

WORLD BANK AND
UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

E-FINANCE FOR SMEs: GLOBAL TRENDS AND NATIONAL EXPERIENCES

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**“NEW TECHNOLOGIES FOR SMALL AND
MEDIUM-SIZE ENTERPRISE FINANCE”**
THE WORLD BANK CONFERENCE, 4-6 DECEMBER, WASHINGTON



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INTRODUCTION

While large enterprises are privileged to have access to finance on competitive terms the same is not true for small and medium size enterprises (SME). Microenterprises are even worse off in that respect. Public and private sectors have traditionally tried to find answers to the perennial question of SMEs access to finance. Developed countries have tested many arrangements and instruments to enhance the access of SMEs to finance. Some approaches worked well while the others have failed.

The SMEs of developing and transition economies representing the overwhelming part of their productive capacity face an even more severe lack of access to finance. It is still a scarce and dear resource to them in spite of attempts on various levels to address these issues through adaptation of recipes, regardless their origin, to the realities of developing countries, or helping to innovate drawing on their existing experiences.

The advent of online electronic finance brought with it the promise to provide cheaper, faster and more widely available finance for SMEs and to find for them better solutions than the cash based informal economy. Various types of online financial services either targeting SME-s, or suitable for their requirements have already emerged or are coming on stream, trying to capitalize on this still widely untapped and vast opportunity for enterprises to develop their productive capacities.

The paper begins with a review of current global and regional trends of e-finance, including Internet banking, e-trade finance and e-credit information, which are of immediate interest to SMEs and their trade. More specifically it looks at the global e-finance platforms from the point of view of their relevance for developing countries enterprises access to e-finance. Followed by a snapshot on SMEs e-commerce preparedness it then reviews the SME related e-finance experiences and initiatives in developing countries. Finally it tries to outline the challenges for SMEs and related to them players in this critical for development domain.

Documentation on e-finance for SMEs is still heterogeneous and fragmented especially regarding developing and transition economies. In particular, data on the attitudes of users of e-finance services have still not yet been collected and analysed on a systematic basis. E-finance suppliers themselves provide a large share of the documentation. Alongside useful information, they are promoting initiatives, in some cases at the pilot stages. Therefore data on their actual use and impact should be taken with precaution. In this paper we tried to incorporate the most recent information and analysis of the subject matter including the materials produced by the experts participating at two recent UNCTAD e-finance related events, namely the UNCTAD Expert Meeting “Improving Competitiveness of SMEs in Developing Countries: Role of Finance and E-Finance to Enhance Enterprise Development”, held on October 23-24, 2001 in Geneva, and the UNCTAD Side Event “E-Finance for Development” held on March 19, 2002 in the framework of the International Conference “Finance for Development” (FfD) convened by the UN on 18-22 March 2002, in Monterrey, Mexico. It also largely relies on the Chapter 6 of UNCTAD “E-Commerce and Development Report 2002” prepared by the author of this paper.¹

¹ The expert papers and the UNCTAD documents are listed in the references. They are also posted on the UNCTAD e-commerce website www.unctad.org/ecommerce

1. E-FINANCE GLOBAL TRENDS

1.1. The scope of e-finance

E-Finance is defined here as that of financial services delivered online through Internet fixed and wireless networks to the enterprises and households.² At the same time where appropriate, we also look into the related areas such as offline use of electronic devices for payment transactions in remote areas.

1.2. The scope of SME related e-finance

E-finance includes Internet banking and payments, e-brokerage, e-insurance, and other e-finance services. Internet technologies have now penetrated all aspects of financial services industry, both retail and wholesale, back-office and front office, information and transaction. In fact even in narrow sense the e-finance represents much bigger share of finance than the e-components of many other sectors of economic activity. At the same time SMEs apart retained profits traditionally also use the channels of bank lending, trade finance and are highly dependant on the quality of credit information related to their performance and financial health. Actually the efinance of immediate interest for SMEs in developing countries includes Internet banking and payments, e-trade finance, online credit information and related e-credit insurance, e-factoring and other operations. Microfinance having common features with SME finance is also close to household finance and can be considered as a combination of both. Private equity mobilization and fixed income corporate papers through online exchanges as well as venture capital and business angels networks to finance online SMEs in developing countries are still at a stage initial trials in some countries.

1.3. Internet banking

Internet banking refers to the deployment over the Internet of retail and wholesale banking services with individual and corporate clients including bank transfers, payments and settlements, documentary collections and credits, corporate and household lending, cards bus iness and others.

Since its inception Internet banking has been experiencing a strong and sustained growth. Thus, according to Jupiter Media, Internet traffic for all US banks grew 77.6 percent between July 2000 and July 2001, compared with overall World Wide Web traffic growth of 19.8 percent for the same period.³ The Online Banking Report Newsletter estimates that the share of US households using systematically Internet banking will increase from 20 per cent in 2001 to 33 per cent in 2005 and by 2010 might reach 55million users.⁴ In France, the number of online banking accounts is growing at 75 per cent per year and is forecast to reach 10 million by 2003. Datamonitor forecasts that between 2000 and 2003 the number of online bank accounts in Europe might grow annually by 34 per cent. The number of online accounts would

² See "Managing Payment and Credit Risks Online: New Challenges for Financial Service Providers", Chapter 7, UNCTAD E-Commerce and Development Report 2001, UN, New York and Geneva 2001, pp 143-169

³ See www.jmm.com

⁴ See www.onlinebankingreport.com/resources/sr7.html

increase from 14.3 million in 2000 to 34.2 million in 2003. As a result the Internet banking user population is rapidly increasing.⁵

Internet banking operations represent currently between 5 per cent and 10 per cent of the total retail banking transactions volume both in the USA and in Europe. This is less than the share of Internet securities trading, estimated at between 20 and 25 per cent of the total, but much more than overall business-to-consumer (B2C) e-commerce representing around 2 per cent of the total retail trade.

Internet banking is becoming a driving force shaping the future of the banking industry. All banks, including those who remained cautious in the past, intend to offer access to its products and services via the Internet, which is seen as a major distribution and communication channel.

Dramatic change of perception

The e-finance revolution of 1990-s has also completely changed the initial paradigm suggesting that the pure Net finance banks and payment applications would bring the formula of success and that they would destroy the traditional banks and usher powerful newcomers from the outside of the banking industry.

The current status of Internet banking shows that the above paradigm proved to have been wrong. The traditional banks have not been destroyed and no newcomer was able to penetrate durably and on a large scale the banking sector. Some of these newcomers, who had raised considerable funds, had to dramatically scale down their ambitions. Few of them may still succeed (for instance Egg - a UK pure Net bank) but apparently pure-play e-bank approach would have required considerably more time and resources to succeed, while its promoters might have needed deeper pockets and much more patience to persevere.

Click and mortar: dominant model

Instead it was the traditional banks, and other financial service providers, which have espoused the aggressive Internet strategies. Today the entry barriers to Internet banking appear to be much higher for new entrants than it used to be during the first days of it. Those barriers are high because they are grounded in customer attitudes and the very nature of banking services and products. The traditional banks with a strong customer base have a major competitive advantage over newcomers. However, to maintain this advantage is not an obvious undertaking. The key to success is in keeping pace with technological change and sophistication, which allows a bank to understand the potential of Internet technologies and to integrate them into a coherent business strategy. For many banks scale of operations and investments needed pose the problems of outsourcing or aggregation of services in hubs, etc. As the majority of Internet users are equally using Bank branches and ATMs, the radical change in the nature the bank branch is also in the order of the day. The idea is to make them one stop shops, i.e. well networked financial advisory centres for clients where the interoperable back-stopping financial software programmes and expert advice from the relevant services of the bank or a partner institution are helping the branch employees to become advisors and treat the clients requests comprehensively. Thus a real time access to the client's profile might help with a click to optimise future cash flows with borrowing plans.⁶ So the prevailing

⁵ See www.datamonitor.com

⁶ See for example "Reinventing Branch Banking" The Forrester TechStrategy Report, March 2002

model of Internet banking today is the one thoroughly integrated within the existing banking infrastructure, which combines click and mortar.

To further develop e-finance the banks should show to customers that they provide on Internet the same security standards as in case of traditional banking. Moreover like all credit card associations and companies, the banks would probably assume at least at initial stages, the full responsibility to cover the costs incurred by clients as a result of a security breach and unauthorised transactions. Encouraging migrating to Internet banking by offering better interest rates and cheaper accounts is what comes next. Probably the ability to gain the customers trust due to security, full responsibility and financial incentives were at the heart of the most successful pure net banks. For click and mortar banks transforming remaining physical branches into multipurpose advisory centres network is also a form to encourage clients to move to the Internet banking services. The competition for clients between and within both groups of banks is intense also as far as the quality, content, functionality and variety of websites and services they provide.

Online banking for SMEs

The content and functionality of banks websites and their ability to meet virtually all the needs of clients at very competitive costs is what SMEs need. Many global financial service providers developed specialised SME related Internet banking. Thus Citibusiness, a service of Citigroup, render online various e-finance services to SMEs of the USA and some emerging economies of Europe, Asia and Latin America, including checking, savings, money market accounts and certificates of deposits (CD), thus helping them to manage cash flow online. SMEs can also apply online for lines of credit, loans and mortgages. Managing clients funds in separate accounts and other services to meet the SMEs global banking needs are also a part of this service (www.citibank.com/citibusiness). Other global players like HSBC, Deutsche, Standard Chartered and others are also developing similar services.

1.4. Internet payments

The global dimension of Internet should not overlook its importance for local and regional communications. Thus the main use of it as a payments channel might still be for traffic of domestic payments. In 1999 the latter represented 99 per cent of the volume and 86 per cent of the value of all payments transactions. According to a projection of Boston Consulting Group, while between 1999 and 2009, the international payments might experience high growth rates and could increase from USD 238 trillions to 510 trillions, i.e. their share in overall payments would probably increase by 3 per cent, from 14 to 17 per cent. Another interesting observation of the same projection is the much higher growth rates of domestic payments in developing and transition economies during the same decade suggesting *inter alia* the increasing substitution of cash by mainly electronic banking intermediation in the local payments flows. Given the fact that SMEs related wholesale payments are the most profitable ones for the banks also suggests that many SMEs might migrate from offline to online payments, which would *inter alia* mean a serious step in their integration into the formal economy.⁷ Such eventuality depends a lot on the ability of policy makers in emerging

⁷ See "Global Payments 2002" The Boston Consulting Group, 2002. The formal economy is the one where economic agents are properly declaring their incomes and expenditures and hence paying taxes, while the informal economy is based on cash, avoiding taxes and lack of reporting on financial operations.

economies to create a SME friendly regulatory environment and support measures, contain corruption and hence encourage SMEs to open up their books, gradually decrease the share of cash in their transactions.

Meanwhile transactions in a set-up of informal economy with the highest denominated notes are still the main payments method for SMEs. While handling cash is extremely expensive and cash balances do not gain interest, even in developed countries cash do not wither away with the advent of various means of e-payments. Thus at the end of 2001, the US dollars in circulation were around \$620 billion (i.e. \$2,200 per capita) with the main part of it being denominated in \$100 bills. Even if one assumes that 75 per cent of the US dollars are abroad it still leaves \$550 per United States resident. At the same time according to the Federal Reserve Board, average American households do not hold \$100 bills. According to experts those bills are mainly used by small businesses in an informal economy. The scale of above operations are higher in Europe and even more in Japan not to mention the developing and transition economies.⁸ While in developed countries the ratio of payments to GNP is more than 50 times, in developing countries it is much lower indicating the lower velocity of money circulation and lower level of formal financial intermediation in the latter.

At the same time the propensity to participate in e-commerce and the requirements to enter into the chain of online payments with both corporate and household clients are continuously pushing SMEs to adopt the culture of online payments. The increasing shares of online retail and wholesale payments in overall payments traffic of developed and increasingly of developing countries are also indicating for increased participation of SMEs online payments.⁹

First wave online payments: Road kills and hard slogs

Meantime not all emerging e-payment systems were enough robust, secure and standardized to pave a way for lasting and widely accepted e-payment infrastructures. Some of them have experienced several setbacks while others run into serious, sometimes fatal, difficulties. Thus, Digicash, a highly visible promoter of e-cash, after acquiring substantial funding and prestigious investors had to be finally liquidated in September 1998. The early market leader, Cybercash, had to change its strategy and top management several times and finally in early 2001 delisted itself from NASDAQ. The majority of French banks with a view to combine Internet and smart card technologies backed a French venture called Cyber-comm. However it was wound down in early 2001. Micro-payments, which were also considered in the mid 1990s as a strong candidate for a killer application and a preferred mechanism for transactions for intangible goods (information, on-line entertainment and others), have so far didn't take off on an expected scale.

Some broad standardization initiatives have also made little progress. Thus JEPI (Joint Electronic Payment Initiative), despite strong support from CommerceNet and Worldwide Web, was abandoned due to the lack of interest of business participants in this initiative. Another broad-based initiative, is SET (Secure Electronic Transactions). It was supported by the payment card giants Visa and MasterCard, as well as such IT heavyweights as IBM and Microsoft, which sought to combine complex Internet encryption methods through the use of combination of software and Public Key Infrastructure (PKI).¹⁰ However due to its complexity it also run into significant problems of market acceptance by merchants, end customers and

⁸ Rogoff S. Kenneth, "The surprising popularity of paper currency", Finance and Development, March 2002 pp56-57

⁹ For more detailed discussion of the mechanics of online payments see Chapter 7 of UNCTAD E-Commerce and Development Report 2001

¹⁰ Ibidem

banks themselves (UNCTAD 2001). So, far there has been no universal or speedy adoption of that standard. Moreover Visa began to de-emphasize in favour of 3D Secure, a part of so-called 3-Domain model, which is believed to be a new emerging industry standard.

Despite numerous attempts aimed at offering innovative alternatives, credit and debit cards and their existing payment network and procedures, still continue to be the main payment instruments for B2C transactions. They are used in more than 90 per cent of online purchases. Small businesses are also using the same instruments for some of their payments needs. And yet, there is a broad recognition that the current credit card-based payments are not suitable to explore the potential of e-commerce transactions. The current commission and interchange payments structure is deemed quite expensive by most e-tailers. Even the supposed beneficiaries of this situation, i.e. banks and payment networks, do not particularly like it, to the extent that any scheme where card is not physically present, increases the risk of fraud and conflicts. Thus, the card networks point out that Internet transactions represent a disproportionate percentage of charge-backs and fraud. To make payments more secure and to decrease merchants liabilities for fraud and certain chargebacks Visa introduced the so-called Verified by Visa (VbyV). Hopefully introduction of such application will increase consumer confidence in Internet based card payments. At the same time the card-based payments are not yet well suited for either small-value (micropayments) or large-value payments. Whether the recently introduced smart cards combining the virtues of all cards and other e-banking characteristics (in a chip embedded in a card), will make cards suitable for micro and large value payments remains to be seen.

The main problem with the first generation of Internet payment initiatives is that they have not focused enough on their customers' behaviour and attitudes. As a result, most of these systems appeared as hasty steps in a process of a search for more efficient and lasting solutions. They combine considerable technological sophistication with a degree of marketing and business naivety. They also suffer from technological overkill. New solutions also fell into the sort of a vicious circle: merchants will not offer e-payment schemes if few customers use it, while customers will not use e-payments if few merchants accept it.

Yet, despite the dismal track record of the first wave e-payment schemes, the development of Internet-based payments has not slowed down but actually broadened in scope. Online payments continue to attract new entrants, be they cyber-entrepreneurs, backed by venture capital or well-known IT providers such as Microsoft or Yahoo. The range of proposed solutions is growing wider and currently include, virtual points providers (e-centives.com, my-points.com); peer to peer or P2P payments (PayPal, BillPoint, PayDirect, eCount.com); virtual escrow systems (escrow.com, tradesafe.com); digital wallets (Yahoo Inc., Microsoft Passport); virtual and smart cards (Visa, American Express, Mastercard, AIB, NextCard); electronic bill payment and presentment or EBPP (e-route, billserv.com, CheckFree Transpoint).

One of successful payments solutions having the potential to organise online payments for small SMEs and microenterprises could be **Paypal**. While still relying on traditional banking accounts and card infrastructure for actual fund transfers it managed to capture from the card associations the online P2P payments market. The payment architecture of Paypal combines innovation, which is the use of e-mail for payment notification and confirmation, account management and its integration into existing payment systems. Using existing networks Paypal play a role of a merchant keeping the books of email transactions as its own and settling a large proportion of them across those books. Paypal's income is derived primarily from the float on accounts it manages, complemented by fees charged to purchasing customers and

service providers. This business model allows Paypal to undercut the traditional merchant acquirers, particularly for the small businesses. This requirement arises for instance in the context of on-line auctions, where buyers and sellers need a sure, secure and cost-effective payment mechanism to settle their transactions. Thus, Paypal benefited from a close association with the leading cyber-auction operator, E-Bay (25 per cent of E-Bay payments go through Paypal). A system such as Paypal can capitalize on viral marketing, as each user of Paypal encourages his friends and business acquaintances to open an account.

Paypal has been spectacularly successful. Created in late 1999 in a typical Silicon Valley fashion, it claims over 16 million users (growing at 28,000 accounts daily), including over 3 million business accounts, spending approximately \$12 million a day in 200,000 transactions per day across over 38 countries. PayPal went for initial public offering in February 2002, raising \$70million at a market cap of \$777million. While in 2001 Paypal processed over 3,3billion in payments the estimate for the Q2 of 2002 was More than \$1,6 billion.¹¹

Some other above mentioned mainly B2C payments systems could also be adapted to small SMEs and microenterprises requirements. At the same time the B2B payments methods are also taking inroads. Thus middle and large enterprises are seriously considering to use **electronic invoice presentment and payment (EIBP)** a B2B cousin of EBPP in inter-enterprise payments. According to experts the online EIBP cuts the costs related to online handling of account receivables(AR) and the accounts payable(AP) in comparison to their paper versions by more than half. In European Union and many other countries the digital invoices are now legally acceptable permitting to process EIBP and EBPP. In many cases this system are run by banks, to which enterprises outsource activities related to their receivables and payables. The reason for that is the reluctance of enterprises to make large investments while establishing those systems in-house. At the same time outsourcing permits them to cut even further the costs related to handling the e-invoices traffic.¹²

The multiplicity of online payment methods are reflecting the continuing search for standards in the industry. Moreover the online payments devices are now becoming more diversified moving from PC workstations to mobile devices and Internet enabled TV sets.

Further expansion of global e-payments systems: VISA, Identrus and SWIFTNet

While the payments card associations like Visa, Mastercard, American Express, were already for some time at the forefront of Internet based payments and are moving towards their further diversification, the banking industry was also changing its attitude from being reactive to proactive. The creation of Identrus and the migration of SWIFT, the most important existing global interbank payments network, to Internet under the *SWIFTNet* programme were among the most visible examples in that respect.

The biggest payment card association, **Visa** continued to experience a spectacular growth in its payments traffic. Between 1985 and 1997 the Visa transactions increased from \$100 billion to \$1 trillion in 1997. Since then they doubled reaching \$2 trillion in 2001 (Reid, 2002). However the share of e-commerce related payments are still low and concentrated mainly in the B2C sector. While continuing to upgrade its e-payments modules based on the PC workstations Visa is actually exploring new payment devices such as mobile phones palms and computers (m-payments), Internet powered TV sets (t-payments), mainly offline payments between electronic devices in proximity (p-payments) using infrared or Bluetooth technologies, and finally payments initiated by voice sensitive technologies (v-payments). One might

¹¹ See www.paypal.com

¹² "E-invoicing- ready to take off?", *CFO Europe* in EIU Country Briefing, 22.04.2002

unite all above payments under the connotation of ubiquitous payments (u-payments) following the similar used by Visa term of e-commerce. As far as SMEs servicing is concerned Visa has developed several solutions including *Visa Business* (permitting SME buyers to have a short term trade credit limit embedded in the limit of a given card), *Visa Distribution* (permitting large wholesale suppliers to automate the account receivables from SME buyers) *Visa Purchasing* (permitting larger enterprises to streamline procurement process), and *Visa Commerce* (a non card based B2B payments model). Such models are *inter alia* helping to integrate SMEs into online payments and in particular familiarise them with the larger company standards. Visa and other card companies were among the leaders in developing a critical technology of the smart card. This technology has been used in South Africa for instance to create financial infrastructure for people without banking accounts. In the medium term, the smart card might provide a secure and cost-effective support for specialized payment and settlement services *inter alia* for SMEs, including those operating in the informal sector (Reid, 2002).¹³

From the standpoint of the global payment infrastructure, the December 2000 decision of **SWIFT** to migrate to a new IP-based network, *SWIFTNet*, represents a major milestone. SWIFT network is a core element of the global payment infrastructure. Like Visa it is experiencing an impressive growth in its operations volume. From 1991 to 2001 the SWIFT message traffic increased from less than 0,4 billion to 1,5 billion a year. The peak of daily traffic in 2002 was reaching close to 8 million messages a day. The main chunk of its payments are gravitating towards Europe, while Fedwire continue to dominate the payments in the USA. SWIFT has co-operated with European central banks to support their real time gross settlement systems, serving as a common messaging service for the majority of high value payment systems in the Euro zone. SWIFT provides also the infrastructure for TARGET system. Its role in market infrastructures is also expanding, as it is becoming messaging hub for clearing and settlement systems in securities (Global Straight Through Processing) and foreign exchange trading (CLS bank).

It is expected that *SWIFTNET* will combine IP standards with highly secure, high performance network, owned and operated by SWIFT. The principal SWIFT application, *FIN*, started to migrate to *SWIFTNet* from August 2002 and will form *SWIFTNetFIN* a fully IP based application. As a result all customers of SWIFT will have to migrate to Internet. It is anticipated that *SWIFTNET* will offer a wide range of other services, including information, security, payments, etc. *SWIFTNetFIN*'s ambition is clearly to become the infrastructure of choice for new generation of Internet technologies-based payment systems and related services.¹⁴

Running the above major systems demands nearly 100 per cent security standards. Many security arrangements are proposed to achieve such results. The most visible arrangement for the financial sector is **Identrus**, a US-based organization created in early 1999 and owned by 42 global financial institutions, which act as *Identrus Certificate Authorities* for corporate customers in more than 133 countries. Identrus seeks to create a global trust infrastructure, based on PKI, enabling business-to-business (B2B) commerce among all companies, which are using this infrastructure. Identrus network will link in a structured and hierarchical way various security and certification systems created by its member banks. Identrus itself will operate a root certificate authority (root CA), an entity at the pinnacle of the electronic identity hierarchy. Identrus' legal and technical infrastructure is based on a set of uniform system

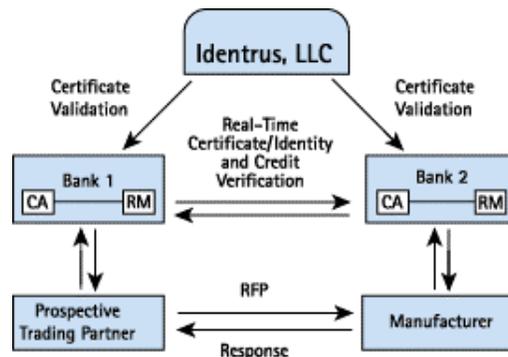
¹³ See also www.visa.com

¹⁴ See www.swift.com

rules, contracts and business practices for comprehensive trust and risk management (UNCTAD 2001).

In December 2000, four major banks, ABN AMRO Bank, Bank of America, Deutsche Bank and HypoVereinsbank, went live with Identrus and deployed trust-enabled B2B applications.

Graph 1: *The Identrus scheme*



Source: http://www.identrus.com/story_03.xml

Already in 2000, Identrus has announced a strategic alliance with SWIFT. Introduction of IP standards will allow SWIFT members and users to have single interfaces to various infrastructures and services.¹⁵

From closed to open architecture

Payment systems, particularly the wholesale systems used for transactions among financial institutions have been moving to an electronic infrastructure since the beginning of the 1970s. The electronic payment systems and networks were based on proprietary protocols and dedicated telecommunication infrastructure.

The Internet radically changes this situation. It is an *open network infrastructure*, involving direct non-hierarchical links between the buyer, the vendor and any intermediaries as well as between them and the technology providers. The Internet model dissociates the network from the physical infrastructure. It allows interconnection between heterogeneous networks and provides ubiquitous common standards, whose development is no longer controlled by a single entity or even a group of entities. Furthermore, with encryption technology, digital certificates and smart cards, it is now possible to provide security in a modular and flexible fashion. Thus a highly secure environment can be created on the public networks.

In other words the introduction of Internet entails a radical value shift.

Graph 2: *Internet payments: Radical value shift*

¹⁵ See www.identrus.com

| Traditional payment service providers | Internet |
|---|---|
| Closed network Private infrastructure Mono-industry | Open network Public infrastructure Cross-industry |

This view of a radical value shift is not necessarily universally shared. First even the leading players like SWIFT or Visa do not yet transferred their core operations to open systems, which creates a degree of uncertainty as far as their future operations are concerned. Second, for many payment systems, use of IP standards and protocols does not entail a radical change in their business practices and their governance. It remains to be seen whether the full advantages of Internet architecture can be gained without fully accepting the open network model.

1.5. International electronic trade and finance systems

Designed to facilitate movement of goods and services, trade finance systems rely on complex flows of complicated documents, traditionally paper-based, which makes it slow, costly and error-prone. Hundreds of billions of dollars are being spent annually on processing the paperwork associated with international trade.

For several years, various participants in international trade have sought to simplify the flows and migrate from paper-based to electronic documents. These were laborious and often frustrating efforts due to the difficulties of defining common standards.

The advent of Internet technologies has a potential to significantly accelerate the evolution toward fully electronic trade finance. However given the fact that enterprise trade finance related payments are only a small part of overall payments traffic the banks had to make hard choices, i.e. either to further specialise on trade payments and finance, or to outsource them and save on transaction costs while keeping the client base.

In fact the need to outsource trade services and play on economies on scale were at roots of industry wide or private initiatives to create global online platforms centralising the servicing of the trade cycle and in particular its trade finance part. Those platforms have a potential to service the trade and trade finance needs of SMEs. The following analysis of Bolero, Tradecard and CCEweb might help SMEs to better familiarise themselves with the mechanics of such platforms.

Platforms for digital trade documents: the cases of Bolero, Tradecard and CCE web

Bolero International Ltd. is a UK based joint venture of SWIFT and the TT Club (association of freight insurers) created in April 1998. The aim was to create a platform for the secure electronic transfer of commercial trade documentation and data worldwide via the Internet. The platform went live in September 1999, with SWIFT operating the system under contract to Bolero. In Fall 2000, Bolero obtained venture capital funding of USD 50 million, from a consortium led by Apax Partners (UNCTAD 2001).

Bolero claims that it acts as a neutral and trusted third party proposing so called *Core Messaging Platform* for highly secure delivery and receipt of all trade related electronic documents including payments. In addition to a common technology platform, Bolero provides

also a unified legal structure that binds together all parties involved in international trade (importers, exporters, shipping agents, freight forwarders, customs and banks). The messages between users are validated and acknowledged while the *Title Registry* application allows online the transfer of ownership of goods. After extensive consultation with the industries, Bolero issued a *Rule Book*, which allows any dispute to be resolved in the same way it would be with paper documentation. At the same time as many banks and their clients find the Rule Book complicated, Bolero allows also for the application of eUCP provisions (electronic version of Uniform Customs and Practice for Documentary Credits of ICC). Bolero has also developed a value added service called *SURF* that matches trade documentation online between buyers, sellers and banks in order to accelerate and reduce error rates in all trade transactions.

At present, SWIFT operates the *Core Messaging Platform* on behalf of bolero.net. It is planned as one of the first services to migrate to SWIFTNet. In order to demonstrate its commitment to Internet technologies and their tangible benefits, Bolero and its users have developed BoleroXML, a set of specifications which describe the standard structure and contents of the electronic version of a common trade document such as Commercial Invoice, Bill of Lading and Packing List. The UN/CEFACT has recently endorsed BoleroXML as a migration path to the EBXML standard. Bolero is committed to providing an open solution that runs over the Internet and made available interface specifications. So far, over 30 companies, including Sun Microsystems AMS, Mercator, Neon, China Systems, Midas Kapiti and Surecomp, have become bolero.net partners. Major customers themselves can develop their own interfaces to connect to the Bolero System. Bolero's customer base includes over 70 of the world's largest financial institutions and logistic organisations. More than 30 major global corporations have signed up to Bolero including Peugeot Motors, Guinness UDV, Hitachi, Samsung, Mitsui, BHP Billiton, Nippon Steel, Marubeni, Otto Versand and Posco.¹⁶

TradeCard is an USA company proposing an online substitute to a traditional bank based letter of credit (L/C). It proposes itself as trust building platform for the process of online negotiations on trade transaction and the related payment through the TradeCard substitute for L/C. It was launched in 1997, with a venture capital funding of Warburg Pincus (total investment reached USD 70 millions through September 2001), and went live on the web in 2000 (for more details see UNCTAD 2001).

TradeCard focuses on what is often considered a critical bottleneck in international trade transactions: lack of inexpensive and efficient system for crossborder trade payment settlement. In March 2001, TradeCard introduced an automated, collaborative, global trade settlement platform which claims to streamline and automate the processing of virtually any payment transaction, whether it is domestic or cross-border, guaranteed or open account, large or small. Headquartered in New York, with offices in San Francisco, Seattle, Chicago, Hong Kong, Taipei, Seoul and London, TradeCard processed \$10 million in trades from November 1999 through January 2001. The firm's monthly trade volumes are increasing by 50-100 per cent. Between January and September 2001, the number of clients increased from 130 to 600 companies.¹⁷

Initially the banks were reluctant to accept the new competitor. But currently TradeCard works with a dozen international banks and has entered into strategic partnerships with Co-face as a payment insurer, Marsh, as a cargo insurance. The other partners include MasterCard, Thomas Cooks, and Cap Gemini Ernst & Young (CGE&Y).

¹⁶ See www.bolero.net

¹⁷ See www.tradecard.com

CCEweb is a Canadian company, which based its *@GlobalTrade*-an electronic payment and trade management system on the eUCP and existing trade services banking infrastructure. The company launched its initiative in September 2000 and has built strategic partnerships with Adobe, CGE&Y, China Systems, Identrus, SITPRO and Visa International. While keeping the existing rules and banking practices to which the trading community got accustomed, it tried to create simplified electronic versions of a letter of credit as well as streamline the flow of electronic trade related documents. CCEweb claims that it has developed arrangements to streamline operations for both exporters and importers and that the costs of using its system are lower than that of TradeCard. It hopes that the banks will find its centralised platform a useful tool to outsource costly L/C related operations. While it didn't challenge the existing conventions on L/C like, TradeCard, and didn't create a parallel rules book like Bolero, it tried not only to adapt those instruments to Internet, but also to develop the easy and fast track versions of e-L/Cs. *@GlobalTrade* system allows for making a printing of the electronic original (with similar rights) of bill of lading and other trade related documents in countries without enough technological capacity to cope with PKI solutions or legal and insurance structures to support the same. CCEweb also intends to start working on the basis of passwords and pin numbers with clients especially from developing countries that do not yet have possibility to integrate into PKI systems and hence to have electronic signatures (Katsman 2002). The latter two features are especially important for developing countries financial service providers and SMEs.¹⁸

All above systems claim to bring major savings in costs and time due to electronic processing of trade and especially trade finance documents. However the first level comparison of their components might suggest that the CCEweb might be the most user friendly one, while Bolero is the most secure one. At the same time alternative arrangements implemented by TradeCard introduce more competition to the system and push the costs further down.

Bolero was an initiative of major financial industry players while TradeCard and CCEweb are private ventures. However in spite of the fact that all of them are now operational none of them yet become a profitable operation and to sustain they still need financing including venture capital financing, issuance of new shares or debt financing.

Other companies active in facilitating crossborder trade payments and trade finance via the Internet include, **LC Connect, Proponix, Actrade, FinancialOxygen, Qiva, Clear-Cross, Xign Corp.**¹⁹

E-Forfeiting marketplaces: the cases of ITFex and LTPTrade

Based in New York and in London respectively **ITFex and LTPTrade** are B2B exchanges, created in 2000, seeking to create an Internet-based secondary market for international trade finance instruments such as forfeiting bills, bankers acceptances or shipping guarantees.²⁰

At present, this is an extremely fragmented and illiquid market, with an annual trading volume estimated at US 75 Billion in 2000 (less than 3 per cent of relevant outstanding assets). Celent Communication estimates that Internet technologies will stimulate the emergence of an electronic trade finance instruments markets, whose value by 2005 should reach over USD 700 billion or 20 per cent of the total. At the same time, Celent recognizes that the growth of electronic trade finance market will be slower than that of e-markets for other instruments

¹⁸ See www.cceweb.com

¹⁹ See for example www.lconnect.com , www.proponix.com

²⁰ See www.itfex.com, www.ltpttrade.com

such as bonds or equities. This is due not only to the disparate nature of trade finance instruments (even if the on-going standardization efforts will reduce this disparity) but also to the weaknesses of established automated trading mechanisms, such as matching, and of pricing benchmarks.

It is early to judge the prospects of IFTex and LTPTrade. Their development plans were adversely affected by the general slowdown in the B2B commerce. Both exchanges are now operational.

In September 2001, LTPTrade has launched the new release of its trade finance dealing and information platform. Key features of the new platform include improved offering and dealing functionality, as well as expanded research and information resources. That month, there were 629 members signed up to the LTPtrade.net platform from 125 financial institutions in 29 different countries. Currently over 230 trade finance institutions are using the site. LTP Trade won the Euromoney Internet award 2002 for the best internet application that involves multiple providers of trade financing.²¹

Headquartered in New York, with offices in Chicago and Miami, and representatives in Brazil, Peru and Argentina, IFTex had, as of August 2001, about 400 registered users, most of which are commercial banks, importers and exporters. The completed deal volume was estimated at USD 20 million.

1.6. Online credit information and credit insurance systems

Internet provides a lot of information on many companies by a mere use of search engines. However relying on that basically free information one cannot judge the counter party risk. A proprietary credit information databases on companies performance, both as payers and suppliers, based on data from partners, experts, actual transaction and debt collection experiences is the value added service needed to manage the credit and performance risks. Those Internet based databases are run not only by banks but also by specialised agencies. Some of them are mainly credit information providers like Dun & Bradstreet and Equifax, while others are credit insurers like Coface and Gerling NCM. The latter on top of providing credit information on companies are also covering traders risks of which the buyer's default to pay is the most common risk. Credit insurance is a less expensive alternative to bank based letters of credit, permitting traders to rely on open account payment operations moving the counter party risk to the credit insurer.

Counterpart's risk is particularly important in case of SMEs as their trade is often hampered by a perceived lack of creditworthiness or supply performance record, due to the absence of reliable data and information on SMEs.

Internet makes the credit risk information and management tasks simultaneously easier and more complex. By reducing the cost of information and standardizing data formats, it makes it easier to gather and disseminate the credit information. It also facilitates integration of information and transaction. At the same time, Internet expands considerably the number of potential counterparties and the range of transactions. Businesses active online are also faced with thousands of new buyers and sellers that they know nothing about. Hence the need for quick creditworthiness assessments and for keeping them current. The required skills here are highly specialized and cannot be acquired overnight. Prior experience and accumulated his-

²¹ LTP Newsletter, November 22, 2002

torical data are essential. Barriers to entry are high. Not surprisingly, this segment continues to be dominated by the existing narrow group of suppliers, each of which has adopted an aggressive Internet strategy. These strategies have common elements, with all suppliers making their existing data available via the Internet, but they also show significant differences. Meanwhile, alternative approaches to credit information assessment, using innovative technologies, are emerging. However, those approaches are being adopted and deployed by the existing suppliers rather than by new entrants. Here the click and mortar model is even more evident than in the case of banks.

Online Credit Information :Dun and Bradstreet and Equifax

Dun & Bradstreet better known as **D&B** is probably the oldest existing provider of business information (since 1841). It created the so called D-U-N-S Number (Data Universal Numbering System), which has become a standard for keeping track of millions of businesses in the USA. The system is also expanding worldwide. It provides identifiers of single business entities, while linking corporate family structures together. The *D-U-N-S Numbers* include parents, subsidiaries, headquarters and branches of more than 62 million corporate family members in 120 countries.

D&B is implementing a comprehensive Internet strategy with a stated objective for the Internet-based services to generate the majority of current revenues by 2002. Among those online services one would mention the *D&B Global Access Toolkit*, an online global data delivery service or *QuickBooks®*, a business decision making tool for SMEs. D&B also seeks to become an important player in B2B e-commerce. To achieve this goal, the company entered into strategic partnerships with Oracle, Siebel Systems, SAP and other B2B players to integrate D&B products into their offerings. For instance, in August 2001, VeriSign, Inc., the leading provider of Internet trust services and domain name registration services, and Dun & Bradstreet announced an agreement, under which e-businesses applying for the VeriSign's Shared Hosting Security service will automatically be authenticated by Dun & Bradstreet using the company's global database (for more details see UNCTAD 2001).²²

The core business of **Equifax** is credit reporting. It has developed a range of diversified services including transaction processing, direct marketing, customer relationship management and e-commerce security solutions. Enabling and securing global commerce is the principal objective of the company. In July 2001, Equifax spun off its Payment Services into a separate company, Certegy.

Being the world's largest repository of consumer credit information, Equifax launched in January 2001 a new service – *The Small Business Financial Exchange*. Managed by Equifax, the Exchange brings together initially 15 of the largest U.S. small-business lenders – such as Bank of America, Bank One and Wells Fargo – to report and maintain comprehensive trade data on small businesses. This becomes a source of aggregated risk and exposure information on the estimated 25 million small businesses in the United States. The Exchange will enhance lenders' ability to make small business credit decisions and facilitate financing needs for this important segment of the economy. The Small Business Financial Exchange went live in August 2001.

Equifax Internet based products include *Equifax Secure*, *Checkfree* and *SunTrust* permitting to identify and authenticate participants in online transactions, *ePORT* initiative trying to lower costs, speed delivery and increase product penetration for the existing credit informa-

²² See also www.dnb.com

tion services. Here also strategic alliances were formed with VeriSign, Paymentech and PricewaterhouseCoopers.²³

Online Credit Insurance: Coface and Gerling NCM

The **Coface** Group, headquartered in Paris, is one of the world leaders in credit insurance and it operates in 99 countries on five continents. Coface offers an integrated range of guarantees, including credit insurance, guarantee insurance, exchange risk cover and fidelity insurance, to its client companies worldwide. It also provides receivables management and credit information services. In order to allow its clients to analyse and monitor the financial position of their trading partners throughout the world, Coface has developed a Common Risk System, an online database containing information on 41 million companies out of which 1,2 million companies are from developing and transition economies. Actually Coface has a credit exposure of USD 155 billion to more than 2,5 million companies, of which USD 16,7 billion, i.e. 11 per cent is the cover for companies from emerging economies. According to Coface in spite of lower political risk indicators the overall performance of companies from emerging economies is not worse than those from OECD area, which indicates for potential of those enterprises to access external finance and e-finance.

In December 1999, Coface launched a Web-based rating system, *@rating*, allowing companies to insure trade debts and get credit limits online. The *@rating* system uses the data from the *Common Risk System* to develop a simple and easily accessible credit rating system, which allows any company to:

- Check a trading partner's reliability online
- Apply for an *@rating Quality Label* and get a credit limit online
- Protect transactions online
- Check payment experience online

@rating provides a method of assessing trade debts of less than 6 months duration for the amount between 1,000 – 100,000 Euros, (representing the overwhelming majority of most traditional trade and e-commerce transactions). It offers a simple means for the trading partners to protect themselves from the risk of default and to set customer credit limits, based on constantly updated information. For the first time, ratings are generated by an agency, which can in addition actually insure the risks it is rating. Coface Group and its partners in Credit Alliance are backing the rating with a guarantee of payment, using credit insurance policies.

To complete its risk monitoring capability, Coface expanded *@ratings* to evaluate country risks (data on 140 countries are provided and regularly updated). All Coface group products now incorporate the *@rating Solution*. Since its launch, some 350 partners (banks, factors, electronic marketplaces, Chambers of Commerce, etc.) have integrated the *@rating Solution* in their service offering (for more details see UNCTAD 2001, Cazes 2001, Boccara 2002).²⁴

GERLING NCM (G-NCM) emerged at the end of last year as one of the biggest global credit insurer after the merger of Gerling Namur with Dutch NCM. Gerling Namur was also a result of the previous purchase of Belgian Namur by German Gerling. It has also an active Internet strategy. Its two main services are called *E-Service* and *E-Trade*. The *E-Service* permits the actual or potential insureds, brokers and other interested parties to enter information on their performance, policies etc. into the G-NCM credit information database using

²³ See www.equifax.com

²⁴ See also www.coface.com and www.cofacerating.com

SERV@NET- an Internet based system. It is complemented by the group's Intranet called *SERV@WORK*, helping to gather information on risks and use as a tool for underwriting the risks in all countries where G-NCM is present.

The *E-Trade* products represent various types insurance covers. Those products include: *Trusted Shops*, covering buyers from the performance failures of online shops (non delivery, non refund, fraud etc); *Trusted Trade*, providing to the e-marketplaces participants credit insurance cover against the loss of receivables (other insurance and financing products to render one stop shop financial services to those participants are also in the pipeline); *eCredibile*, insourcing online credit management services from companies and insuring their credit risks including verification of buyers, collection of receivables in time, credit monitoring and payment guarantee; and finally *Trade Cover* offering online an immediate coverage against risk of non payment of a buyer or group of buyers, but not all buyers (comprehensive credit insurance) letting the insured to choose the preferable protection level. The *eCredibile* and *Trade Cover* are in various ways competing with the Coface @rating system. (Renotte, 2001).²⁵

It is important to note here that credit information and credit insurance providers are not resolving the problems of market instability. While diminishing the risks of failures between parties in contract they themselves could be exposed to the excessive demands arising from their obligation to insureds if their counterparties will massively fail to respect the contractual obligations in case of a generalised economic crisis. In this case the credit information providers will find their prestige damaged due to excess of errors in their judgement of credit risks while the credit insurers might be in a difficulty to meet their cover obligations even if their capital reserves meet the requirements of insurance regulators.

1.7. Private Equity Mobilization

It is a widely shared misconception to think that SMEs could raise capital since their inception with so called venture capital funds. On the contrary those funds look only into private equity of only well established SME with track record and good financials. Initially starting capital for a new business comes from the starting businessmen own pockets or the pockets of their relatives, friends and so called business angels, normally a high worth individuals ready to invest into the business plans of their preferences. Normally the business angels are organised into associations on the regional basis. They support companies of their choice and pave the way for venture capital funds to invest. The latter take over to prepare the SMEs for initial public offering (IPO) i.e. selling their shares at the well established stock exchanges (hopefully with big profit) where the firms become publicly quoted companies. Normally after that stage their chances to become a large company are increasing.

Internet introduced new dynamism into the functioning of above institutions permitting them in some cases to go for global initiatives and diversifying geographically their portfolios moving in some cases beyond the OECD boundaries.

All big business angel associations and venture capital funds have rather functional websites where the SMEs could look for interested investors by filling the posted questionnaires and thus establishing the first contacts with the potential investors.

²⁵ See also www.gerling.com/credit/

1.8. Lessons from global e-finance experiences

E-finance: it is only the beginning

The above overview of enterprise related e-finance, while far from comprehensive, clearly demonstrates the breadth and the depth of e-finance development. The dot-com crash and the difficulties of B2B marketplace development over the last two years may have changed the public perception of the Internet and slowed somewhat the speed of its deployment. But they have not changed the fundamental momentum of e-finance. In not too distant future the distinction between finance and e-finance might become somewhat elusive as the core financial technology, from user interface through middleware to the applications and networks will probably become Internet-enabled and Internet-based.

Yet, the process of evolution toward e-finance is still in its early stage. For one thing, Internet technology will continue to evolve toward larger bandwidth, fixed-wireless convergence and terminal access independence.

Four common misconceptions

Yet, beyond the technology, it is essential to understand the business dynamics of e-finance. On this score, it appears that there are four common misconceptions about e-finance, which help to explain some serious strategic errors, committed frequently by overenthusiastic promoters of e-finance.

Cost reduction potential

There is no doubt that Internet has a potential to reduce financial transaction costs. However, the cost reduction potential has often been exaggerated or misinterpreted. Cost dynamics of e-finance are quite complex. For one thing, in order to achieve the full potential of cost reduction, it is important to create a fully automated system, capable of straight-through processing. Such system may require heavy investments in computing power, network building and programming capability. Furthermore, the costs of migration from legacy to Internet-based architecture are often very high. For that reason, many e-finance enthusiasts favoured a pure play model, creating an Internet bank from the scratch. The underlying assumption was that the newcomers had a crucial cost advantage. However, this assumption proved false. Whatever cost advantage newcomers may have achieved via technology, it was decisively undermined by the need for heavy client acquisition spending. Furthermore, while technology cost savings were often hypothetical, marketing costs were actual expenditures, amounting to between USD 150 and 300 per actual customer. While such costs could be justified in on-line broking (and as a result some newcomers, such as E-trade or Ameritrade managed to gain sizeable market share), this was not the case for Internet banking. Internet did not invalidate the basic marketing rule that the cost of selling a new product to an existing customer is 10 per cent of the cost of selling to new customer. A large part of Internet costs remains at the first glance invisible but it is still there.²⁶

Ease of implementation

A related fallacy was one of the ease of implementation. While it is cheap and quick to create a basic Web site, to design and implement a fully functional, industrial-strength application capable of accommodating in a secure manner a large number of complex transactions and

²⁶ Global Electronic Finance (2001c)

huge variation in volume is a complex and protracted undertaking. In addition, there is limited prior experience to draw on and the necessary skills and know-how are still scarce. Thus, potential for specification creep and cost overrun is as large in Internet as it is in the traditional IT environment. This was vividly demonstrated by Vontobel bank in Switzerland, which in Spring 2001 announced a loss exceeding 120 million euros, due entirely to an overly ambitious Internet banking project.

Disintermediation

Contrary to some high-profile pronouncements, the Internet economy is not frictionless. Actually, with a dramatic increase in the number of transactions and expansion of the universe of potential relationships, the overall level of friction is likely to increase. The abundance of information, opportunities and relationships increases the need for new intermediation structures and mechanisms. The challenge to the financial institutions and financial services providers is not the disintermediation but the changing nature of intermediation. Thus, e-finance has stimulated the emergence of the new categories of intermediaries such as financial portals, transaction aggregators, financial applications services providers, etc.

The E-Finance impact

Until 2000 it was commonly thought that e-business would revolutionize the financial industry and destroy the incumbent “dinosaurs.” Yet, the evolution of e-finance clearly demonstrates (with a possible exception of on-line brokerage), the advantages of established financial services suppliers, be they banking, transaction processing, credit information or insurance, as long they have the capacity to evolve and to embrace the new approaches and technologies. The dominant business model today is that of a “click and mortar” and the best chance for an innovation to succeed is to be adopted by the leading players. This does not mean that the financial services will not change, as they have been doing for the last decades. Rather the change will be more gradual and would probably take place mainly inside the established systems and structures. While dynamics of e-finance do not entail a sudden upheaval, it probably will lead to profound and durable transformation of financial services. They will broaden the access, not only in terms of a number of potential users but also will reach them from anywhere on the planet, 24 hours a day, seven days a week. E-finance will enhance the information and technology content of financial services and thus further blur boundaries between finance and technology, information and transaction, as well as between financial institutions and technology providers. Among others this evolution raises substantive regulatory issues. In particular banking, securities and insurance regulators should further strengthen cooperation within and between their groups on both national and international levels.

2. E-FINANCE NATIONAL EXPERIENCES

Internet is a global phenomenon and so is e-finance. Its deployment is not limited to developed countries. World Bank has carried out in 2000 and 2001 a number of studies on e-finance in emerging markets (Claessens, Glaessner, Kingiebel 2001, World Bank 2000, 2001). Admittedly, these studies were based on fragmentary and incomplete data. Nevertheless they clearly demonstrate the dynamism of e-finance in developing and transitional countries, with countries such as Brazil, South Korea or India, experiencing strong growth in e-banking and even e-broking. At the same time, there are significant differences not only among regions but also among countries within the same region. It is interesting to note that to a large extent, while initial impulse has been often provided by foreign institution (Deutsche Bank launched the very first Internet banking project in Latin America in 1996 and Citibank has developed a special "e-toolkit" across all its branches worldwide.), local financial institutions have now successfully taken the relay. In many developing and transition economies the local enterprise sector (which as it was noted in introduction is overwhelmingly represented by SMEs) also launched itself into active Internet and e-commerce strategies thus matching the e-finance drive of the local financial service providers.

Dynamics of e-finance in emerging economies, while not dissimilar are clearly not identical to that in the developed countries. It appears by and large to be driven by Internet banking, payments, and trade finance. Activity in financial markets is still limited, although in some countries such as Korea or Mexico, on-line brokerage services appear to be rather well-developed. On the other hand, some e-financial services appear specifically tailored to the developing and transition economies. The case of microfinance is one of them.

In this section, after a short snapshot on SMEs e-business and e-commerce preparedness, we will overview the enterprise related e-finance in developing and transition economies including Internet banking and payments, e-trade finance, e-credit information, innovative e-finance ventures and initiatives, private equity mobilization and finally microfinance.

2.1. SME preparedness for e-commerce

Before practicing e-finance SMEs have to be already involved in e-commerce. Hence e-commerce preparedness of SMEs, is a proxy to judge on their readiness for e-finance. Although, the Internet revolution was driven initially more by SME dot.coms rather than big corporations, the majority of SMEs in traditional sectors are still lagging behind the large companies in using Internet as a core element of business organisation and a channel to develop the e-commerce. Various surveys related to SMEs e-preparedness in OECD countries suggest that only less than one quarter of SMEs having the web presence do actually use it as a business instrument i.e. undertaking active Web trading and related e-payments operations. In developing countries this indicator is much lower. The majority of SMEs still limit their activities by maintaining a web page, with various levels of links and advertising. On Internet they also gather information on markets and competitors as well as searching for partners with further negotiations taking place either through emails or offline while the successful deals are generally completed in a traditional manner, i.e. with traditional paperwork or through the use of cash. According to some surveys the SMEs quote the security concerns, lack of legal guarantees to transact online, expenses related to hardware, software and maintenance, and the length and cost of training, as the major impediments to start e-commerce.

At the same time the awareness of the e-commerce potential and importance is much lower in developing countries. In that sense it is interesting to quote the results of a Citibank survey of a sample of SMEs in some Arab Gulf (Saudi Arabia, UAE Kuwait, Qatar, Bahrain, Oman) and Middle East or Mashreq (Egypt, Lebanon, Jordan) countries inquiring their e-commerce preparedness. While the majority of surveyed SMEs i.e. 79 per cent and 73 per cent respectively in both regions had access to Internet only 23 per cent and 38 per cent of them provided Internet to all of their departments, only 13 per cent and 18 per cent provided it to their procurement departments and only 2.6 and 2.3 per cent of them had actually ever conducted online trading. Moreover 45 per cent of Gulf and 25 per cent of Mashreq SMEs did not have a favourable approach to e-commerce considering it as less secure, of lower quality and preferring traditional trade as a better tool to run business (Krishnan, 2001). In fact many SMEs in Latin America and Asia North and South Africa do have access to Internet. However what matters is whether they consider Internet as the future tool for a promising business models. As various surveys suggest it is increasingly the case for the majority of them.

Internet gives to SMEs a unique opportunity to overcome the economies of scale limitations by aggregating buyers and suppliers, i.e. linking individual SMEs to each other, to major companies, e-procurement chains and to other e-marketplaces. For example a Tunisian start-up, Intelligent DSP, works with the New Delhi office of Analog Devices to develop remote monitoring services for electrical power meters. More broadly, successful e-commerce initiatives facilitate the emergence of new forms of business organizations such as virtual hubs and networks. By streamlining their operations and business relationships e-commerce helps to create a supply chain management for SMEs and, overcome the high trade barriers they normally face. Increasing the role of buyer's feedback helps to make production more customers centric and flexible. Creating many portals for SMEs with useful and functional contents greatly contributes to their efforts to access to business information at much less costs and hence to overcome the information asymmetry problem.

Among private sector efforts seeking to facilitate access of SMEs to e-business opportunities, one would mention the business portals specially designed to offer rapid and convenient answers to the variety of small business needs. The challenge is to maintain a range of services both easy to find and effective. Banks have also launched SMEs oriented business portals in order to ensure customer loyalty and create a basis for Internet-based banking services for SMEs.

Despite its recent slowdown, most analysts expect B2B e-commerce market to grow substantially in the coming years. The Gartner Group forecasts that the worldwide B2B e-commerce market will reach USD7.3 trillion by 2004.²⁷ Initially many B2B initiatives have focused on so-called big-ticket deals among large enterprises, thus overlooking the big potential of SME involvement. However further changes do rapidly corrected this initial miscalculation. Efforts to involve more actively SMEs in the B2B markets take two forms: either adapting large exchanges to the specific needs of the SMEs and or developing specific exchanges for SMEs. Although, many SMEs see the B2B markets as a way for large buyers to put additional pressure on suppliers to lower their prices, they understand the importance of those emerging e-markets as a supply channels for their products. As a result many SME are doing their best to adapt to the requirements of global procurement platforms of big manufacturers.

²⁷ See www.gartner.com

The large e-marketplaces could cover a comprehensive range of B2B services for SMEs. That includes supply chain management, e-procurement, the SMEs specific webservice providers and exchanges. In particular those bundled services might include web page creation, hardware and software integration and ISP connection, low end security products at affordable prices etc. One of the key problems of SMEs in the emerging economies is their unfavourable sectoral mix. Most of SMEs, which are active in traditional sectors do lack export capability. Lack of high-tech SMEs is certainly a major handicap for many emerging economies and an obstacle to the development of locally-based e-commerce. On the other hand, the growth of Internet gives an opportunity to create new businesses, specialized in new technologies. However, in order to realize this opportunity it is necessary to have access to technology and to create an environment capable of nurturing the new businesses. In the OECD countries, successful high-technology businesses are often concentrated (clustered) in small geographic areas, where they can obtain access to a wide range of resources, including technical skills, academic research, financial expertise, development know-how. More importantly, such clustering favour informal as well as formal contacts. Silicon Valley in the US, Silicon Glen and Cambridge in the UK, Sophia Antipolis in France are often quoted as examples of high-tech clusters.

There are also such clusters in some developing countries (Bangalore in India or Penang in Malaysia), while the transition economies are trying to tap on their relatively developed workforce and education and R&D centres to accelerate the use of Internet in their economic activities. At the same time other emerging markets are also trying to catch up. Thus, recent projects, in Africa and Middle East specifically oriented towards Internet-based technologies include El Ghazala in Tunisia, Gauteng Innovation Hub in South Africa, Internet City in Dubai.²⁸ Thus, given the Dubai's role as major trade hub in the region and its liberal trade and investment regime this centre might become a well-connected multifunctional technology hub. Already many well known foreign hi-tech companies have opened their offices in Internet City of Dubai.

The support to SMEs is taking place on both international and national levels. One would mention here initiatives from G8 (Global Marketplace for SMEs), EU (Go Digital initiative), There are many other initiatives by national governments and other public entities. Some of them are of very general character while the others are more specific trying for example to create investors networks for SMEs, including business angels and venture capitalists, or to provide access to the services of local export financiers (the US Department of Commerce Export Finance Matchmaker). Although many of them tend to overlap they still cannot meet the existing pent up demand from SMEs. Linking those networks together might help to meet better the demand of such a huge audience as SMEs. However neither Global Information Network for SME, nor the European Observatory of SME seem to manage yet to create a network of networks on e-commerce information for SMEs.

Although the developing countries also have their own programs to modernize SMEs, their capacities are much more limited. Hence the importance for global and regional organizations, including the UN family, regional development banks, NGOs and others to further expand on their awareness raising and technical and financial assistance activities to support SMEs sector in developing and transition economies. Definitely the part of the mandate of the ICT Task Force created by the Secretary General of the UN is the development of e-commerce with an emphasis on the SMEs needs. While it is hard to overestimate the advan-

²⁸ www.undp.org/hdr2001/pr3.pdf

tages of Internet for SMEs, it should actually take a lot of awareness raising and technical assistance efforts from international community to facilitate SMEs participation in e-commerce.

The e-commerce practices of SMEs in developing countries raises immediately the question of their ability to get access to Internet banking, online payments, online trade finance and Internet based credit information databases. The rest of this section will show the progress in that field so far achieved by many developing countries.

2.2. Internet Banking and Payments

According to World Bank survey, the average online banking penetration for developing countries by the end of 1999 was close to 5 per cent (World Bank 2001). For some countries, the penetration is considerably higher and growing rapidly. At the same time according to the poll of the Citibank UAE the user preferences related to banking channels are distributed as follows: Bank Branch-12 per cent; ATM –0 per cent; Telephone banking – 0 per cent; Online Web based banking – 76 per cent; mobile phones– 12 per cent.²⁹ In other words the developing countries are also voting for Internet banking.

In **Brazil**, the number of e-banking users have reached 8 million last year and is growing with rapid pace. Most Brazilian banks followed the click and mortar strategy entering also into strategic alliances with leading ISPs.³⁰ Thus Bank Itau entered with AOL into an agreement to bring its customers to AOL services offering free access and customised features facilitating access to e-banking. Today, the majority of the top Brazilian banks including Banco do Brazil, BNDES, CEF, Bradesco, Bank Itau are offering advanced e-banking services and nearly a quarter of their client base has already migrated to Internet. Moreover SMEs are active users of online banking. 30 per cent of Bank Itau SME customers are operating online. Unlike Argentina Brazilian banks managed to preserve the real value of their customers deposits in spite of a period of high inflation rates in the country. As a result with a high level of banking intermediation (65 per cent of population) the Brazilian banks espoused the Internet banking, which was well accepted by both population and enterprises, while dollarization and disintermediation in Argentina created a demand side problem for banks and hence discouraged them to invest into Internet banking (Oliveira, 2001). At the same time the e-banking has its paradox side and namely the increased insecurity in streets due to social unrest or crime also push many users to opt for Internet banking to avoid visiting the branches for physical security reasons. Thus the crisis in Argentina caused a hike in the use of Internet banking.

Mexico is another leader of Internet banking in Latin America. It adopted a legislation providing for development of both e-commerce and e-finance. One of the local leading banks Banamex has over 1.25 millions users of Internet banking including 50,000 companies, mostly SMEs (Martinez-Guerra, 2002). The Mexican subsidiary of Spanish BSCH has launched P-market, an online marketplace linking SMEs with various suppliers. The bank offers online functionalities to allow SMEs to manage their finance online, and developed an online procurement system, called Procura Electronica. The bank was expecting a rapid increase in its online clients number in the first year of operation.

India, being one of the leaders in software development has also rather advanced online banking system. Over 50 banks are offering on-line services. The example of the largest pri-

²⁹ Citibank UAE Newsletter, issue 02, 2002

³⁰ http://www.gii.co.jp/english/pr8125_e_banking_in_brazil_toc.html

vate ICICI Bank, is really impressive. It has multiplied by four its online banking users, who represent over 15 per cent of the total, Its SME Department is on the forefront of designing wholesale e-finance credit lines for Indian SMEs. E-banking permits business process re-engineering to achieve zero latency leading to improvements in customer service levels and better risk management because of real-time settlement. The argument of slashing transaction costs is more debatable in India due to low e-banking adoption rates, low labour costs and “free” existing branches. However, what matters more is the better price discovery process as more and more markets get integrated real-time and improved access to these trading and data-dissemination platforms. At the same time many changes are still required in technology, access infrastructure as well as banking regulation. (Mor, 2002, Kumar 2001).

In **Bangladesh** there is a big gap between computerisation of foreign banks and local commercial banks (the gap is particularly big in case of local public commercial banks). That is reflected also in the state of their intra and inter-branch online networks. However, 75 per cent of local banks are planning to implement e-banking, which implies very dynamic improvements in their ICT use indicators. Virtually all banks at their head offices use banking software and during last years around one third of local banks became SWIFT members. Credit card and point of sale services (POS) are already provided by a quarter of local banks while ATM and Internet banking are expanding rapidly especially in major cities (Raihan, 2001) .

At the same time in regions lacking adequate telecommunication infrastructure, technologies permitting to store and transact value in a proximity and offline are taking root. Thus smart cards based on Visa Horizon proximity technologies are getting introduced in **Ghana and some other African countries**. The Visa Horizon and Visa Electronic systems could be of particular interest for microenterprises in remote rural areas. In countries with low banking relationship penetration or mistrust towards local banks, the establishment of basic ATM cards for employees issued by well known payment card companies are permitting to cash salaries representing a step towards establishing banking relationship *inter alia* through e-banking.

Apart from North and South Africa the **Sub Saharan Africa** is the region which is seriously lagging behind in Internet banking, although it is giving to the rest of the world the good example of microfinance developments (see 2.7. below).

Finally one of the most impressive records has been achieved by **Korea** with its higher than OECD average indicators of e-commerce and e-finance. Internet banking in Korea was increasing at rapid pace, where the number of online users have increased from 120 000 in 1999, to 2 million in 2000 and 5,3 million at the end of 2001. Between June 2000 and June 2001, the number of Internet banking transactions surged 600 per cent to reach 75 million. Korea is also a global leader in on-line brokerage and in mobile banking.³¹ Among other South-East Asia countries Internet banking is also developing rapidly in **Thailand, Malaysia, Singapore** , and to a lesser extent in **Philippines**.

2.3. E-Trade Finance

Emerging markets are expected to continue to be the main growth engine for the trade finance sector. Last year, trade finance flows between the U.S. and Western Europe dimin-

³¹ See: http://asia.internet.com/asia-news/article/0.,161_662571.00.html and http://www.hankooki.com/kt_tech/200205/t2002052817145145110.htm

ished. But by contrast, in Eastern Europe, Latin America and Asia, the activity experienced high growth rates.

The total volume of letters of credit (L/C) received by all Latin American exporters in 1999 should reach USD 87bn, in addition to the USD 29bn in documentary collections. Of this total, only USD 30bn will come from Latin America's trade with the rest of the world (USA included). Intra-regional trade is often made up of mid-large size companies who lack open-account trade tools and rely on old-fashioned and expensive L/C.

This creates an opportunity for financial institutions seeking to offer electronic trade finance services. Banks such as **Bradesco or Bank Itau in Brazil or Banamex in Mexico** seek to develop online wire transfers, online initiation of letters of credit, and other related online services. 65 per cent of Mexican companies surveyed use at least one of the above mentioned products, and more than half of the Mercosur companies turn to high tech trade finance tools. Argentina used to lead Mercosur in the proportion of companies using technology products (58 per cent), but Brazilian companies use them more extensively than those of other Mercosur countries - 2.8 products on average per company in Brazil versus 1.7 products on average per company in other countries.

However, local banks, as large as they may be in their country, suffer from the lack of global coverage. This explains their interest in global initiatives such as TradeCard and Bolero. Global banks such as Citibank, JP Morgan Chase or ABN Amro are of course very active in this area and offer not only competitive pricing on trade financing products but also access to their networks and platforms. And when they cannot beat their local competitors, they co-opt them. In July 2001, Citibank bought Banamex for USD 12.5 billion.³²

In other parts of the world, e-finance trade initiatives are still in their early stages. In India for instance, Exim Bank, Germany-based West LB and IFC (World Bank affiliate) have created in March 2001 a joint venture, Global Trade Finance (GTF) Pvt Ltd, to offer factoring and forfeiting services to Indian exporters. West LB has a 40 per cent stake in the venture, while Exim Bank has 35 per cent and IFC 25 per cent. In addition, the company has foreign currency lines of credit from both West LB and IFC, as well as a rupee line of credit from Exim Bank. GTF was set to begin operations in Fall 2001. One of its objective was to allow exporters to initiate their transactions on-line.³³

A more ambitious project, Global Trade Finance Network (GTFNet) seeks to facilitate the finance of trade debt receivables generated, primarily, from emerging markets, their acquisition and distribution worldwide. It is defined as a cross-territory extranet-based "business to business" network, with headquarters in Singapore and hubs in the UK, Middle East and the Americas.

2.4. E-Credit information

Many developing countries are following the examples of the USA and the continental Europe to develop necessary regulatory framework to set up credit information reporting systems including registration laws, bankruptcy laws, court registers; strict requirements for disclosure by private sector operators; public data dissemination and publishing requirements; possibility to collect, process and disseminate public records, suits and judgements; permission to access companies track records with banks for authorised institutions and others.

³² Business Week, 4 June 2001, see: http://www.businessweek.com/magazine/content/01_23/b3735091.htm

³³ See: <http://www.financialexpress.com/fe20010921/mb1.html>

However the presence of credit bureaux in many countries doesn't guarantee the presence of exhaustive and updated data on SMEs payments behaviour and other key risk assessment data. The revolutionary impact of Internet data mining techniques more in terms of coverage and reach rather than transaction costs could also boost the creation of credit information industry in those countries thus making a breakthrough in the risk assessments of a host of companies, including SMEs.

One of the most impressive examples of a comprehensive credit information services in developing countries is **Serasa of Brazil**. Established in 1968 by Brazilian banks realising the necessity to have a common risk data collection and assessment centre, Serasa today possesses the largest credit information databank on institutional and household borrowers in Latin America. Receiving information from companies and households directly and also gathering information on them from independent sources (court distributors, protest notaries, boards of trade, Central Bank, public registrars, official publications) Serasa contributes to the majority of decisions by banks, payment card companies and other financial service providers on extending credits to companies and households. All products and reports of Serasa are available online. They include business behaviour reports, credit and analysis reports, special SME reports etc. While Serasa has a very aggressive e-credit information programme to expand on Internet it is also actively using other communications tools as fax, telephone and others (R. Bedrikow, 2001, 2002).

2.5. SME related e-finance ventures and initiatives

In developing and transition economies there are many innovative initiatives to launch or facilitate e-finance for SMEs implemented by local banks, financial companies or other public and private sector organisations and associations. The following are the examples of some successful models and new initiatives.

SMEloan

SMEloan serves the needs of Hong Kong's SMEs. The company offers express loans up to HK \$1 million, approved within one minute of submitting an online application. This allows business owners to instantly obtain their financing. In practice most SMEs borrow modest amounts. SMEloan offers possibilities to borrow up to HK \$1 million, using less time-consuming procedures. The innovative approach of SMEloan was to finance SMEs with lower transaction costs and better results by leveraging Internet resources thus permitting to set up scalable operations of lending based on the knowledge of future cash flows, i.e. receivables of the SME borrowers. By providing a home page to each borrower the SMELoan requires to provide business data, which is automatically analysed by its risk diagnostic software giving early warning of unusual operating trends manifested by the borrower. Only in this case those selected problematic borrowers are then addressed. The others get quasi automatic credit approval reminiscent to the operation of a credit card company. In that sense SMEloan is different from a bank that treats SMEs like other companies and hence incurs higher unit costs from SME lending since it demands from the SME complex set of documents and assign individual managers to each SME borrower (Siu, 2001). Successful SMEloan model attracted the attention of IFC of the World Bank Group, which has invested \$20 million in this promising venture.³⁴

³⁴ IFC Invests US\$20 Million in SMEloan (Asia). IFC Press Release No 1/158, 12.12.01

Streamlining SMEs cash flow or pre-financing online

Banks in many developing and transition economies are exploring possibilities of using online finance instruments to streamline the cash flow of SMEs on the basis, for example, of better management of their receivables, especially when the counterparts are the payables of large companies considered by banks to be much better risks. Here banks play the role of a factor discounting the receivables of SMEs. The situation is more complex in the case of trade between SMEs. In this connection, credible and searchable live Internet based databases on SME risks initiated or created by SMEs associations themselves could be a solution. Moreover, the creation of mutual insurance funds by association members could serve to support bank's e-trade finance operations and thus reduce the level of their perceived risks (De la Pardo, 2001; Guglani, 2001).

Smetrix e-trade finance clearinghouse proposal

An interesting initiative is the Smetrix B2B trade and e-trade finance clearing house proposal. Smetrix is a company in the Philippines that is trying to address the problem of more rapid and less costly access by SMEs to trade finance through the creation of a global e-supply chain in which a central clearing house handles the problems of authentication and risk assessment of SMEs. The clearing house, using its own database or partners credit information on SMEs, is expected to be able to create propitious conditions for SMEs either to have their online receivables discounted or receive structured finance (handling the risk of a given transaction) from a participating bank, or to securitize those receivables, capitalizing on the higher corporate rating grades of their trading partners (Pascual, 2001).

Major players are apparently starting to support the idea of financial clearing house based on the Smetrix concept. According to Smetrix it is expected that General Electric will provide the necessary technology support, while IBM will provide the technology support for the clearinghouse and interfaces with banks. The HSBC Capital Markets service might take the lead in terms of developing a real-time trade financing system using large corporations with good credit risk ratings as anchors for enhancing the receivables of their SME suppliers. At the same time Citibank might backstop the electronic collections and settlements for those receivables, while Dun & Bradstreet through its Philippines subsidiary could deliver the online credit and evaluate the SME receivables.

The Small Business Guarantee Finance Corporation, which is the Philippine Government's financial institution ensuring financing and guaranteeing for SMEs, is committed to taking the lead in delivering guarantees on the receivables. It is interesting to note that the Philippine Central Bank considers supporting this type of SME access to e-finance to be a part of its micro-financing agenda.

While in some respects the system is reminiscent of Bolero, it has some distinctive features. Like Bolero, the Smetrix clearinghouse is intended to be a hub bringing together all trade related workflows and checking the authenticity of electronic documents. Also, it is expected to reconcile the contents of those documents, and this will permit online negotiations and confirmations between parties, thus facilitating the conclusion of deals and minimizing further disputes. At the same time it is supposed also to be a constantly updated electronic library on credit information related to the trading participants. That library is intended to be constructed through the supply of information from partner banks and credit information and evaluating companies, as well as through the clearinghouse's record of trading partners' successes and failures.

However, the claim that a clearinghouse such as Smetrix one eliminates risks is clearly an overstatement. While it can successfully handle the risks related to the authentication of partners or legal issues related to trade, it cannot fully control the risks related to the supply performance of the seller and the payment commitments of the buyer (in spite of mechanisms for upgrading credit risk). SMEs remain more vulnerable as trade partners because of their higher exposure to the vagaries of the economic cycle.

2.6. Private equity mobilisation

Linking private equity investors with SMEs in emerging countries is far more challenging than in OECD countries. With few exceptions such as Singapore, there is no local venture capital industry. And business angel's networks are often family or ethnically based. Nevertheless, some efforts, spearheaded by international players, have been launched to create Internet-based private equity networks.

EmPower Link

In January 2001, the United Kingdom's International Development Consortium (IDC) established a joint venture called Empower Link Holdings (Pty), with the South African investment fund Omega. The idea was to take the EquityLink, its very successful business angel network created in 1995, into South Africa, linking it with United Kingdom and European opportunities. EmPower Link was supposed to provide support services to South African SMEs, including management development, financial management, business development, sales and marketing, IT, and innovation in technology and design. It was expected to contribute significantly to the development of a comprehensive SME support infrastructure in South Africa.

Softbank Emerging Markets

In February 2000, Softbank, one of world's best-known Internet companies, announced the creation of a joint venture with the International Finance Corporation (IFC) of the World Bank Group to establish start-up Internet companies in as many as 100 developing countries. The joint venture is an investment fund called Softbank Emerging Markets (SBEM), to be based in California's Silicon Valley on a capital base of \$200 million. Seventy-five per cent of this will come from Softbank and the remaining 25 per cent from the IFC.

To begin with, SBEM will act as an incubator, investing in and providing advice to promising local Internet ventures in 10 to 20 countries. SBEM plans to establish a number of holding companies to make investments and oversee operations of local joint ventures in those countries. The first local office was opened in Malaysia.

2.7. Microfinance initiatives

Microfinance is an arrangement whereby microfinance institutions lend small amounts of money typically to a group of individuals or very small SMEs (with fewer than 10 employees). This process mainly happens within the framework of the informal economy, i.e. outside the formal financial system in developing countries and transition economies. It is estimated that more than half of economic activities in sub-Saharan Africa derive from the informal economy. While the microfinance market requirements are estimated to be \$300 bil-

lion, the assets of more than 8000 microfinance institutions worldwide do not exceed \$7 billion. Keeping microenterprises out of the reach of the development community is unacceptable, considering the UN targets for the reduction of world poverty. The approach here should be to consider the poor as an untapped resource rather than a social burden. Developing modern and inclusive microfinance actively using Internet technologies could help partly to implement this paradigm shift.

Pride Africa

Pride Africa is a non-profit United States company with regional offices in Nairobi and operating activities in East and Southern Africa. It is one of the best examples in Africa of a successful and imaginative implementation of microfinance formulas with the active use of modern ICT technologies. With a network of 54 branches servicing more than 100,000 clients from Kenya, Malawi, United Republic of Tanzania, Uganda, and Zambia, Pride Africa has created a replicable franchise, including a proprietary software system, uniform operational processes and training for staff. The financial and information service network provided by Pride Africa offers microfinance opportunities for local people and small enterprises that previously had no access to flexible financing, owing to rigid banking regulations and the information monopolies of government and large businesses (Campaigne 2001, 2002).

Grameen Bank

The famous pioneer of microfinance, the Bangladeshi Grameen Bank, is also at the forefront of the efforts to bring e-finance to remote villages, using its microfinance services. By introducing POS terminals and diffusing smart cards in different villages it enables users to read and record entries, and to deposit and withdraw cash.

Virtual Microfinance Market

The Virtual Microfinance Market (VMM) is an information exchange system designed to facilitate interactions between microfinance institutions (MFIs), private investors, Governments and other participants in the microfinance market. It was developed by the United Nations Conference on Trade and Development (UNCTAD), with the guidance of an advisory board, and in the framework of a technical assistance project financed by the Government of Luxembourg.

VMM also provides contact and financial information on MFIs willing to mobilize commercial funding (“demand”), information on the legal and regulatory conditions of investment and links permitting direct contact with regulatory authorities in each country (“environment”). In addition, it also provides data on investors and financial intermediaries, information on conditions attached to past or current offers (“supply”), and access to sources of knowledge, technical advice and training in state-of-the-art techniques and tools for improving MFIs’ financial management and access to capital markets (“knowledge”).

This project is aimed at creating sustainable market links between the commercial investment world and the microenterprise sector in developing countries. It is expected to permit the investment on commercial terms, of millions of dollars at the grass-roots level and the creation of thousands of jobs. VMM is accessible free of charge to all its members, i.e. to all duly registered information providers (Otero, 2001).

2.8. Working with global e-finance platforms.

The critical mass of e-finance and e-commerce resources, know how and actual operational experience are concentrated within a limited number of large private sector companies, headquartered in OECD countries. Those companies provide key elements of infrastructure, networks, systems and applications that comprise e-finance and e-commerce. They operate globally, both in terms of sourcing and selling their products and services, and the emerging economies are the natural extension of their outreach. Many developing and transition economies are trying hard to find their niches in this new globally networked economy.

Various global e-finance projects, has been created by banks such as Citibank, HSBC and Deutsche Bank, payment card associations like Visa and Mastercard and some others. Examples include such focused on SMEs programmes as the CitiBusiness and the Visa Business Card. It is interesting to mention here that financing households and micro-enterprises i.e. so called microfinance initiatives (which in many aspects is very close to SME financing) are also currently under the scrutiny by banks and the international development community at large. For example, Deutsche Bank has created a Microcredit Development Fund, which has contributed to the creation of many microfinance institutions. The current difficulties experienced by leading Internet companies in their core markets will not necessarily curtail their willingness to pursue and expand the new co-operative approaches in emerging markets.

One area in which such co-operation is essential, is the development of global online banking and payments platforms such as SWIFTNet and Identrus, which are the key elements of the emerging new global e-finance architecture. As their design and implementation evolve, they should take into consideration the e-finance requirements of developing countries. So far, those platforms tend to focus mainly on the needs of global corporations, although payment and settlement services for SMEs operated by trusted banks in developing countries (and connected with specialized B2B marketplaces) also need to be also a part of above global systems. Among other things, careful considerations should be given to the issue of interoperability between global and local e-finance platforms.

Global trade and information platforms, such as @ratings or Bolero raise a somewhat different challenge. These platforms explicitly cover developing countries and SMEs in those countries. However, for the platforms to offer full benefits of their potential, both the quantity and the quality of information about the SMEs have to be enhanced. To be listed in such platforms as @ratings, SMEs need to show reliable figures with timely updates. Internet provides potential means to lower the costs and reduce the length of this task. However, it is still a complex process, particularly for the SMEs. Hence there is a need for closer cooperation with and between existing credit information companies in developing countries, as well as for the creation of those services in countries where they do not yet exist.

2.9. Looking at the leapfrogging argument

Many experts raise the issue of leapfrogging, which gives countries with underdeveloped financial systems the possibility of moving ahead rapidly. The arguments developed above suggest that while opportunities for leapfrogging exist, it is not certain that they are widespread. Countries with weak financial systems also often suffer from the absence of technological infrastructure and associated skills, which makes the creation of a vibrant e-finance system quite arduous. To build a cyberfinance offer from scratch requires the mobilization of high-level skills in the financial, telecom and IT sectors, which many developing countries do not have and cannot develop without external support. The examples of countries such as Es-

tonia and the Republic of Korea, which have achieved e-finance sophistication comparable to that of most advanced OECD countries, are not easily replicable. Furthermore, even the more advanced emerging economies have to make large number of improvements in critical systems and applications such as trade finance hubs or financial markets in order to achieve the required level of competitiveness. Nevertheless, it is true that e-finance offers more opportunities for quicker deployment and better coverage than the traditional approaches to financial systems development. Skipping magnetic strip technology in Poland by directly installing smart chip technology and advanced acceptance terminals to backstop online payment systems is an example of leapfrogging. At the same time while the evolution of Internet technologies holds considerable promise for e-finance and e-commerce, it also increases the complexity of the underlying systems and applications. For the developing and transition countries, the challenge ahead will be to build capacities, particularly local expertise to manage these complex systems.

3. E-FINANCE CHALLENGES FOR SMES: CONCLUSIVE REMARKS

Promising first signs

The positive signs related to e-finance for SMEs in developing countries include:

- High level acceptance of technology by customers and financial institutions
- Many innovative approaches
- Initial tangible results in terms of market access and revenues generation.

However, most projects have not still been deployed on the large scale. It is therefore too early to determine which projects are likely to be most successful and therefore should provide the “best practice” benchmarks to be replicated in other countries. Many aspects of the key question, as when and how the conditions for SMEs access to e-finance will fundamentally change, still remains to be answered. Nevertheless, from the experiences so far, following broad key challenges can be identified.

Adapting global technology to local requirements

While Internet technologies are global and their core is standardised, their applications can and need to be adapted to local circumstances. Internet offers this amazing capability to reconcile global uniformity and local flexibility. It facilitates cross border links, but at the same time create new configurations of networks and clusters. Distinctions between proximity and remoteness remain highly pertinent, even if the distance under consideration becomes virtual rather than geographical.

The most successful e-finance stories in developing countries, including such banks as ICICI of India, Bank Itau of Brazil or Banamex of Mexico, stress their ability to respond to local requirements in terms of their product mix and delivery channels. The need to find solutions is even stronger for the e-finance for SMEs, which for the most part operate within a limited geographical area. Furthermore, their characteristics, size, financial structure and sectoral mix, can vary considerably even within the same country or region.

Strengthening public support

Most e-finance developments have taken place through interplay of competitive market forces with limited public sector intervention. Foreign institutions have launched some of them, particularly in Internet banking. The situation is quite different in the case of e-finance for SMEs, where public sector intervention is quite frequent. It is not only that the public authorities have to create the broad framework conditions for e-commerce development (appropriate legislation and technological infrastructure, to mention two most important), but also they need to ensure that SMEs take advantage of the new environment and opportunities it create. Many developing countries SMEs success stories in their involvement in e-commerce were initially due to public sector support.

However, while the public sector involvement in e-commerce promotion appears in many cases highly critical, it differs in many aspects from traditional government interventions. It is more flexible and proactive, and relies less on administrative edicts and more on co-operation with private sector. Rather than maintaining stability, it promotes innovation. The new modus operandi often entails setting up specialized agencies or decentralising the support measures to local governments, especially in countries like China and India.

Creating adequate regulatory and institutional framework

To facilitate the realization of those programs developing countries need to take a proactive role in encouraging rapid adoption of market friendly laws and regulations, including laws on e-commerce, electronic contracts and digital signatures. It is equally important to ensure effective coordination of government agencies, industry associations and other facilitators, helping to make fast decisions on starting new e-commerce ventures. At the same time while e-finance and e-commerce do not eliminate borders, they make them more porous. Internet may also allow companies and households to circumvent regulations and restrictions. For example, in spite of exchange controls in many developing countries, their households and companies still manage to open accounts with foreign banks or brokerage houses, and especially their offshore vehicles, via the Internet. While Internet makes the use of offshore companies and banks even easier, on the downside it offers new opportunities for fraudsters. Many of them try to use the developing countries as a base for their operations.

Without a robust regulatory framework, the development of e-finance and e-commerce might be jeopardized. Yet, if such framework is too rigid and formal, it may also discourage innovation and entrepreneurship and, more importantly, deter informal sector from joining e-commerce. In the end, e-finance and e-commerce will succeed only if they create a stable physical and virtual infrastructure of trust, shared by all parties concerned, including public authorities, local and foreign entrepreneurs, financial services providers and customers, and not the least the SMEs.

Creating and maintaining a trusted local environment is essential to attract private foreign capital and know how as well as financial and technical assistance from international development agencies and NGOs, which could be *inter alia* channelled to improve the SMEs e-preparedness and, in particular, easier and less costly for them access to e-finance.

Mainstreaming SMEs towards e-finance

The improved tax regimes and simplified regulations as well as other support measures will permit SMEs to move towards the formal economy, improve on reporting on their assets and liabilities and hence enter in the Internet based credit information data bases. That might create a fundamental positive change in financial community's perception towards SMEs as credit risks. In its turn, the SMEs will be encouraged to use online banking and payments services as a part of their common business practices, while as trusted clients they might start to receive online trade finance and eventually investment. This conclusion is valid not only for overwhelming majority of SMEs in developing countries but is still also good for a considerable part of SMEs in developed countries.

Finally, it is important to mention that the majority of recommendations of the last year's UNCTAD expert meeting on e-finance for SMEs stressed the role of active policies and public-private cooperation in such vital areas as creation of adequate regulatory and institutional environment for e-finance, development of secure and legally binding methods of electronic transmission, introduction of modern e-finance instruments and some others.³⁵

³⁵ See UNCTAD, TD/B/COM.3/EM.13/L.1, 29 October 2001

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