

## Are banks are losing out in e-payment service for online consumers?

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For years, banks are the intermediaries for execution, processing and settlement of payment-related transactions; especially cross-border transactions that involved foreign currency exchange. As an extension of the trust relationship between bankers and customers, banks naturally became involved in regional and international electronic payment activities and gradually in the setting up of payment standards and global payment infrastructure such as SWIFT. Many of these high-value transactions are executed by banks for mostly corporations.

However, with the emergence of the Internet and the growing demand for e-payment solutions for online shopping, payments, transfers and commercial trade, a huge variety of different payment methods have been developed by both academic researchers and commercial organisations since 1996. Some of the early market leaders such as CyberCash Inc. <sup>(1)</sup>, DigiCash <sup>(2)</sup> and First Virtual Inc. launched robust e-payment solutions for mostly Business-to-Consumer (B2C) needs. While these organisations achieved fairly extensive deployment, they failed to sustain economic growth to become viable.

Filling the gaps are other various e-payment solutions but most online shoppers prefer the convenience of the credit cards that account for the majority of the e-payment transactions.

The popularity of the credit cards for online shopping didn't happen over night. In fact in the early days of online shopping, there were so many reports of credit card frauds. The inadequacy of online authentication and authorisation based on credit card numbers, card expiry date and mailing address led to the development of alternative solutions. Going the extreme end to build a strong solution based on digital certificate saw the introduction of SET <sup>(3)</sup> in end-Dec 1996. However, as we all now know, SET didn't take off after numerous pilot activities throughout 1997 and part of 1998.

Today, credit card associations are offering their member banks various e-payment solutions to support B2C e-commerce transactions using both credit and debit cards. Some of the more popular solutions adopted by banks and card acquirers are MiGS <sup>(4)</sup> from MasterCard and 3D Secure from Visa <sup>(5)</sup>.

While credit card associations and their bank members are driving their stakes in the e-commerce arena, non-bank e-payment service providers are expanding their geographical reach and entrenching their positions. The most popular non-bank e-payment service provider is PayPal. Since there are extensive articles about PayPal, it is suffice to mention here that PayPal success is in its ability to perform the "middle-man" role by getting a fee for each payment transacted and earning interest from more than USD \$750M held in nearly 100 millions PayPal accounts. The remarkable part of the PayPal's solution is in its leveraging on the existing payment infrastructure built by banks and credit card companies. PayPal mobile <sup>(6)</sup> also leverages on telecommunication networks and technologies for funds transfer using the mobile phone devices.

However, 9 months ago, Google launched it's Checkout service that appears to be in direct competition with eBay's PayPal. Google Checkout enables small companies to ride on Google's "brand" wagon since online shopping is about who you can trust. Online shoppers are more likely to complete a transaction on a website that has Google Checkout badge from the other that has not. Google indeed has capitalised on its trust relationship that it earns over the years.

For advertisers on Google, Checkout is geared towards changing the current pricing model for web advertising. Instead of paying for "click-through", Google is positioning itself to allow advertisers to pay only when a sale is made; this will ensure that advertisers to continue to put their advertisements on Google. Rather than relying on fees from e-payment service as added revenue, Google's Checkout is entrenching its lead position in web advertising and search directories.

A report released by Booz Allen Hamilton in Jul last year estimated that the market size for e-payment services will grow to more than USD 16 Billion next year and to over USD 50 Billion by 2010. The report highlighted that about 3 to 4 international providers of e-payment services will dominate the entire market with PayPal and Google's Checkout already in the lead position. Booz Allen Hamilton also cautioned that existing e-payment service providers that don't establish a significant market position in the next two years will find it increasingly difficult to sustain their businesses.

Over time, the leading e-payment service providers could become a major competitor to credit and debit card companies and banks that rely on credit and debit cards to offer e-payment services for their customers.

Banks who are in the best position to capitalise on its trust position based on their established bank-customer relationship, wide distribution network supported by robust and secured payment infrastructure seems to be losing out in this area.

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(1) CyberCash, Inc. founded in Aug 1994 by Daniel C Lynch and William N. Melton was an internet payment service for e-Commerce. Headquartered in Reston, Virginia, the company initially provided an electronic wallet software enabling consumers to make online payment. Later, a micro payment system, "CyberCoin" was piloted but didn't take off commercially. The company went public in Feb 1996 but filed for Chapter 11 bankruptcy five years later in Mar 2001 and its assets and name were acquired by VeriSign some months later.

(2) DigiCash Inc. was founded in 1994 by David Chaum. Using public-key cryptography techniques developed by its founder, DigiCash transactions were unique in that they were anonymous. DigiCash was one of the early pioneers in promoting electronic currency but the company declared bankrupt in 1998 and its assets were sold to eCash Technologies, another digital currency company. The latter was sold in Feb 2002 to InfoSpace, a company dealing in mobile entertainment, private label and directory search.

(3) The entire Secured Electronic Transactions (SET) Protocols can be found at the following URL: <http://www.cl.cam.ac.uk/research/security/resources/SET/intro.html>

(4) Originally established as an Internet payment gateway, MasterCard Gateway Services (MiGS) now offers support for traditional card-present transactions, thus providing retailers and merchants with a single solution for all their processing needs. MiGS also provides merchants with administrative tools to improve payments visibility and reduce their need for bank support. According to MasterCard, MiGS provides secure payment processing services for all major payment card brands across all channels, including call centers, IVR, e-commerce, m-commerce, and electronic bill payment.

(5) The 3-D Secure™ protocol was developed by Visa to improve the security of Internet payments. It is designed to allow authentication of cardholders by their Issuers at participating merchants. The objective is to benefit all participants by providing Issuers the ability to fully authenticate cardholders during an online purchase, reducing the likelihood of fraudulent usage of Visa cards and improving overall transaction performance.

(6) Besides allowing PayPal account holders to send money via the internet to any email addresses in the world. PayPal subscribers in the US and Canada can also use a number of supported mobile devices to transfer money using their mobile phone.