International Journal of Advanced Research in Management and Social Sciences

ISSN: 2278-6236

# AN ANALYSIS OF EFFECTIVE FINANCIAL SUPPLY CHAIN MANAGEMENT

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**Abstract:** *Financial Supply Chain Management is not an entirely new concept, interest in the discipline has increased dramatically over the past year with the focus shifting from theoretical discussion to the practical implementation of programmes with tangible benefits. Interest has been driven by banks seeking to adapt their transaction banking product offerings to new market conditions, as well as buying corporates looking to squeeze added value from their existing procurement arrangements. The physical supply chain can be defined as the activities involved in planning and executing the movement of goods and their documentation, while the financial supply chain describes the activities involved in planning and executing payments between trading partners - what could be described as the order-to-cash and the purchase-to-pay cycles for suppliers and buyers respectively. For every physical movement of goods between supplier and buyer, there exists a financial flow travelling in the opposite direction. Financial supply chain management involves taking a holistic approach to these processes in order to achieve a range of benefits that include improved efficiency and visibility across the supply chain and a more favourable working capital position.*

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## INTRODUCTION

A distinction should also be drawn between what can be defined as 'supply chain services' and 'supply chain finance'. The former refers to the realm of providing services in order to increase supply chain efficiency - services that are not necessarily finance related such as the dematerialisation of paper invoices or an increase in straight-through processing (STP). Supply chain finance (SCF), on the other hand, relates more specifically to providing the appropriate financing facilities at the relevant points in the physical supply chain.

From the buyer's perspective, offering financing in this way represents an opportunity to more effectively manage relationships with suppliers and increase payment terms without damaging goodwill between trading parties. And from the perspective of the supplier, the main benefits relate to improved cash flow as reduced days sales outstanding (DSO) mitigates the need for working capital during the production process.

## A HOLISTIC APPROACH

While traditional trade finance offerings tend to be focused around individual transactions and the strength of participants' balance sheets, SCF takes a more holistic approach. Rather than looking at transactions in isolation, SCF considers the entirety of a trading relationship and is altogether more encompassing. This approach has been determined in no small part by the changing nature of global trade flows - in particular the growth of trading on open account.

With many emerging market economies fully recovered from the financial crises of the 1990s, trade between the developed and developing world is currently growing at around 13% a year according to SWIFT. However, documentary supported trade has only been growing by around 3% a year, meaning that the bulk of the increase is taking place on an open account basis. In addition to this, the trend towards production taking place in countries that are traditionally considered less credit worthy has added a new level of risk and complexity to procurement arrangements. These developments have established a need for new approaches to mitigating risk and financing suppliers. SCF seeks to address this by taking an approach that looks beyond the strength of an individual supplier's balance sheet and any associated country risk, and instead considers the strength and depth of the relationship between buyer and supplier, and buyer and bank.

In common with traditional factoring or invoice discounting arrangements, the supplier receives a percentage of the due payment up front. However, with a supplier finance approach, the process is initiated by the buyer through its own bank and, thanks to the buyer's stronger credit rating, the terms are likely to be more favourable than the terms on offer to the supplier through a local bank. Indeed, in this respect, SCF schemes represent a form of credit arbitrage that capitalizes on the gap between the price at which a buyer can finance a product between production and payment, and the price at which a supplier could finance itself for the same period.

Financing suppliers in this way is heavily dependent upon the relationship between the trading parties. In order to accurately price products, banks need to be supplied with data from their clients detailing the history of the relationship with the supplier, and will also need to be notified at the first sign of any problems with a supplier meeting its obligations. In this respect, a track record of problem free production will be the ideal scenario.

Banks should also see some regulatory benefits to financing trade in this way. By transferring the credit risk to large, well-rated buyers, banks are also able to lower their capital reserve requirements with respect to the Basel II accords. Indeed, Deutsche Bank research shows that trade related finance carries a lower risk of default than equivalent non-trade related instruments - even if those instruments were used to finance trading. And this data should allow for the more accurate pricing of risk on SCF products.

## NEW MANTRA, NEW FOCUS

Making the FSC the focus of a cross-functional business improvement programme increasingly makes sound commercial sense. As the reliance on low-cost sourcing countries for sourcing and contract manufacturing becomes more intense, and as more key SCM-related processes are outsourced or off-shored to third parties, the complexities, risks and costs associated with long distance SCM have increased. Managers have recognised that the best way to manage this complexity is to take an end-to-end process management approach. The approach advocated under FSCM is to focus on the efficiencies of physical and financial flows across the chain and the root causes of late delivery, negative cash positions and poor working capital management.

The current business ethos encourages collaboration not just across traditionally siloed functions, such as sales, finance and procurement, but across external supply chain partners. The new mantra is less focused on redistributing cost and risk down the chain and more concerned with taking cost out of the entire chain and improving the efficiency of the 'supply chain eco-system' for all parties.

## FLEXIBLE OFFERINGS

Recent discussions on financial supply chain management have often focused on developments in information and communications technology that have made initiatives in this area more practical. And though operating a successful electronic trade finance platform is a necessity for any bank wishing to offer SCF to its client, the importance of IT and electronic processing should not be overstated. Many corporates - in both the developed and developing world - will still be operating paper-based systems for commercial documents such as purchase orders and invoices, and will be unable or unwilling to switch to electronic systems in the short term. By only offering SCF packages on an electronic basis, banks will be excluding large numbers of small to medium sized exporters that would benefit from financing opportunities.

In order to offer the best possible service to their importing clients, trade finance banks need to be flexible when it comes to dealing with exporters. An example of this is the Asia Centralized Processing Centre (ACPC), which was established by Deutsche Bank in Mumbai. The ACPC was established in 2003 in order to process trade transactions originating in Asian countries and allows for the manual imputing of paper documents. It thus provides a bridge between those corporates that use electronic systems and those that use paper based systems, allowing SCF packages to be offered to more suppliers.

## RISK MANAGEMENT

Risk management is a critical part of SCM as low-cost sourcing; contract manufacturing, off-shoring, managed services and outsourcing have all increased the complexities involved along the chain. The risk of bottlenecks and disruption and incurring unforeseen cost are greater in cross continent and global supply chains. The growing incidence of natural disasters resulting from climate change, terrorist acts, embargoes, fraud, money laundering and economic volatility all adds to the risk profile of a global supply chain.

Co-ordinating the different facets of risk management within an over-arching FSC programme is seen as a key priority within a number of organisations. Compliance requirements are getting tougher for both importers and exporters alike. OFAC, Green-lane status in the US, Sarbanes-Oxley, Basel II for banks are all examples of compliance related initiatives that need to be taken seriously and require investment. An investment that will yield greater returns if it is integrated into a broader programme of dematerialisation, i.e. the migration to electronic document and data exchange. Compliance and the compliance team should be an integral part of the FSCM programme.

## TAX

A number of large multinationals with sourcing and production activities across the globe want to better manage tax liability by re-engineering SCM processes and responsibilities to optimise customs duty, corporate and value added tax liabilities. Tax efficient supply chain management (TESCM) is an important offering for a number of accounting and management consultancies and may be considered part of a broader FSCM programme.

## DRIVERS FOR SUPPLY CHAIN FINANCE

Corporates are increasingly purchasing their supplies from overseas markets, in order to benefit from lowest cost country sourcing, ie purchasing goods and services at the lowest possible cost. With the globalization of supply chains, large corporates are realizing that they need to be more collaborative and supportive in managing these extended trade relationships. In place of the traditional arm-wrestling relationship between buyer and supplier, where the buyer simply squeezes the most advantageous terms out of his suppliers, collaborative supply chain management is becoming widely accepted as best practice.

Even with the growth in long distance global trade, the traditional trade finance tool, the documentary letter of credit, is on the decline in terms of market share. Notwithstanding the tremendous security and financial flexibility of this trade finance instrument, letters of credit can involve high administrative costs and manual processes. This has been a driver for initiatives at industry level and within individual businesses to simplify trade processing and reduce costs. According to the World Trade Organisation, more than 80% of global trade is now in the form of open account, whereby a supplier simply invoices his customer who then settles the invoice after a period of trade credit. So despite the enormous value of letters of credit in specific circumstances (such as the beginning of a trade relationship with a new supplier or buyer in relatively unknown overseas markets), it seems that the trend towards increased open account trade is set to continue.

In this expanding open account environment, creative banks are finding a useful role for themselves in delivering supply chain finance and other value-added services to help their customers improve their working capital management. These initiatives respond to the challenges being laid down by national and super-regional governments to drive commerce and economic growth. Many EU countries have introduced laws to help promote a culture of prompt payment in order to alleviate the problems of small and medium enterprises (SMEs) suffering from late payment of their invoices. Similarly, banks are responding to encouragement from the European Commission and national governments to develop e-invoicing solutions in order to reduce processing costs and improve the flow of working capital along supply chains, with benefits for buyers and suppliers.

## BASIC SUPPLY CHAIN FINANCE STRUCTURING

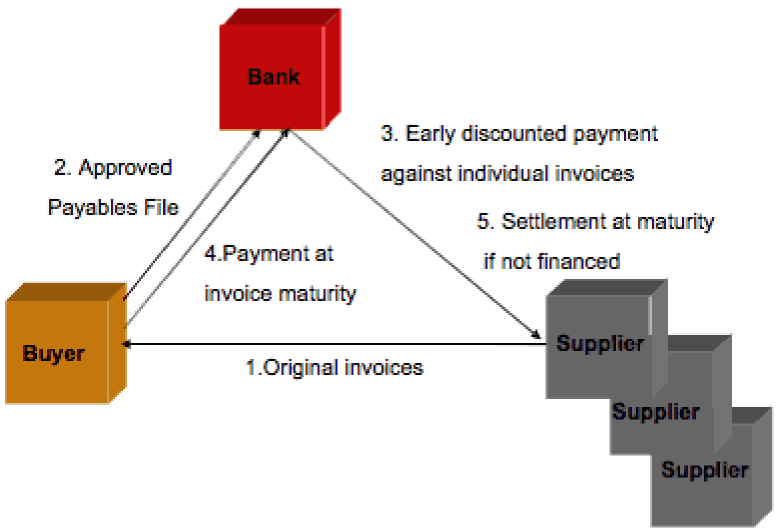
- The basic process for efficient supplier payments and supply chain finance can be summarized as follows:
- The buyer sends to the bank a Confirmed Payables file specifying the dates on which invoice payments are to be made.
- Suppliers are advised by the bank of the amounts and dates on which payments are to be settled on behalf of the buyer.
- This communication can be by email, fax, post, or preferably on the bank's web-based portal.
- In addition to informing the supplier of future payment dates, the bank offers the supplier early settlement of these payments. This financing is negotiated with the suppliers separately from the supplier payments which the bank undertakes to make on behalf of the buyer.
- If the supplier decides to accept the early payment and completes the short form documentation, funds will be received by the supplier at an account with the financing bank or any bank of his choice.
- At maturity of each invoice the bank either makes settlement to the supplier on behalf of the buyer (if early settlement has not been taken by the supplier) or is reimbursed for the discounted payment using the buyer's funds in those cases where supplier finance has been drawn down.

- This structure works equally well for both domestic and international trade.

## MIGRATING FROM PAPER TO ELECTRONIC IN SUPPLY CHAIN FINANCE

As can be seen in the simple structure described above, this valuable supply chain finance can be, and indeed in Spain was for many years, successfully structured in a paper-bound world, whereby the bank sends by mail to suppliers forward dated payment advices and finance offers. Suppliers then sign the receivables sale contract and return this to the bank. Upon receipt of this documentation, a bank would send the discounted payment to the supplier, either electronically or even as a banker's draft. However, this supply chain finance process can be greatly streamlined using web-based technologies. Accordingly, leading Spanish banks have already migrated their customers onto secure and robust web-based portals, where suppliers can access the latest invoice status and financing offers and have the opportunity to accept early settlement of selected invoices or indeed all invoices.

*Supply Chain Finance*




## BENEFITS FOR SUPPLIERS

- Opportunity to obtain early settlement of invoices from the bank, improving the cash flow of the supplier.
- The value of funds obtained is the full face value of the invoices settled minus a discount charge for the period until maturity.
- Thus the supplier receives a higher percentage of invoice face value than under a factoring or invoice discounting arrangement, where typically only a pre-agreed percentage (eg 70-80%) of the invoice face value will be advanced.

- The funds raised through supply chain finance will usually be non-recourse for the supplier since the discounted payment is structured as a receivables assignment.
- Being non-recourse early settlement, this funding is off balance sheet for the supplier and therefore does not eat into their existing credit limits. This structure may enable the supplier to access more funding than would be possible on a standalone basis.
- The simple documentation signed between the bank and the supplier is usually a short form contract by way of a sale/purchase of receivables, whereby the bank becomes the holder of the trade debt.
- Where the supplier is a small or medium enterprise (SME) and the buyer is a large credit-worthy corporate, the discount cost will often be lower than the SME might achieve through conventional borrowing.
- Even if the supplier decides not to take early settlement of invoices, he still has the benefit of early visibility of cash flow which helps with cash forecasting.

**BENEFITS FOR THE BUYER**

- Creates a more collaborative, stable and financially robust supply chain which functions more efficiently for the benefit of the buyer and his suppliers.
- The bank works with the buyer to inform the suppliers of the new supplier payment arrangement, outlining the operational and financial benefits.
- Cuts the cost of processing supplier payments and gives the buyer improved visibility of its outbound cash flow, by outsourcing the supplier payments process to a bank.
- Reduces 'chaser' queries from suppliers regarding the current status of invoices, ie have invoices been received, processed and approved? Suppliers can obtain the status of invoices and discounted early settlement offers on the bank's supplier portal.
- Importantly, where properly structured and documented, arms-length finance for suppliers can be delivered in such a way that trade payables on the buyer's balance sheet continue to be classified as commercial outstanding due to trade creditors, instead of being converted into bank debt which would otherwise impact negatively on the buyer's debt gearing ratios.

- As a separate arrangement, the buyer may be able to negotiate improved terms (eg cost of goods or longer trade credit terms) with his supplier base, in the light of the improved working capital management the suppliers enjoy under the bank's supplier payment programme.

## VALUE-ADDED SUPPLY CHAIN FINANCE SERVICES

Beyond the supply chain finance structure described above, there are a number of variations on this basic model. In some cases a different percentage of the contract value can be advanced on completion of the various stages of the trade cycle, so that part of the funds are advanced at each step when the purchase order is issued, once raw materials have been manufactured, when goods are actually in transit and finally on receipt and approval of invoice. This financial structuring allows the supplier to fund the sourcing and manufacturing of the goods.

In cases where a buyer finds he has cash surpluses these can be used to make early payment to suppliers, as part of the supply chain finance programme. The buyer can be remunerated for using his treasury surpluses in this way. A bank may also be willing to help the buyer extend payment terms by providing finance at the normal maturity of the invoices.

## REGIONAL CHALLENGES

Regional differences in the way that trade is transacted can offer some significant challenges to both trading corporates and their banks. For example, while some US banks and corporates have made significant advances in terms of SCF and implementing reverse factoring structures, there are potentially still advances to be made in terms of improved supply chain services. The number of payments between corporates in the US that are still settled by paper cheque, for example, is an indicator of the progress that could potentially be made in terms of dematerialisation and electronic invoicing.

The situation in Europe is somewhat different. With process efficiency being relatively advanced the bigger focus is on providing appropriate financing opportunities along the supply chains of European corporates.

Yet in all regions, the situation can differ significantly from sector to sector. Industries that are particularly dependent on a tight network of supplier relationships - automotives or chemicals, for example - will generally have more sophisticated and efficient structures in place than those with looser supplier relationships, such as retail.

There will also be legal and cultural differences- both between and within regions- that affect the approach taken towards financial supply chain management. The early payment culture in Germany, for example, will necessitate a certain approach to receivables financing, while legislation regarding electronic signatures varies across jurisdictions and thus affects how corporates and their banks address paperless invoicing.

However, despite regional differences within Europe, and between Europe and the US, addressing the Asian market remains the key challenge for those wishing to implement SCF initiatives. And even though this region will be the most important growth area for some time to come, banks and corporates should be wary that Asian economies are undergoing rapid change. The Asia of tomorrow will certainly look very different from that of today. Indeed, the nature of North/South trade has already changed significantly, with capital goods now increasingly likely to be produced outside of OECD economies.

Another common problem in this region is that developed world banks often underestimate the depth and sophistication of local bank offerings in countries such as India and China. Financial institutions in these areas are now well established and have considerable experience in providing trade finance and related services to their domestic corporates. European and US providers will often find that opportunities for offering packages attractive enough for local suppliers to accept are more limited than anticipated. Yet despite these ongoing issues- and the rapidly changing economic profile of the region- the large number of small to medium sized exporting firms means that Asia is set to remain a key area for implementing SCF packages.

The overall message here- and, indeed, across the whole of the financial supply chain - is that the approach from banks and buying corporates should be flexible enough to accommodate different approaches towards trade across different sectors and regions.

## LEGAL ASPECTS OF THE ELECTRONIC FINANCIAL SUPPLY CHAIN

As the financial supply chain is linked with the physical supply chain, it uses various events happening in the physical supply chain to trigger monetary transactions between the entities involved. Document exchanges built in with the physical supply chain are therefore very important for triggering actions in the financial supply chain.

Various systems or software applications are being used to process transactions propelling the financial supply chain. These systems are being implemented in discontinuous systems installed with various entities participating in the financial supply chain. With the advent of Internet, however, standards for exchanging information across applications and new legal structures supporting electronic information exchanges between parties, a new paradigm of e-financial supply chain has emerged.

Two principal pillars of e-financial supply chain are dematerialised documents and communication standards for exchanging these documents across different entities. With the help of the United Nations Commission on International Trade Law (UNCITRAL) model legal framework supporting e-commerce, legal systems of various countries have adopted changes required for e-commerce and have therefore paved the way for dematerialised documents. On the other hand, several agencies like RossettaNet, Bolero and SWIFT TSU have attempted to solve the problems involved in document exchange standards and security arrangements certifying the origination and recipients of the documents.

A lot has changed in the world of business within the physical supply chain, due to practices and developments such as:

- Japanese for introducing leaner and flexible manufacturing systems (machines and practices both).
- BRIC countries (Brazil, Russia, India and China) have embraced globalization and allowed businesses to really look for global sourcing locations, increasing the number of trading interconnections a business typically had.
- The management gurus that convinced businesses to concentrate on core competencies have given rise to the great SME phenomenon.
- Modernization of transportation has led to ever-increasing ship tonnage, air connectivity, and freight handling capacity at various hubs.
- And last, but not least, the fact that the global political community chose to repeatedly go back to discussion tables through GATT, WTO etc. rather than engaging in trade blockade through political or military means.

But while the physical supply chain has experienced the changes that reduced typical shipment size and days of credit enjoyed by the buyer, the financial community and banks in particular have not seen many changes in the traditional trade services practices and offerings. Momentum is building for significant enhancement in services in this field and now it will be the banks' turn to lead this evolution.

On the other hand, the real risks of trade transaction i.e. the delivery risk faced by the buyer and payment risk faced by the seller have not disappeared. So what the banks need to do is to refit their practices (operations) and offerings (products) to the new world where documents can be exchanged in dematerialized form, information can be available in the shortest possible time and discount information in no more time than it took to arrive.

One of the key aspects that banks have to consider when they look at the e-financial supply chain is the legal challenge they face when offering e-financial supply chain services. In some circumstances, these laws may not be different from the underlying legal framework for offering typical electronic banking services but there are other aspects, specific to trade business, which need to be considered when offering such services for the e-financial supply chain.

## LEGAL ISSUES

Various laws affect trade offerings in the e-financial supply chain world. The most important ones are as follows.

## LAWS PERTAINING TO ELECTRONIC COMMERCE

UNCITRAL formulated a model framework for electronic commerce transactions in 1996. The principal theme of the framework is summarized in the statement; 'information shall not be denied legal effect, validity or enforcement solely on grounds that it is in the form of data message'. On the issue of signatures it clearly puts trust in public key cryptography that allows the sender to sign using a private key and the bank to verify using a public key. The role of the certification authority in certifying that only properly authorized persons are using the keys has been well detailed in the secured messaging structure outlined by the framework.

Various countries have adopted the model framework to strengthen their legal system and facilitate electronic commerce. Some of the important trading countries are Singapore, Australia, India, United States, Canada, France, United Kingdom, New Zealand, Thailand and China.

## CONTRACT ACT

In many countries this law requires a physical contract to be present between the parties. Banks in most countries, however, have implemented contracts that support the offering of electronic services such as Internet banking, phone banking, mobile banking, ATM cards, etc. Banks can certainly learn a lot from these experiences while pushing their initiatives on e-financial supply chain ahead.

Another aspect to consider is the validity of the contract executed between a buyer and a seller through a medium offered by a neutral party such as a bank. It could be further complicated in situations where:

- The contract has to be drawn on stamped or judicial paper.
- The legal framework has restrictions for contracts around certain types of transactions e.g. fixed assets, debentures type of transactions.
- Generally, in simpler situations of goods trade, these requirements should be well covered under the electronics laws for contracting.

## LAWS RELATED TO ELECTRONIC EVIDENCE

In the case of disputes relating to dematerialised information, banks will have to rely on the capability to produce non-repudiated data. In some countries, however, this becomes difficult when the bank is an interested party of the dispute acceptance of such data.

Electronic data can be relatively easily modified, which is another issue when presenting evidence in electronic form. Many jurisdictions, therefore, do not allow electronic data as evidence and others accept it purely as circumstantial evidence.

There has been good technological progress to address the issues surrounding electronic evidence for digital transactions. The technology is based on four underlying principles:

- Authenticity - the transaction originates from an authentic source.
- Integrity - the transaction is the same - and not hacked - when it was submitted.
- Confidentiality - data within the transaction is confidential.
- Non-repudiation - transaction is stored and can be used as proof in court later.

## BANKER'S BOOK OF EVIDENCE ACT

This is another important act under which banks can present a certified copy of an entry in books of bank as prima facie evidence of the transaction resulting in the entry.

Another complication relates to laws surrounding cases where both the electronic data and physical documentation is present. In some jurisdictions, the law decrees that the physical documentation will be used as proof of the transaction.

The laws vary by countries and most of them have been recently modified to encompass the electronic evidence and therefore do not have a wealth of case law that define practice from the interpretation of wordings.

## NEGOTIABLE INSTRUMENTS ACT

In many countries, certain trade transactions need to be or may be backed up by a negotiable instrument that can be executed in cases of disputes. Also, in many places, such an instrument is required to be in writing and on stamp paper. This hinders the smooth execution of electronic commerce transactions while handling dematerialised documents.

Most countries - who have adopted and progressed as e-commerce societies with supporting legal framework - still have many restrictions around the handling of negotiable instruments electronically.

## LAW OF JURISDICTION

Jurisdiction is often the tricky issue, as different jurisdictions allow for different flavors of the same concepts. However, a banker has to know them in detail and this creates variations of practices while handling business. Difference in practices often reduces the efficiency of the system, as maintaining effectiveness takes its toll on the speed of processing the documents.

There are other laws that affect the execution of e-financial supply chain solutions:

- Contract of carriage act.
- Banking regulations act.
- Sale of goods act.
- Assignment of receivables.
- Islamic laws.
- Insurance act.
- Customs and excise acts.
- Revenue and stamp duty acts, etc.

The legal framework surrounding the B2B e-commerce is hampered by:

Not having backing through various case laws that provide means of quicker settlement of disputes.

Legal professionals who have extensive knowledge and experience in handling paper based transactions, but generally lack understanding of electronic systems used for e-commerce and their respective strengths and weaknesses.

Despite this, it is interesting that most available cases on electronic fraud pertain to frauds relating to e-commerce in the B2C space. A possible explanation is that large banks and corporates take sufficient precautions and care while handling such transactions electronically.

The e-financial supply chain, as a new area of business, can provide substantial competitive edge to those banks who embrace it early. However, there will be challenges such as those described in this article. As with bills of exchange and traditional trade services offered by banks which originated and became popular with the evolving trade environment through the 14th to the 19th century, it is not far fetched to believe that this e-financial supply chain initiative can also be the basis of commercial banking in the 21st century.

## FINANCIAL SUPPLY CHAIN IS BECOMING MORE SOPHISTICATED, DUE TO INNOVATIONS - ROLE OF BANKS

Banks are being increasingly challenged by their customers to play a part in assisting them to realise the supply chain optimization they strive to create. By way of an example, within RBS, we have focused on initially enhancing our supply chain offering in the established trade finance area. Here we aim to, at the simplest level, enable a businessman to log on from any location to manage their traditional trade banking needs through web access. While we continue to see steady growth in our LC and collections activity, we have recognised the growth in open account trading.

During the last few years, our efforts with larger customers have increasingly been to help finance their trading partners. This has been achieved by effectively reversing a typical factoring scenario to provide selected suppliers with immediate settlement of their invoices at a discount following buyer approval, but prior to the credit term previously agreed between the two trading partners.

The main benefit for the buyer is that they are able to maintain or improve key balance sheet metrics such as days payables outstanding and working capital retention while achieving lower costs within their supply chain. This is because the discount paid by the supplier for earlier settlement reflects the bank's view of the buyer's risk and credit rather than that of the given supplier. For a supplier, it is a win, as they will receive cash settlement of the buyer's related receivable, at a much lower charge than their normal cost of funds. In addition, they also have online visibility as to which invoices have been approved by the buyer and therefore early knowledge of those invoices that may require additional chasing.

The 'post approval' finance solution above, where the bank pays the supplier after the buyer has approved the invoice, is very attractive to suppliers but does not provide finance earlier than the invoice stage in the order to pay cycle. For many suppliers, especially for those trading partners domiciled in emerging markets, access to working capital finance to fulfill the order is often very important. From a bank perspective, the provision of finance starting against a purchase order and supplemented by further tranches as the transaction progresses to the post approval stage is our objective.

## EMERGING MARKETS

Banks that working with counterparts in emerging markets can provide earlier working capital finance. This can be achieved by developing or expanding partnerships with regional banks that already have a presence in these local markets. For example, RBS has such a relationship with the Bank of China (BoC). They have 13,000 branches situated throughout China, some 38% of the Chinese Corporate market,

Known challenges still remain and new challenges will of course continue to emerge as banks work with their customers to extend financing solutions through the supply chain. Whether banks provide end-to-end finance solutions across a supply chain or work with strong regional banking partners, the need to match and reconcile data in the supply chain is vital. A practical example of this is the matching of the final supplier invoice to the purchase order and/or other documents (e.g. shipping) that have been raised as the transaction progresses. This brings the discussion back to how such data is best managed.

For the banks, the challenge is how to assist customers in this space? There is a growing consensus within the banking sector that the push by the more sophisticated corporate to integrate the physical and financial supply chains to achieve greater efficiencies and therefore lower costs will provide ample opportunity for the banks to add value through the provision of extended services and financing propositions.

The key point, therefore, is to define what the role of the bank is. Some propositions are more obvious than others. Banks should consider how they can unlock working capital value in the supply chain earlier in the transaction by using the data that is presently produced through the process. However, gathering and linking such data emanating from the physical and financial supply chains is not so easy. The flow of information between the corporate, its trading counterparties and the bank can be hampered by disparate systems, processes and a lack of standardization.

Some in the banking sector believe that, given the sector's vast experience in handling and pushing through a mass of data related to payments and other transactions, they are well qualified to provide an outsourced service - where the bank handles the whole data flow between a corporate and its trading partners.

Also, within sectors such as retail, there is a greater degree of focus in 'dematerializing the paperwork' and many have signed up with specialist technology partners to electronically manage the flow and reconciliation of the data passing to and from their trading partners. Certainly a bank can replicate some of these aspects. There is no doubt that the information provided is vital to a bank looking to finance at different stages within the financial supply chain. Therefore, banks have, in my view, a responsibility to at least connect or partner with those who are already handling transactional data on behalf of our customers.

Each bank will make up its own mind as to how far it wishes to extend its activities around the managing of data across a supply chain. Some will look to provide a fully outsourced service, managing all the data across the purchase to pay transaction whilst others will look to capitalize on using already managed data, linking into these services to offer financing solutions on the back of these data flows. One of the main considerations for the bank will be whether the customer will be willing to pay for any offered services over and above the financing solutions.

## CONCLUSION

As the financial and physical supply chains become more integrated, debate is also switching to the management of inventory. Retailers, especially, want to delay taking title to the goods until the point of sale. For the banks however, financing and risk are traditionally directly linked to who has title of the goods. How the banks react to this challenge remains to be seen. Basel II and credit concerns will dominate the discussion. One potential solution may be through the closer links that many banks are already forging with logistics providers and consolidators.

Only one thing is certain; any bank wishing to remain active in supply chain will need to remain innovative and ready to invest in the quick changing world of trade.

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