

Money and Laundering

No business case for e-cash?

by

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Highs and Lows

For those of us who believe that finance can only be truly virtual once electronic cash (e-cash) becomes the norm, the last couple of months have been depressing. The original Mondex pilot in Swindon has terminated; the highly visible VisaCash and Mondex pilot in Manhattan was canned at the end of last year [1]; the Mondex pilot in Guelph has been stopped and the Canadian roll-out delayed. In Europe, where there are large numbers of purses in circulation, e-cash hasn't set the world alight. The media has, particularly in the US, taken a very negative slant on the poor state of e-cash schemes [2]. When combined with the very slow uptake of internet-based digital money schemes (e.g. DigiCash, now in Chapter 11) this means that us e-cash evangelists are having a hard time of it.

It's true that e-cash isn't taking the world by storm. Even the most mature of the deployed European smart card-based electronic money schemes, Proton, has less than stupendous transaction rates. Belgium has more than 5 million Proton cards in circulation but they are used only 0.45 times each per month: about 1 transaction per month per active card. This is despite having 31,000 shops, 6,000 vending machines and 4,000 payphones accepting Proton [3]. With an average purchase of €6.3 in shops and €0.5 in vending machines, the bank income from the purses is really rather small.

The consensus coming from the banking sector is that there is no business case for the electronic purse (a stored-value smart card carrying e-cash) and that the future of such electronic purses (e-purses) is as but one application on a bank-issued multi-application smart card. No business case for the e-purse: how depressing.

Hot, Warm or Cold

There was one area, though, where Mondex and VisaCash were received warmly in New York and that was in coin-operated washing and drying machines. These accounted for almost one third of total card usage [4]. Interestingly, this illustrates a general trend not only in New York, where the Clean Rite chain has gone over to smart cards [5], but in the U.S. (the world's most supposedly most smart card-unfriendly market) as a whole. Mac-Gray Corp recently announced that it will convert half of the 105,000 laundry machines that it has in apartment buildings and college dormitories to smart cards. The organisation's attraction to e-purses is based on two main aspects of smart card use: e-purses offer flexible pricing because they don't store fixed increments of money, and e-purses are more reliable than coins in operation. At every level, the installed base is increasing: Laundromax, for example, already has three smart card-based laundry outlets in Florida and plans to open 20 more such outlets this year [6].

Super Wash, a laundry chain based in the southwestern U.S., has gone the same way [7]. The e-purse has freed the company from fixed prices and quarter increments. Vending machines now load e-purses for use in the laundry machines. With the purses, Super Wash charges \$1.89 for a family-size load (drying included and offers large discounts on washes between midnight and 6 a.m. The discounts have raised the number of loads each machine handles daily to nine (double the industry norm) generating on average 50% more revenue per location. With no coin slides to jam, Super Wash has reduced maintenance costs by 70% and slashed machine downtime (a jammed machine generates no revenue). Super Wash downloads transaction data from the laundry machine readers every few weeks and then mines the data.

Why is it, then, that the operators of laundries are prepared to spend between \$30K and \$60K per outlet (that's sixty thousand dollars per outlet, not a misprint) on installing something for which banks claim there is no business case? How can the members of the U.S. Coin Laundry Association afford to issue cards (at a cost of \$3-\$5 each) that do not have the key feature that Visa and MasterCard agree is crucial to future purse deployments [8]: multi-application support?

Paradox Washes Whiter

I would pay for a purse card that allowed me to load money over the phone and use it up in the parking machines at Woking rail station. Even if it did nothing else. On average, 1 in every 1 times that I have to park at the train station to go into London, I don't have £4.60 in change. The parking ticket machine doesn't accept notes or give change, so I either have to chase around the house looking for coins or buy a newspaper that I don't want by making a stop that I don't want to make at a newsagents I don't want to visit. The leisure club that I belong to not only gives me an e-purse for nothing (capable of storing up to £50) but gives me a 5% discount every time I use it to buy drinks and snacks. I use it frequently, because I don't want to carry notes or coins in my shorts while exercising. I searched an online newspaper archive last night to find a piece I remember reading about VisaCash: when I found it I was asked to pay \$1.50 (which I was happy enough to do) by typing in my credit card details (which I couldn't be bothered to do: no sale). Had I been able to put a VisaCash card into my PC and click 'OK' to pay \$1.50 then I would have done it. It would be hugely convenient to me if I could use the same purse at the station, at the club and on my desktop. There seem to be plenty of uses for an e-purse, so why aren't the banks actively pushing them into the marketplace?

The answer may have something to do with bank channels into the marketplace. To me, an e-purse is small portable computer chip and the fact that it looks like a card is neither here nor there (in fact, in the not-too-distant future the chips will turn up in watches, key fobs and so on). To a bank, however, the fact that it looks like a card means that it is marketed like a card, managed like a card and taken to market like a card. The impact of this is that the product is driven down potentially inappropriate channels. In particular, since the card services departments of banks have their primary relationships with merchants for whom they acquire credit and debit card transactions, these are the relationships they work through when looking for e-purse acceptors. This explains why in the typical e-purse pilot consumers are able to go into a bridal wear shop and buy a wedding dress with e-cash (which, unsurprisingly, none of them ever do) but not use e-cash to pay the parking meter outside the shop.

Shops aren't a compelling use of e-cash. Even when large numbers of retail points of sale (POS) have been converted, they are nothing like as attractive to e-purse carrying consumers as parking meters. After all, consumers can already use money in shops and so far as they are concerned it works fine. But machines with coin slots in are a different matter, as evidence from the market demonstrates. Look at the case of Proton again. The Belgian vending machines that have been equipped with smart card interfaces are proving to be the most popular use for Proton cards, with up to 40 transactions per machine per day. Interestingly, they are also proving to be the most profitable business for the banks, with transaction fees of 2% (against 0.7% for retail POS). This points us in the right direction. Similarly, I understand that the VisaCash pilot in Leeds has found city centre car parks to be the areas of greatest cash displacement.

Horses for Courses

So what are the appropriate channels for the e-purse? As the experience of laundries in the US, car parks in Leeds and vending machines in Belgium demonstrates, the e-purse has a competitive advantage at unattended points of sale. But banks don't acquire from unattended points of sale: they don't have any relationship with train station parking meters, chocolate bar machines on Underground platforms or drinks dispensers in corporate headquarters. Perhaps the way forward is not to handle the purse under existing card management structures, but to create a new departments charged with acquiring chip transactions from unattended and remote points-of-sale only.

Remote is critical. The maximum competitive advantage for the e-purse occurs, of course, in environments where there is no alternative: at points of sale remote from the 'cash register'. If I want to pay £2 through my television to watch a soccer match, putting a couple of £1 coins in the slot is just not viable. The use of e-purses in digital TV set-top boxes, mobile phones, kiosks and PCs is where the real action is. This suggests an alternative approach for the next e-purse roll-out in Europe or North America: forget about shops. Suppose that banks take the view that they don't care whether retailers accept e-cash at POS or not, and focus instead on unattended and remote POS. What's then needed to get critical mass is acceptance points, and in both the unattended and remote cases this doesn't look that impossible.

Unattended POS terminals will have to be ripped out and replaced over most of Europe in the next couple of years because they are being converted to the euro. Why bother? Why not rip out the coin slots altogether and put smart card interfaces in instead? Some remote POS terminals—such as digital TV set-top boxes—already have smart card interfaces in them anyway so only imagination is needed to bring these in to play. The first 'dual slot' mobile phones are coming into use shortly (with Motorola and Alcatel leading the way) and these provide an excellent platform for the use of bank-issued smart cards. As for PCs, smart card interfaces are set to become cheaper and more common because of the confluence of interests around them at present: the announcement of Microsoft's WindowsCard, the desire for smart card-based Public Key Infrastructure (PKI) solutions, convenient internet access and so on. It doesn't matter to the banks why the smart card interface is fitted to the PC, so long as they can then exploit it. For example: a public library in Colorado is going to issue 30,000 smart cards that parents can use to control their children's web access [9]. Once these interfaces are in place, a bank-issued purse becomes the obvious way to pay for web access.

Despite the recent headlines, the future for the e-purse looks pretty good, precisely because of the internet, mobile phones, digital TV and so on. There are, however, those who think that there is no real demand for a physical cash substitute, nor profit to be made from providing it [10]. I think they should have a word with either the folks at Super Wash in Phoenix (who paid \$35,000 for the equipment to convert their outlet to stored-value smart cards) or the folks at Schlumberger Danyl (who sold it to them).

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References

1. *A big blow for smart cards* in *Cards International* (208) (6th November 1998).
2. Dwyer, G. *Is There a Future for Electronic Cash in the United States?* in *Journal of Internet Banking and Commerce*. **3**(3) (November 1998).
3. *Facing Change* in *European Card Review*. **5**(6): p.10–11 (December 1998).
4. Hansell, S. *Got a Dime?* in *New York Times* (4th November 1998).
5. Love, T. *Service-Centered Innovation Comes Out In The Wash* in *Nation's Business*. **86**: p.12 (1st August 1998).
6. *Laundries taking smart cards for a spin* in *Card Technology*: p. 8–10 (November 1998).
7. Raskin, A. *Small companies are playing with a full deck of smart-card applications* in *Inc. Technology*: p.120
8. Authers, J. *Setback of the failed Manhattan transfer* in *Financial Times* (6th January 1999).
9. *Library to issue Web-controlling smart cards* in *Card Technology* (Faulkner & Gray) at <<http://www.faulknergray.com>> (on 21st January 1999).
10. Brown-Humes, C. *Cards hoping to cash in on the euro* in *Financial Times* (26th November 1998).