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Emerging Payment Processing Industry Through The Looking Glass : Options For The Banks To Catch Up

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"Whoever is first in the field and awaits the coming of the enemy, will be fresh for the fight; whoever is second in the field and has to hasten to battle will arrive exhausted"
—Sun Tzu on The Art Of War

The payment processing industry is currently undergoing seismic shifts. While the move from paper based processing to electronic payments is clearly visible, new market drivers and delivery mechanisms are breaking down the conventional payment product boundaries. Adding to these challenges is the fact that current diminished market valuations and liquidity challenges faced by banks make it very difficult for them to pursue acquisition strategies to obtain new markets or technologies. While current trends point towards a relatively enhanced role of non-banks in payment processing (especially in high-revenue-generating customer acquisition activities) banks have many available options to respond to the challenges.

Banks have always been at the center of payment (and electronic payment) processing industry...

The United States payment processing industry is highly diversified—from local inter-bank associations to large credit card networks to the high value Real Time Gross Settlement system provided by Federal Reserve (see Table 1.) Various federal and state statutes, regulations and decisions govern the payments system and result in different frameworks based on the method of payment. In addition, network service providers, such as card networks, industry associations like NACHA, and the various agreements between participants also determine the contractual framework for payment processing.

However, after one has waded through the web of different processes, contracts, law, regulations, technologies and standards, at its core payment processing is an ac-

	Initiation	Routing	Completion
Check processing	Payer acquisition by bank through a transaction account e.g checking account. The account is debited based on fund availability	Processing service by various local clearing houses, Correspondent Banks, The Clearing House and Fed. Key framework: UCC, EFAA, Regulation CC, Regulation J	Payee credited after clearing or based on EFAA. Check routing based on many factors incl. Check 21 adoption
ACH	RDFI client acquisition through a transaction account. Receiver authorizes Originator to issue ACH Debit or Credit	Service provided by EPN and Fed. Key framework: Electronic Funds Transfer Act of 1978/ Regulation E, NACHA established rules and regulations	ODFI client acquisition through a transaction account. Transactions can be initiated by Payer (Credit ACH) or Payee (Debit ACH)
PIN Debit Card	Merchant submits transaction to the acquiring bank or EFT Network, which confirms the transaction	Several associations e.g. NYCE, STAR, Interlink (Visa), PULSE (Discover) provide transaction processing. Key framework: Electronic Funds Transfer Act of 1978/ Regulation E	Issuer Authorizes transaction, debits customer account
Credit Card/ Signature Debit Card	Merchant submits transaction to the acquiring bank or EFT Network, which confirms the transaction	Processing by Credit Card Association e.g VISA, Master, Amex, Discover or Brand Card networks. Key framework: Association regulation, Truth in Lending Act, Credit Cardholders' Bill of Rights	Issuer authorizes the transaction and blocks the limit for Credit card or Debits the account for Debit Card
FedWire	More than 9,500 participants. Must have sufficient funds or overdraft facility with Fed	Service provided by Fed. Real Time Gross Settlement, Individual Settlements Throughout the day. Key framework: Fed Regulation J, Regulation CC	Final and irrevocable payment
CHIPS	Fewer than 50 participants incl. commercial banks, Edge Act corp. or investment companies.	Service provided by The Clearing House. Real time net settlement. Key framework: CHIPS rules and procedures, Uniform Commercial Code	Final and irrevocable payment

Table 1: United States payment processing methods

counting entry: debiting the account of the entity that pays and crediting the account of the receiving entity. All the payment methods have three key components that form the core of any transaction: Initiation (e.g. through a transaction account, swiping the card on card reader, etc.,) routing (e.g. check processing, credit card network, Federal Reserve, etc.) and completion (e.g. crediting a transaction account, debiting credit card account, settling the payment, etc.) This commonality of objective and core mechanism results in an intense competition between the various payment methods.

A Federal Reserve study (see Table 2) corroborates this key aspect of the payment processing industry. Though the market has been growing at 4.6% per annum, the growth of electronic payment methods is significantly larger, primarily due to the success in taking the market share from Check Processing. To a large extent it is a zero sum game market.

	2003	2006	CAGR	CAGR net of market CAGR
Total (billions)	81.4	93.3	4.6%	
Checks (paid)	37.3	30.6	-6.4%	-11.0%
Debit Card	15.6	25.3	17.5%	12.9%
Signature	10.3	16.0	15.8%	11.2%
PIN	5.3	9.4	20.6%	16.0%
Credit Card	19.0	21.7	4.6%	0.0%
ACH	8.8	14.6	18.6%	14.0%
EBT	0.8	1.1	10.0%	5.4%

Table 2: Number of non-cash payment transactions
Source: The 2007 Federal Reserve Payments Study: Noncash Payment Trends in the US 2003-2006

...While Non-Banks have been taking the lead in fast-growing and profitable emerging payments areas...

Due to their ownership of clearing and settlement providers, and their inherent customer acquisition and management advantages, Banks have firmly planted themselves at the center of the shift from paper to electronic payments. However, this central role of the banks starts fading in the area of "emerging payments," which primarily support e-commerce, m-commerce and convenient payment options. If overall growth in e-commerce and m-commerce is any indication, the significant attention drawn by these emerging payments areas is well deserved. According to *The Electronic Payments Study* released in 2007 by the Federal Reserve, the number of transactions using emerging payment options ballooned from 1.38 billion in 2003 to 6.04 billion per year in 2006, implying an astounding growth rate of more than 60% per annum.

With the growth in the purchasing power of Generation Y and increasing adoption of e-commerce, emerging payments has built significant momentum for the coming years. According to the US Census Bureau, e-commerce accounted for 3.3% of the total retail sales in 2008. E-commerce also seems to be weathering the economic downturn relatively better. Total e-commerce sales for 2008 were estimated at $133.6 billion, an increase of 4.6% from 2007. Total retail sales in 2008 decreased 0.6% from 2007.

"Now, here you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that"
—Red Queen, Through the Looking Glass, Lewis Carroll

So here we are with the Red Queen's advice: If the banks want to stay at the center of the payment processing industry, capturing the electronic payments market is not enough. They need to be firmly established at the center of emerging payments industry.

A quick survey of the market (see Table 3) shows that many non banks have already taken a strong lead in this market space.

Emerging payments methods have different rules and value propositions than traditional methods...

Due to the evolving nature of the emerging payments areas, it is difficult to accurately measure the full aspects of the value proposition and market share of various players. A first cut assessment (see Table 3) shows that these payment areas are significantly driven by their potential impact on revenue in terms of sales lift, provision of credit, reaching new markets, and convenience of payment they provide to customers. Also, the usefulness of these methods grows with further adoption, similar to a social or professional networking site.

While traditional payment methods (e.g. ACH vs. Check vs. CHIPS) were mostly evaluated on the basis of their cost and speed of settlement, these emerging payment methods rely more on convenience and the sales lift they can provide to the merchants. Similar to e-commerce/ m-commerce, these are new and powerful value propositions.

Though there are no definitive statistics available, and despite some of the failures (e.g. Pay by Touch), it is clear that unlike conventional electronic payment, the emerging

Feature	Revenue impact	Efficiency	Speed	Convenience	Industry structure and players
Online Bill Payment	◔	◕	◔	●	Checkfree
P2P Payment	◕	◔	◔	◕	Paypal, Google check out, Amazon Payment, eBillMe
Payment over time option	●	◔	◔	●	Billmelater, eLayaway
Decoupled- ACH Debit Cards	◔	○	○	◕	Tempo Debit
Mobile Payment	◕	◔	◔	●	Obopay, Firethom, MShift, Monitise, My Tango, Mobibucks
RFID Transponder/ Near Field Communication	◑	◔	◔	●	Cards networks, Exxon mobile- Speedpass, EzPass
Prepaid account/cards	◕	○	○	◑	Credit card associates, retail stores- Stored Value Card

• Higher shaded area represents higher impact. The impact has been assessed based on the comparison with the nearest substitute(s) e.g. check payment vs. online bill payments • Revenue—Increase in sales, reaching newer markets, better payments to the client. • Efficiency—Cost of transaction, time and effort, float, set-up cost reduction, move from fixed cost to variable cost structure, most efficient routing based on the nature of the transaction • Speed—Net time to settle the transaction, transaction time reduction, ability to manage payment timeline • Convenience—Convenience of payment and flexibility (anywhere, anytime, anyone)

Table 3: Emerging payment methods: Value proposition and industry players

payment market is dominated by non-banks even when banks control the settlement process at the back-end. EBay reported that PayPal and Bill me Later together had 70.4 million active registered users as of Dec 31, 2008—a growth of 23% year-on-year. Similarly the number of payments grew by 24% year-on-year in Q4 2008 to 252.2 million.

... and are breaking down siloed approach of traditional payment methods

When we look at the other side, viz. payment fulfillment delivery mechanisms, emerging payments have challenged the neat, vertically integrated payment method structure. For example, the decoupled debit card has provided value to clients by delivering a product through the combination of the payment card network and the ACH network. While traditionally ACH and Card payments were competing for same market, a de-coupled debit card is actually delivered through the combination of ACH and Cards network!

Similarly, PayPal has added a unified customer interface for Check, ACH and Credit Card payment methods, providing an integrated solution to the customer based on customer need. In essence, many pieces are being added to the 6x3 matrix shown in Table 1 and all the pieces have become a part of the puzzle which needs to be arranged so that it provides the best value proposition for customers. The market is already well on its way to leaving product boundaries behind and focusing on customer value instead. The value proposition is changing from providing access to various payment networks to providing tangible business value to the client on various parameters including revenue, efficiency, speed, convenience and, finally, a catch all—choice to the customer.

In the current credit market scenario, Banks don't have an acquisition route readily available ...

While emerging market dynamics and solution delivery are challenging the established structure, banks currently don't have one of their most traditionally powerful levers due to the diminished market valuations and liquidity challenges. One of the key strategies for the banks has been the acquisition of (or investment in) potential winners in emerging areas (e.g. JPMC acquisition of Xign Corporation). This strategy seems to be very difficult in the current market, due to the size of the deals and the fact the most of these transactions are predominantly "cash" driven (see Table 4.)

Effectively, non-banks currently have the first mover advantage with banks struggling with extraordinarily tough operating conditions—all but precluding the tried and tested acquisition strategy historically used by banks. However, given the significance of payments and the revived focus of banks towards treasury and payment solutions, banks need to look at all possible options available to get back in the game.

Banks have several organic growth options to meet the challenge

Fortunately, banks do have several options that can help them meet the challenge (see Table 5.)

These options are not mutually exclusive. An Organic-Intrapreneurial strategy provides high to medium returns with an initial investment which is much lower than that required when using an acquisition strategy. One of the critical success factors when using this approach will be finding the right partners to co-invest, especially through skills and financial commitments.

The Organization Redesign option is a response to the siloed product approach being challenged by emerging payment methods. In order to implement this option, banks will have to start looking beyond the establishment of "just" a payment strategy group and towards bank-wide integration. This entails aligning the organization's structure, reporting, and incentives for various groups—sales, products, operations, and technology—to ensure a holistic customer-driven view instead of a product view. Two approaches include the setting up of a separate payments line of business (LOB) and the establishment of a matrix structure. Though it goes a long way towards providing a holistic view of payments, the separate LOB structure has the down side of isolating payments from the other large offerings of the banks. With the incentive to maximize revenue from the overall "payments" area, a matrix structure, based on the alignment of all the payments groups, also brings about a more holistic view while also providing improved solution design for the customers.

Outsourcing continues to be a good model for the banks that either do not consider payments a core business or as is often the case, don't have deep pockets to invest and keep themselves updated.

Finally, the adopted option(s) will depend on each bank's strategy, core strengths, customer profile, structure and organization design. The important point is to recognize that the payment processing industry is changing rapidly and unless banks respond quickly, they may lose out on a number of fast-growing profitable segments to non-banks.

Time	Deal	Transaction value
Oct 2008	EBay - Bill Me Later	$820 million in cash + $125 million worth of outstanding options, net of option exercise proceeds
Jan 2008	PayPal - Fraud Sciences Ltd	$ 169 million cash
Dec 2007	Fiserv - CheckFree	$ 4.4 billion cash
Nov 2007	Qualcomm - Firethorn	$ 210 million Cash
Sep 2007	Fidelity National Information Services - eFunds	$ 1.8 billion cash
June 2007	CyberSource - Authorize.Net Holdings	$125 million cash + 1.1611 shares of CyberSource for 1 share of Authorize.Net

Table 4: Emerging payment: Recent mergers and acquisitions

Characteristic	Option	Risk	Potential return	Investment
Inorganic growth	Acquisition of an existing proven player	Low	High	Very High
Organic-Intrapreneurial	Independently incubating a new venture/ SPV	High	High	High/Medium
	Joint venture with other Banks and/ or Technology company	Medium	Medium	Medium
Organization re- design	Breaking the product "siloed approach" and adopting a customer solution approach	Low	Medium	Low
	Establishing a separate Line of Business for Payments	Medium	Medium	Low
Non-core	Outsourcing	Low	Low/medium	Low

Table 5: Responding to the challenge—options for banks