



Convergence of Mobile & Cards-based Payments is a Mass Market opportunity

Consumers, mobile operators, card issuers and monetary authorities may have different priorities, but all have much to gain from convergence, writes Peter Goldfinch – GFG Group’s General Manager for South East Asia. In this issue of the monthly Goldfinch Report, Peter outlines why convergence of mobile and card-based payments cards is anything but a niche opportunity, and why the next step must be taken by handset manufacturers. Peter’s credentials have been earned over 23 years experience in electronic payments, including pioneering work on ATMs and EFTPOS, and the introduction of credit and debit cards in Russia.

Handset manufacturers, card schemes and mass transit card issuers are looking at convergence of the mobile handset with their payment cards. But have they forgotten about the subscribers/cardholders and network operators? What is the end game and is there a sound rollout strategy?

The technology still cannot fully support convergence but steady progress can be assumed from the press reports. The organizations at the forefront of convergence are the mobile handset manufacturers and the card issuers. Simply, handset manufacturers will sell more new handsets with the release of a convergence capability. Card issuers are both looking at cost savings and the next big thing that will persuade cardholders to switch to their brand.

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Customers probably do not care. The woman passing through the gates at the train station, throwing her handbag in the general direction of the card reader, is hoping something will communicate with something else and the gates will magically open. Does she really care if the transit application resides on a plastic card or a handset? What matters is whether the gate will open.

So where is this technology taking us and will it gain the traction to be accepted by the mass market. What are the stakeholders really trying to achieve?

Monetary Authorities are always looking to improve the efficiency of the payment system and minimize the risk. Improvements to payment instruments that reduce cost, increase security, support the transfer of funds in real-time and supports guaranteed settlement are always going to gain their support.

Consumers are generally looking for convenience, low risk, ease of use and being in control. Cash probably still scores well on all these fronts, possibly giving way on convenience to cards. Access to credit is important to many. Loyalty programs have fooled some of the people for some of the time and many of the card issuers for all of the time. Most consumers have not needed to address the cost factor, although this is changing with surcharging being allowed in many countries.

Mobile operators simply want more average revenue per user (ARPU) per subscriber especially now market growth is flattening. Reducing churn is also a major consideration. So offering products and services that lock in subscribers gain their attention.

Card issuers as mentioned above are similar to operators. They are looking at flattened markets and need to encourage increased use of their card products. Similarly they wish to reduce churn. Cost is also an important element.

But the providers of prepaid card products have a particular constraining factor - reload. Until recently prepaid products had a single purpose. The mass transit operators are an excellent example. Their product was all about pre-selling transportation. Now, having successfully achieved this objective they are looking for their prepaid card to be accepted in a broader range of merchants. Many are also looking at a future of deregulation, so they will need to compete and have a stronger consumer proposition. Broader acceptance is the only way of protecting their existing revenue base as well as providing an opportunity for growth.

Growth in prepaid products is strongly affected by this reload challenge. Finding a reload device prior to buying lunch is inconvenient, and as you pass that ATM why not stop and save time by withdrawing cash. Mass transit operators have introduced direct credit services from bank accounts or card products. But to many cardholders this represents a lack of control. It adds a complication to budgeting your personal finances. Imagine being in a Singapore bar, using your mass transit card to purchase drinks. With every drink the mass transit card is draining your life savings from your bank account. Just like a slow dripping tap.

For the prepaid provider the production and distribution of the cards, and providing the reload facility, all carry a heavy cost. With deregulation their cost structures will need to change and they must look to ways of driving cost out of their business model. Technology can do this for them but will cardholders accept the technology?

The challenge for those in behind convergence is developing a sound go-to-market strategy on the back of a well thought out product offering.

Firstly the handset should not be treated as many are - as just a plastic card substitute. It must be viewed as a new payment instrument with unique capability. It will never replace payment cards, just as cards have never replaced cash. But we can expect a significant shift of both cash and card usage to this new payment instrument.

For a 'convergent' payment service the following technology elements must be delivered:

“TO ACHIEVE UTOPIA THE WORLD IS WAITING ON THE HANDSET MANUFACTURERS TO DELIVER A MASS MARKET TRUSTED HANDSET, FOR BOTH THE GSM AND CDMA NETWORKS.”

“THE INABILITY TO DELIVER SUFFICIENT HANDSETS AT AFFORDABLE PRICES WILL KILL OFF TRUE CONVERGENCE.”

- The handset must become a trusted device.
- There must be a secure payment channel to the financial institutions.
- There must be a handset and subscriber management facility.
- There must be a secure and failsafe over the air facility to support the management of applications on the handset, including application loading, initialization and updates.

Generally speaking handsets are not trusted. There are a few implementations where a high level of trust has been achieved. Smart Money in the Philippines and Vodafone's Hotlink in New Zealand are examples. But these are implementations specifically designed to achieve the required high level of security, though at a significant cost and effort.

It is important that handsets hold security keys that cannot be exposed; these keys must be unique to each handset, so if one handset is compromised the entire subscriber base is not compromised. Finally password or PINs entered into the handset must be masked at entry and must not be stored in the handset, (at least not in the clear).

This enables the handset to send encrypted messages under 3DES or under an asymmetric key pair. The handset initiating a transaction can therefore be authenticated along with the person initiating the transaction.

Without this level of trust the handset is always a suspect device. Other forms of authentication can be used such as 3D Secure and Two Factor Authentication, but these are weak in comparison and under a legal challenge unlikely to stand up.

The majority of handsets being used today are not trusted devices.

Delivering a secure channel back to the financial institution for authorization is not a major task. Using current EFT standards and security practices deployed in channels such as ATMs, a mobile channel will deliver the robustness required.

Working on the basis that the handset is a ubiquitous device, and that the subscriber and device are intrinsically linked, there is the requirement to mirror this unique relationship in a subscriber profile. This profile manages the handset to subscriber to financial institution relationships and holds a master copy of the applications' personalization data and parameters, along with maintenance logs of handset activity including financial transactions.

An OTA facility is essential in downloading applications, security data plus personalization data and parameter settings. This is required to be done securely, speedily with controls to ensure successful completion. In the case of failure, rollback capability is a must. This is to be a background activity initiated by the subscriber or by the owner of the application.

With the above technology in place, the task of providing business functions can commence. These include:

- Downloading and maintaining multiple payment applications such as Visa's Wave and/or MasterCard PayPass.
- Reloading mass transit and other purses can be done either as a result of a low balance being reached or at the subscriber's request, direct from a bank account or credit card.
- Pay away or buyer initiated payments, (BIP) can be initiated from the handset by the subscribers to pay bills.
- Person-to-person funds transfers initiated by the sender from their handset with a notification to the recipient, all completed within seconds with the delivery of cleared funds.
- Ability to make remote purchases of goods replacing the traditional MOTO transactions.
- Ability to authorize transactions originating through another payment channel, turning the handset into a PIN pad.

About Peter

Peter Goldfinch, GFG Group's General Manager South East Asia, is a respected analyst and commentator on global trends in payment technology.

One of the original founders and shareholders in GFG Group, Peter has a background of more than 23 years in the information technology industry, most of which has been involved with consulting and systems development for banking and finance customers in 25 countries.

He has particular expertise and experience in payment systems, including mobile payment systems. His career highlights include pioneering work on the first ATM and EFTPOS networks.

In the mid-1990s, he played a key role in the introduction of credit and debit cards into the Russian market, working with GFG's customer SBRF.

About GFG

GFG Group is a highly-specialised payment solutions company, providing its clients with products, advice, and systems integration and outsourcing services. Accredited by the World Bank, the company has established a global presence over the last decade – delivering leadership payment solutions to more than 50 customers in over 40 countries.

A key element in GFG Group's success is its focus on development and investment in five high-demand payment solution areas:

- Card Management
- Mobile Payments
- Payment Tools
- Managed Services

The company's core research and development team is based in Auckland with consultants and technical staff located in the international offices to provide front line 24 x 7 support for customers in multiple geographies.

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All these transaction types are being delivered today via mobile payment services. But either the security is being compromised or security has been developed on a one-off basis. In addition, to deliver the necessary levels of security a high level of cooperation between the operators and the financial institutions is required.

To deliver convergence as merely a proximity payment product on a handset will only result in marginal success, with uptake being confined to the group of techno early adopters present in every market.

But convergence as a comprehensive new payment instrument based on a fully trusted device has a far greater chance of success. The stakeholders will receive real benefits: Mobile operators will experience increased network traffic with a positive impact to their ARPU.

Subscribers will find changing their operator more of a hassle. This will reduce churn rates. Banks will have a cheap delivery channel. In the past they have needed to build their own channels, (ATM and POS networks). The mobile network will be delivered to their front door.

Mass Transit and other prepaid providers will have their primary barrier to cardholder acceptance for broader use - reload - removed.

Subscribers will have a personalized, easy to use, convenient, trusted and multiple purpose payment device.

To achieve utopia the world is waiting on the handset manufacturers to deliver a mass market trusted handset, for both the GSM and CDMA networks. Mass market is key. The convergence market is not only for the top end segments. The unbanked subscribers in the developing economies are significant target market.

Payment systems only succeed if critical mass is achieved. The inability to deliver sufficient handsets at affordable prices will kill off true convergence. This is not a niche opportunity.