SUPPLY CHAIN FINANCE MODEL: A BANKER'S PERSPECTIVE IN INDIA

Ashwani Kumar[a] and Pooja Rani[b]

[a] *Director/Principal, Continental Group of Institutes, Jalvehra (Punjab), India*
akvarma27@gmail.com
[b] *Assistant-Professor, Continental Group of Institutes, Jalvehra (Punjab), India*
poojacchs@gmail.com

Abstract

SCF is typically a combination of services and technology solutions that links buyers, suppliers, and finance providers to improve the visibility, financing cost, availability, and delivery of cash when supply chain events take place. Companies and their banks are working together to develop finance solutions encompassing the entire supply chain. SCF gives trade banks the tools they need to align their offerings with their customers' evolving supply chain needs. This paper provides background on the growing importance of SCF, delving into the key elements and available options from which these solutions are crafted and implemented. While the market for SCF is still in the early stages of development, innovative banks already have made heavy investments in it and others will be quick to follow. Those who seize this opportunity will transform their businesses into ones that align with, and plug into, their customers' quickly evolving supply chain strategies. It also explores current models and practice regarding the dynamics of financial flows along global supply networks. Based on data collected from two main SCF provider banks of India, the paper identifies and discusses requirements for improved solutions to supply chain finance challenges. This research is particularly relevant in the light of the disruptions that the global credit crunch has brought to financial systems, and the changes that are likely as responses to these disruptions.

Keywords: Financial Systems; Global Supply Networks; Supply Chain Finance

1. Introduction

Supply chain finance also referred 'financial supply chain management' is all about optimizing the flow of money in and out of a business across its supply chain (Timme and Erik, 2011). The physical supply chain has experienced a revolution, driven by exponential growth in global trading and the relentless rise of the emerging markets. Now, the time has come to look closely at the opportunities that supply chain finance represents – to corporate clients, to banks and to technology providers. Today's global business environment requires a financially agile supply chain. But current business practices can introduce costs and risks that create tension among trading partners. Unilateral payment term extensions, combined with restricted access to bank loans, credit lines, and other financing options for suppliers, can make it harder to manage cash, and slows business commerce.Supply Chain Finance (SCF) has emerged as one of the most exciting and promising new products in industry over the last five years (Hughes, 2010). The recent financial crisis has also accelerated the development of financial supply chain solutions in order to protect the physical supply chains and optimize their working capital.

2. What is SCF?

"*Supply chain finance is a buyer-led initiative that facilitates favorable financing for the supplier in order to achieve mutual benefits for both trading partners, through the use of a technology platform and a third-party financial institution or otherwise.* (Aberdeen, 2006)" This form of finance "productizes" SCF from a bank's perspective and typically refers to post-shipment finance programs that permit Suppliers to sell their invoices "approved" for payment by their Buyer before the Payment due date (Persutti and Mawhinney, 2007). Broadly the overall goal of SCF is to optimize Working Capital by integrating *Trade Finance* and the *SupplyChain* throughout the end-to-end supply chain for both buyers and sellers (Gamble, 2010). Therefore this new Operational Paradigm may be interpreted to encompass any financing solution that supports the buyer/seller supply chain, whether it is domestic or global to include areas such as pre-shipment finance, purchase order financing, inventory finance, distribution finance, etc. Table 1 shows the expansion of SCF overtime to include more integrated services.

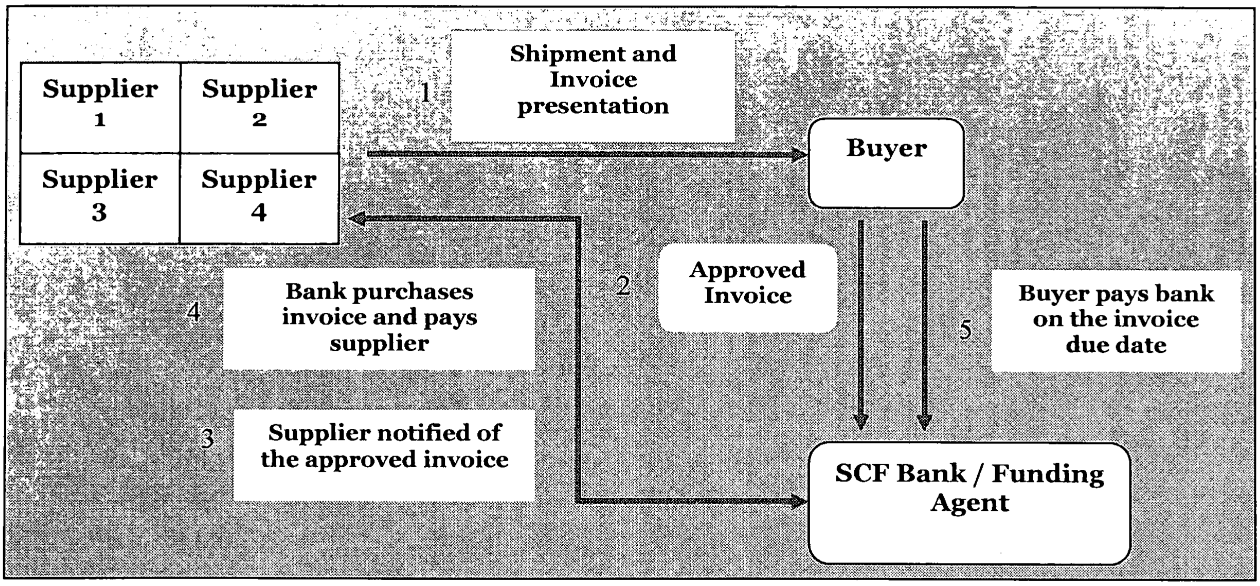
Table 1: SCF Timeline

Integrated service Focus	3. Integrated Working Capital Platforms **Bank providers and non-bank Innovators arc expand their capabilities to provide end to end financing solutions which include various trigger points. Part of this development was in reaction to the growth in Open Account trade and the expansion of technology and the shift of invoice finance from niche providers to a mainstream set of products.**
International	2. International Programs **Expanded into different geographies and currencies as large investment grade Corporate initiated programs in OECD and emerging markets**
Domestic	1. Reverse Factoring **Buyer led initiatives to enable favorable invoice discounting rates for suppliers. It started in late 1990s with auto companies.**

2.1 *Methodology of SCF*

SCF is a solution that is injected into the supply chain process that helps the Supplier be paid for his invoice *sooner than the payment terms* established with the Buyer (Basseer et al. 2007). The principle is that a company's "payables" are used to leverage credit to maximize the efficiency of working capital and enhance their relationships with their suppliers. The company gets extended payment terms; the supplier receives advance payments discounted at rates considerably lower than their normal funding margins. The lender, in turn, gets the benefit of a margin higher than the risk profile commands, somewhere between the supplier's and the buyer's normal level.The reduction in the supplier's working capital cost results into price reductions to the buyer's satisfaction (Chaudhry, 2011). The success of a SCF program hinges on the real time visibility of invoice data, enabling all parties and the lender above all, to track each invoice, its advance payment and final settlement. If the process were not automated, the key efficiencies of lending against the eligible invoices would be lost in the time it would take to process manually. There are often a minimum of three parties to the transaction: a company purchasing goods, the supplier of the goods and a financial institution. A typical Approved Payables SCF transaction works like as depicted in Figure 1below:

Figure 1: Supply Chain Finance Methodology



The thought behind SCF is that there are various events or triggers in the supply chain that can be used to release cash(Adams, 2006). In addition, these triggers as shown in Table 2 can be used across the supply chain to reduce cost of financing for that chain.

Table 2: SCF Trigger Elements

SCF Trigger Elements	Triggers/ Events • Signed Contracts • Confirmed Purchase Orders • Invoices • Transport documents		
	Pre-shipment Finance	**In transit Finance**	**Post-shipment Finance**
Sales/Seller	• **Raw Material** • **Production Finance**	• **Vendor Managed Inventory**	• **Factoring** • **Invoice Discounting** • **Bills of Exchange** • **SCF**
Procurement Buyer	•	• **Inventory Finance**	• **Payable Extension** • **Early Pay Discount**

- Pre-shipment Finance- Liquidity and financing before shipment: It targets the early stages of the supply chain before the invoice is issued to the buyer, requires banks and the other providers to have a deeper understanding of their customers' supply chains and the relationship between buyers and suppliers in those chains. Advance rates are a percent of the purchase order, also requires pre-shipment insurance.
- In transit Finance: Generally the domain of the logistics providers who work with the buyers and their factories using web based applications to manage the order and fulfillment process. Inventory is moved so fast in agreement with logistics providers that there may not be huge need for finance, especially in the high tech sector.
- Post-shipment Finance-pre approval: This type of financing involves limited recourse purchase of trade receivables from seller by taking payment risk of the buyer with or without credit risk insurance.

- Post-shipment Finance-post approval: This is commonly known as Approved Payable Finance, Reverse factoring, Confirming,

3. Study Design and Methods

This research investigates the current systems of supply chain finance from the perspective of bankers in India within the finance sector and to explore the type of model followed by banks. The research contributes to the design of a future supply chain finance methodology which has financial flows as a core and other coordinating aspects. Seven banksnamelyIndusInd Bank, State Bank of India, HDFC Bank, AXIS Bank, Yes Bank, BNP Paribas Bank and ANZ Banks were selected because of their involvement in the SCF to speed up cash flows along the supply chain of companies. All participants are experts at providing supply chain finance solutions around six main areas: the current situation; current trends and developments; technology and information management; players, networks and context; and future perspectives on supply chain finance. Mainly, the secondary data was collected for this research from the websites of the bank and with personal interviews with the bank officials to know the current state of SCF. Since no empirical research has been undertaken and no quantitative data on this subject is available on SCF in India, so it will be pre-mature to design a specific model of financing.

4. Literature Review

In the literature study it appeared that though SCF has had much attention by practitioners,academic publication are still rather rare. Most publications are qualitative and discuss pro's and con's of SCF. Alongside the trend of globalization, companies are oriented to produce international product, which will be sold globally, thus coordinating with international suppliers all over the world is inevitable. With this trend companies increasingly focus on their core capabilities, effective and efficient supply chain management (SCM). It has become a key constituent of corporate strategy, competitive advantage, and success (Narasimhan and Talluri, 2009). Corporates wishing to create supply chain finance programs are increasingly recognizing the value of multi bank platforms which offer a wide range of automation capabilities, including the centralized coordination of supply chain finance by a panel of liquidity provider banks and institutional investors (Hughes, 2012). A major study undertaken by the Investment Weekly in 2011 found that SupplyChainFinance is a topic that sits at the heart of the enterprise, with implications extending beyond finance out to every functional area. It is intimately tied to credit decisions, payments, and collection policies, and is impacted by decisions in Finance, Procurement, Sales, SupplyChain, and more.

Hendricks and Singhal (2005) pointed out that the supply chain disruptions in relations to supplier defaults can have long-term negative effects on a firm's financial performance. Furthermore, the impact of supply chain performance on financial indicators has also been revealed from financial accounting points of view. The risks in the supply chain management associated with "volatility and supplier failure" had increased 54% between mid-2007 and mid-2008 (Kerle, 2010).The importance of supply chain risk management is illustrated by the results of a recent survey, which reveal that 90% of films felt threatened by supply-side risks (Snell, 2010).

According to Michael (2009), financial supply chain management will help companies consolidate the competition in the marketplace by means of generating real cash flow benefits. Farris and Hutchison (2002) emphasize a cash-to-cash cycle time as an important indicator in supply chain management metric.

Additionally, Gomme (2010) consider the total cash flow time as an element into the balance scorecard (BSC) measurement model. However the failure to relate key measures to performance drivers brings obstacles of applying BSC to track the cause-effect relationships between performance indicators and further improvement of corporate value. Lambert and Pohlen (2001) use the EVA model to integrate the supply chain operational processes to financial performance. Gomm (2010) embraces the key performance indicators for both supply chains and financial flows in to a single corporate performance evaluation based on the EVA model. The EVA model works also on capturing how the companies drive value and profitability including the cost of capital in the supply chain.

IMD's survey (2009) explored the impact of the SCF program and the effects of development on short term corporate performance; the impact around the time period of financial crisis is considered. The EVA model has been used to identify the most important indicators and ratios, and build up their cause-effect relationships. Wang (2010) has conducted an empirical analysis to test the impact of the SCF program on corporate performance before financial crisis. The improvements of operational and financial indicators can be observed in short term. Kerle (2010) has further provided the evidences of maximizing the current scarcity of liquidity by applying the SCF program. Li, Yixue, et al. (2011), presents inventory pledge financing as the core mode of logistics and supplychainfinance in China, which can effectively solve financial bottlenecks in supply chains and has significant scope to develop. This paper analyses decisions of the core risk control indicator, i.e. the loan-to-value ratio in static pledge and dynamic pledge fashions.

5. SCF-A Bankers Perspective

Since 2008 the financial crisis has resulted lots of banks or financial institutions in confronting serious credit risks, which subsequently bring liquidity tightening, bank runs and even bankruptcies. Absolutely, this issue affected their financing activities to companies. Supply Chain Finance is being perceived as the provision of financial services by banks and other institutions to assist clients manage the risks involved in moving goods from production through to consumption – along the supply chain. Generally, as the item moves along the supply chain it becomes more valuable, and therefore the financial risks involved in buying and selling the good increase. A good supply chain banker will be able to significantly reduce the risk of the client and the bank losing money by designing appropriate supply chain financing strategies. Well-designed Supply Chain Finance is also a high revenue positive activity for the provider bank and can be structured to have a low capital impost. There have been multiple funding offers by bankers available for the corporates in the recent times.

Table 3: Supply Chain Funding Option Models

Supply Chain Funding Option Models	
Single Bank Balance sheet Model	• In this model, a single bank acts as a source of finance. • This lending model can restrict program capacity due to change in limits, supplier exclusions and Basel II constraints.
Agent Bank with Participating Funders	• The lead bank manages the pricing band of the buyer while a participant bank not involved in the credit work can also be used as a source of funding.
Buyer uses Multiple Bank Platforms	• Buyer use multiple banks as funding sources thereby utilizing multiple platforms of these banks. Each bank is responsible for an agreed list of suppliers.
Multi-bank Option	• The buyers, suppliers and financial institutions are linked to a common network through the SCF platform. In this model, the suppliers trade the approved invoices for which they require early payments. • Each affiliated bank provides its own funding charges parameters. • The model enables the direct participation of multiple banks in the

	buyer's SCF program.
Finance and Technology Model	• This model offers both finance and technology platform for SCF program.

5.1 An Overview of SCF in Selected Banks in India

Interest in SCF has recently increased in emerging markets, which can be illustrated by the fact that a number of regional and local banks, such as the State Bank of India, IndusInd, HDFC Bank have launched their own SCF offerings (Investment Weekly, 2011). In addition, the global financial services community has begun a serious push for standardizing some of the applicable regulations and launching efforts aimed to facilitate SCF and similar transactions: SBI has been awarded the "Best Trade *Finance Bank* in *India*" Award for 2012. The following Table shows SCF initiative taken by various banks in India:

Table 4: SCF Methodology by Banks In India

Banks	SCF Methodology
IndusInd Bank	The SCF methodology of IndusInd bank is to leverage internal commercial and credit policies, mitigating risks and simultaneously exploring new ways to reduce financing and processing costs. IndusInd Bank provides working capital finance to the Channel Partners of Top corporates through its Channel Finance Product. Under this financing option, the tailor-made solutions are offered to the Channel Partners based on "Partnership Approach". The simplified Channel Finance solution is as follows: **Step1:** Supply of goods from Corporate to Channel Partner. **Step2:** Advise to IndusInd Bank to make payment for the purchase. **Step3:** Payment by IndusInd for goods purchased by Channel Partner. **Step4:** Repayment by Channel Partner to IndusInd Bank as per facility term The bank offers financing to vehicle dealers for purchase of vehicles from manufactures through this 'Dealer Finance' facility in the nature of short-term overdraft for a maximum tenor of 45 days, with repayments being made as and when specific vehicles have been sold. The facility would be secured by hypothecation of specific vehicles financed by bank. The vendor Financing is available for the Small and Medium scale exporters in the industries of pharmaceuticals, auto ancillaries, chemicals, home furnishings, garments, leather goods, carpets, handicrafts, hand tools and small engineering goods. Such exporters are receiving orders and need finance to service their increased working capital needs.IndusInd's Trade & Supply chain vertical (part of the Transaction Banking Business Unit), focuses on providing end-to-end solutions to customers, across their 'value chain'.IndusInd is also planning to establish a financing solution for suppliers of select corporates, offering competitively priced pre-shipment loans (up to 90 days) to their suppliers, reimbursed directly by the corporate client to IndusInd. Also in the pipe line is its state of the art 'On-Line portal' (IOL) with flexible and rapid deployment capability; Full integration capabilities with customer back-office/ERP systems and Access to web-based real-time, online information.
State Bank of India	State Bank of India introduced Supply Chain Finance by leveraging its state of the art technology for the convenience of the customers. The objective is to strengthen the relationship of SBI with the Corporate World by financing their supply chain partners. Under SCF Unit, SBI has established an online platform for financing the Supply Chain partners of various reputed Corporate. The online platform can be

	accessed through Online SBI portal: https://www.onlinesbi.com/vfim/login.htm. **This Web based platform provides:** • Convenient paperless banking. • Ensures Real time online transfer of funds and MIS. • Is fully customizable as per your business requirement. • Is capable of being fully integrated with Corporate Enterprise Resource Planning Software (ERP)/SAP. **SBI offers two products on the supply chain to cater to the needs of both vendors and dealers:** • **Electronic Vendor Financing Scheme (e-VFS):** • **Electronic Dealer Financing Scheme (e-DFS)** All the product offerings under Channel Finance are designed to ensure efficient management of working capital cycle and sustained growth and profitability of business partners. OnlineSBI allows the dealers to transact over a completely secure medium, Protected by the most stringent security systems. All the transactions travel via an SSL encrypted medium (minimum of 128-bit to maximum of 256-bit SSL tunnel), the highest level of security on the internet. EV-SSL Certificates provide the evidence of the server's authenticity which safeguards users from trusting unauthorized sites and allows the session to be encrypted.
HDFC Bank	HDFC Bank's Supply Chain Management team offers financial solutions for Suppliers as well as Dealers and Distributors of large Corporates. Our dedicated Supply Chain Team offers a range of structured as well as regular facilities to enable you to meet funding requirements in a timely and cost efficient manner. In addition to meeting funding requirements, the supply chain can be linked on an electronic platform to provide e-payment and e-collection solutions. • Vendor Financing Under vendor financing, facilities are made available to vendors of large corporates. These credit facilities are granted against specific transactions such as bill discounting or on a stand-alone basis. The team also assists vendors in structuring finance against confirmed purchase orders from their customers. • Dealer Financing On the sales side, HDFC Bank offers a range of solutions for funding dealers and end customers. Facilities are offered on a stand-alone basis against collateral as well as through structured transactions. Dealer financing is an effective tool that meets the funding requirements of dealers at a competitive rate. It results in a satisfied and loyal dealer network, helps in increasing sales and streamlines working capital management.
Axis bank	The Bank provides holistic funding solution to the supply chain of corporates. Products under this segment cater to the funding needs of supply chain members and increase operational efficiency of the entire chain. The service delivery is through a technology platform designed to increase transactional convenience for the corporate. The following models of channel financing have been designed to cater to the supply chain's financing needs: • Dealer Financing

	• Factoring of Receivables • Purchase Invoice Financing or Vendor Financing • Rent Receivable Financing
Yes Bank	YES BANK with its expertise in delivering financial solutions cushions the organization by financing its invoices and bills. At YES BANK endeavors to provide customized solutions to suit to the customer's financial supply chain. The in-depth understanding of the customer's business and the following superior delivery models has been used to achieve valuable customer satisfaction and Product Financial Supply Chain Solutions. • Credit backed structures • Channel Finance/ Vendor Financing/ Supplier Financing • Local bill discounting/ Invoice Financing
BNP Paribas	BNP Paribas has announced the launch of a new Supply Chain Solutions (SCS) offering for its corporate clients worldwide. **Using innovative technology, this global platform presents both supply chain financing and cash management capabilities. It offers extensible solutions and is fully integrated with payments and reporting.** Its multi-banking, multi-currency and multi-lingual capabilities are some of the unique features to be found in this new platform. BNP Paribas CIB excels in: • Derivatives - where it is one of the leading global players in rates, credit, forex, commodity and equity derivatives. • Capital markets - where it is one of the top European houses in both ECM and DCM (bond, securitization, convertibles and equity issuance) • Structured finance - where it is amongst the leaders in acquisition, export, project, energy and commodity finance globally
ANZ	ANZ's specializes in customized solutions to meet the customers' trade banking needs and ensure smooth execution of transactions. ANZ's trade finance solutions include: • **Import:** It offers comprehensive solutions to the customers in meeting their import financing needs by handling both sides of the transaction and being a one stop bank for both the importer and exporter. By using Letter of Credit (LC) Issuance, Import Collections, Shipping Guarantees, • ***Export:*** *ANZ offers customized export trade finance solutions (both in foreign currency and local currency) to help manage our customers' business cash flows optimally and effectively. The export solutions includes* - LC Advising, LC Confirmation and Discounting, Back-to-Back /Front-to-Back/Transferable LC, Export Collections, Pre-shipment Finance, and Post-shipment Finance. • **Guarantees:** ANZ offers guarantee facilities in India and globally to meet the financial and performance obligations of our customers. The guarantees serve as an effective risk management tool to the customers and are well accepted by corporate and financial institutions globally. It offers to issue the following types of guarantees - Bid and Performance Bond, Financial Guarantees, Standby Letter of Credit • **Domestic trade and supply chain solutions:** We offer customized

	trade offerings to our customers' in meeting their domestic/ inland trade requirements. In addition, our supply chain solution's provides value addition to our customers in their supply chain and efficient management of their trade transactions- Local Bill discounting (with or without DC) and Receivables Finance

6. Findings of the Study

Banks in India are particularly not following any specific model of SCF. Since every model seems incomplete in itself, so the banks are borrowing the tentacles from other models. National and International banks in India are reasserting their position in supply chain finance through collaboration with non-competing partners.The Banks are no longer contented to be mere intermediaries between their clients and technology-based solutions providers. A key element of this is their collaboration with other members of both the physical and financial supply chain to provide seamless electronic supply chain services. Collaboration is rapidly replacing "outsourcing", reflecting the changing relationship between the local banks insourcing payments infrastructure for trade services and some of the international banks and third party solution providers. Collaboration brings together the core intermediaries between a supplier and a buyer — banks, logistics companies, agents etc — to generate a common communications platform for both the physical and financial supply chains. Unlike outsourcing, collaboration enables local banks to directly offer bespoke services in conjunction with other providers along the supply chain — in effective competition with the networked megabanks. Indeed, these local banks are now able to offer pre and post-shipment financing and liquidity services against open account trading — an area where they had been previously struggled to compete.

Banks also assist in the provision of end to end trade processing services, to both the buyer and the supplier. Thus, collaboration is presenting opportunities for banks in local markets to retain and deepen existing client relationships, reversing the march of the megabanks into local markets and trade servicing of SMEs. It is also allowing local banks to offer a wider range of services to a wider range of industry players, including third parties such as finance providers and logistics companies.

Table5: Supply Chain Funding Option Models

Supply Chain Funding Option Models							
SCF Model	IndusInd	SBI	HDFC	AXIs	YES	BNP	ANZ
Single Bank Balance sheet Model	✓	✓	✓	✓	✓	✓	✓
Agent Bank with Participating Funders	✓	✓	✓	✓	✓	✓	✓
Buyer uses Multiple Bank Platforms	✓	✓	✓	✓	✓	✓	X
Multi-bank Option	✓	✓	✓	✓	X	✓	X
Finance and Technology Model	✓	✓	✓	✓	X	✓	X

Some other observations regarding Funding Concepts in the Supply Chain by Banks in India

There are three areas of financial services that have been followed by Banks in India in order to address issues around the financial supply chain:

1. Supply chain finance.
2. Supply chain services.
3. Information management.

Supply chain finance is the direct finance of suppliers based on a web-based collaborative platform. The buyer uploads accepted invoices; suppliers can see accepted invoices and the bank can offer to discount such invoices at the suppliers' online request. Technically this is just a click away whereby the supplier has the choice to either ask for discounting or wait until maturity. There are other supply chain finance products available at various trigger points along the supply chain to buyers as well as sellers. Supply chain services are another area that offers tools to make the trade processing more efficient. For example, in global trade management a number of medium-sized and larger corporates might say that they can't afford to stay on top of the knowledge related to documentary credit and that they do not want to employ specifically trained people to do it because the unit cost of processing internally would be too high. In such cases they consider outsourcing. Information management is one of the most important areas for financial supply chain management. It should not only allow monitoring of DSOs and DPOs and provide information on transactional costs, payment flows and financed transactions, but also feed the risk management of the client in order to manage related country risk and liquidity. In order to intermediate themselves back into the supply chain, some banks have established themselves as a one-stop shop providing systems, applications and, financing. This offers an advantage over technology vendors who cannot provide the financing piece of the supply chain.

7. Conclusion

The complexity and the expansion of supply chains have generated a new interest in SCF in emerging markets.SCF will certainly be a useful instrument for improving working capital throughout the supply chain, thus improving financial viability of emerging market companies. SCF is being considered in the context of continuous end-to-end financial supply chain optimization. This approach helpsthem to become more agile in managing their working capital needs in a fast changing business environment.The small and medium-sized segment companies in emerging markets stand to achieve business gains with better understanding of their financial supply chains and proper application of available SCF strategies and solutions.

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