders to choose to pay with their card wherever possible
 - Improve legislation to provide better consumer protection and more explicit laws on card payments and issuing.
 - Provide financial incentives to stimulate card usage. For instance, the South Korean government reduced income tax for consumers who made card purchases and the Columbian government reduced VAT by 2 per cent on card purchases.
 - Banks could offer more promotions to reward card usage. This was very effective in India where ICICI Bank gave a 5 per cent cash back for per month in over 30 merchants and saw a 700 per cent increase in spend over that period at those merchants.
 - Government departments and corporations could use procurement cards for their purchases as in the case of the UK government which generates savings of £28 sterling per transaction, totalling savings of £140m to date.

- D. Increasing merchant acceptance of card payments
- The government could mandate card acceptance for merchants over a certain threshold. The government in the Ukraine recently introduced a new Bill requiring merchants whose turnovers exceed USD1 million to accept card payments from at least 3 payment schemes. The Bill also stipulates that merchants that sell goods over the retail price of USD1 000 have to participate in the initiative.
 - Increase card acceptance for government services such as utilities.
 - Lower income tax rates for card-accepting merchants.
 - Lower merchant costs by sourcing cheaper General Packet Radio Services GPRS point-of-sale terminals or by encouraging low-cost domestic manufacturing. Costs of terminals in India were estimated to fall by 50 per cent when Visa partnered with a domestic manufacturer to produce terminals.

A summary of all the initiatives which could be implemented is provided in Figure 7 below.

Figure 7: Examples of initiatives to accelerate growth of electronic payments in transitional economies



Countries should take the opportunity to use the collective experience and expertise of all market participants to develop a comprehensive set of initiatives to accelerate the growth of electronic payments. Accelerating the use of electronic payments will lead to the realisation of significant economic and social development benefits from a larger banked population and more cost-effective and efficient money transfer mechanisms. Visa's thoughts on how this can be achieved are summarised in the initial recommendations below.

Recommendations

Visa believes that the payment industries in transitional countries should discuss the challenges they face in light of the economic and social benefits electronic payments bring to maturing economies. Through open discussion, governments, central banks, industry and end-users can create a roadmap of the future development of electronic payments for their countries which has clear roles and responsibilities for all market participants.

Industry participants should collectively decide on ways to ensure there is an effective non-cash payment system which can grow into a fully mature mass market retail payments system, and how this transition can be accelerated.

As payment systems in countries are scaled, they must remain effective money transfer mechanisms, economically viable, and flexible enough to meet future requirements. Visa foresees important considerations will include raising levels of security and ensuring risk management processes are world-class, and harnessing value-added processing services and common standards between payment schemes to help operations scale more rapidly and cost-effectively.

Payment industries must focus on overcoming cardholder barriers to using cards at the point-of-sale. These include a lack of understanding of the benefits of banking and card payments, security and trust concerns, a lack of incentives to use cards, as well as the legacy of a cash-based economy. A range of initiatives can be implemented to address these barriers. These span legislative changes, mandating acceptance or usage, introducing government or industry guidelines and recommendations, and providing incentives to consumers and merchants.

These initiatives should focus on the following:

- Delivering a concerted market education programme to improve trust in the banking sector and stimulate essential social development;
- encouraging consumer usage through financial incentives;
- increasing merchant and government acceptance of card payments; and
- maintaining a competitive payment market to encourage continued innovation.

Conclusions

As transitional economies' payment systems are scaled, they must remain effective money transfer mechanisms, economically viable and have enough flexibility to meet future requirements. Visa foresees important considerations will include raising levels of security and ensuring risk management processes are world-class, and harnessing value-added processing services and common standards between payment schemes to help operations scale more rapidly and cost-effectively.

Markets must focus on developing initiatives to accelerate the usage and acceptance of card payments. These should span legislative changes, mandating acceptance or usage, introducing government or industry guidelines and recommendations, and providing incentives to consumers and merchants.

Visa believes that electronic payment markets in transitional countries have enormous potential. These initial recommendations have been put together to facilitate discussion and debate on the future of electronic payments in these countries. It is hoped that a collective strategy will be developed on how to build electronic payment systems that meet the needs of the mass market and which realise the full range of economic and social benefits.