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SUPPLY CHAIN FINANCE, A SOLUTION TO IMPROVE BUSINESS EFFICIENCY

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Abstract: *The social and economic environment of the Romanian companies is under the influence of several factors, among them being the announced protectionist measures which are reducing the exports, the unknown impact of the Brexit, the probability of the incoming recession in the U.S., the uncertainty of the legal and political climate, the lack of stability and predictability in the Romanian legislation etc. The companies are facing the problem of lacking capital and the necessity of reducing their working capital. Until now, the only viable solution was stocks reduction, but supply chain finance (SCF) can be the solution to reduce the payment term, reduce risk, working capital optimization and to improve the relationship between supplier and buyer. The mechanism of the SCF enables the suppliers to benefit from the financing facilities of the buyer, by leveraging the buyer's better credit rating.*

Key words: *Factoring, working capital, reverse factoring, supply chain finance, invoice discounting, business efficiency*

1. INTRODUCTION

Supply Chain Finance is not a new concept, but it knew a real development only after the economic crisis and now the SCF market is increasing its market share by more than 15% yearly.

Due to globalization, supply chains are widely spread, production processes are relocated in countries with developing economies, communication is easier and the logistic costs are increasing.

In order to achieve their goals, managers pay close attention to reduce their inventories, transportation costs, procurement and any other logistic cost associated with supply chain management.

After analyzing each component of the working capital, the managers more and more see that there is a close connection between the physical flows and the financial flows and in order to increase the value of the company it can be wise to integrate a SCF system.

1.1 Methodology

This paper analyzes the benefits and risks of a SCF program from the perspective of a Romanian supplier and presents a comparison between optimizing the benefits of the company through SCF and invoice discounting. The possibility of including a supplier's supplier into the program is also taken into consideration.

The key issues related to the supply chain finance concept, mechanism and actors are also explained.

In order to see if the mechanism of SCF can contribute to improve business efficiency, the effects of the SCF on each component of the economic value added (EVA) and on the supplier's efficiency rates like return on equity (ROE) and return on assets (ROA) are analyzed.

2. SUPPLY CHAIN FINANCE

2.1 Definition

The term Supply Chain Finance was recently adopted in the Romanian business terminology and it is commonly associated with reverse factoring, but they are not the same, reverse factoring being a type of SCF.

According to the European Bank Association, SCF is defined as 'the use of financial instruments, practices and technologies to optimize the management of the working capital and liquidity tied up in supply chain processes for collaborating business partners'. SCF is largely 'event-driven'. Each intervention (finance, risk mitigation or payment) in the financial supply chain is driven by an event in the physical supply chain. The development of advanced technologies to track and control events in the physical supply chain creates opportunities to automate the initiation of SCF intervention.

Supply Chain Finance is a term which links finance and the supply chain management.

2.2 Mechanism of SCF

SCF is a combination between technologies, the electronic platform dedicated to such transactions and know-how. The scheme of a SCF process is presented hereinafter.

After the buyer sets up a SCF agreement with his bank, the supplier sends the goods and the according invoice to the buyer. In the next step, the buyer electronically submits approved invoices to the SCF platform. The supplier sees the invoices on the SCF platform and decides which invoice wants to be submitted to early payment. The bank funds the supplier by paying the selected invoice in a 24h time frame and debits the buyer's account at the payment term.

There is a second form of this mechanism, in which the whole process is supported by an e-invoicing service provider or a B2B tiers platform. This way all the involved parties see the loaded and approved invoices and messages are sent to all parties. This form offers more flexibility and speed to the process; new suppliers can be easily added into the chain.

The agreement between the buyer and the banks is completely separated by the contract between the supplier and the buyer.

The buyer cannot negotiate the interest rate; this is settled between the bank and the supplier.

To reduce the inconvenient of a standard SCF set up, which is known as the 3-corner model (or single bank closed model), the banks are shifting to the 4-corner model (or two-bank interoperable model).

The main problem with the 3-corner model is that the seller must connect to many SCF portals operated by its buyers' banks and the banks have increasing costs for any additional supplier due to KYC (know your client cost). In the single bank model, the lending bank capacity can be restricted due to changes in limits, regulations, Basel II constraint, and the fact that not all suppliers are eligible.

The 4-corner model eliminates these disadvantages by allowing the buyer and the seller to work with their banks. When the buyer works with several banks, each bank platform is responsible for an agreed list of suppliers.

To implement a successful SCF, the following key factors should be taken into account:

- technology (bank's platform or multi-bank platform) – should be automatic, integrated with the bank system, simple and easy to use by all parties and flexible (able to integrate other participants or products)
- collaboration between suppliers and buyers
- e-invoicing implementation
- a good understanding of the SCF concept.

As a financing technique, SCF can be compared with factoring and invoice discounting. Factoring means the selling of the receivables (invoices) by the supplier to a bank (factor) with or without recourse at the due term. In a factoring arrangement, the buyer is not involved if there is no notification or he will only know about it, but have no benefit from it. Invoice discounting is a practice used by the supplier which allows him to get the cash in advance from the buyer with a given discount, depending on the payment term. Invoice discounting is appropriate for buyers who have excess liquidities and use their own capital to finance the supplier. Invoice discounting has a more actual form, dynamic discounting, which means that the buyer can pay whenever earlier and the early payment discount is calculated based on an agreement, and the discount rate is lower for an earlier payment.

These techniques are similar, but have some distinct features which are summarized in the next table.

Table. 1. Comparison between SCF, Factoring and Invoice Discounting

	SCF	Factoring	Invoice Discounting
Utilisation	Most in U.S. and Europe	Worldwide	Worldwide
Advanced amount	100 %	75-80%	80% to 98%
Cross Border Risk	None	Factors take no cross-border risk	Without insurance is high cross border risk
Payout	Immediately or at term	80% at presentation of invoice	At 10, 20 days
Initiator	Buyer	Seller	Seller

3. SCF MARKET

3.1 Key moments in the evolution of the SCF market

• In the beginning SCF was started by the large buyers who had better economical power and offered their suppliers financial support in exchange of longer payment terms.
• The economical crises made the buyers put pressure on their suppliers, which were SMEs vulnerable to the capital financing conditions and by agreeing to a SCF they could access better financing conditions and increase their activity. One of the main advantages of SCF programs is that they enable non investment grade suppliers to benefit from investment-grade financing rates.
• The development of technology, the increasing adoption of both cloud and e-invoicing technologies, give lenders deeper visibility into potential clients.
• The constraint of the traditional credit forces companies to seek new financing schemes and SCF represents a good opportunity.

The SCF market is considered the new discovered finance solution, with a significant opportunity to develop in Asian countries and Latin America, while the largest revenues are obtained in Europe and the United States. Most programs are in automotive, manufacturing and retail sectors. The Romanian factoring market increased in 2017 with 13% compared to 2016 and the star of all types of factoring was reverse factoring, with an increase of 44%.

The Romanian SCF market is in its beginning, which explains the big growth and shows the potential of this market. Romanian SMEs are, as those worldwide, forced to offer longer payment term, which puts pressure on them to search for financing alternatives. Traditional credit often requires warranties, needs long period of approval time, is expensive etc.

Although the SCF market is growing, it is facing some challenges, like the lack of standardisation.

4. ACTORS IN SUPPLY CHAIN FINANCE

A SCF, even in its simplest form, must have a minimum of 3 actors: a supplier of raw materials, products etc., which are shipped to a buyer (a larger company with a better economic and financial position), and a financial institution (bank). Each actor has its own perspective about the benefits and risk of the SCF, but in the end, SCF is a win-win solution for all participants.

4.1 Supplier

Usually, suppliers are SMEs and they struggle with problems like liquidity, finding capital, concurrency. Cross border suppliers are involved in this type of transaction and they need to know that the goods they shipped will be paid.

They face the buyers' request to extend their payments terms. This is difficult for them, because they have to find alternative ways to finance their working capital.

Not all suppliers are eligible for a SCF program. According to a PwC survey in 2017-2018, the top 3 reasons to select a supplier for a SCF program are their strategic relationship, the geographic position and the spend value.

SCF allows the suppliers to benefit from the credit ranking of the buyer and to obtain better interest rates. This translates in lower capital cost, improved EBITDA, a better cash-flow by reducing cash conversion period.

According to a survey conducted in 2009, the suppliers can reduce their working capital up to 14%.

They can also benefit from introducing their suppliers to the SCF platform and negotiating longer payment terms for themselves.

Based on the advance cash, the supplier can increase its transaction volume, obtain better profit by larger revenues and lower capital cost.

The balance sheet is not affected by this operation because there is no debt, only a reduction of receivables and it is a non recourse financing, meaning the bank can't recuperate the money from the supplier in case the buyer won't pay at due term.

In case of a bankruptcy or financial problems of the buyer, the risk for the supplier is that his economical situation can be critical, especially if it is a singular client, which commonly is the case.

4.2 Buyer

SCF allows buyers to extend their payment term with their suppliers and this way to improve their working capital and optimize the cash-flow. On the other hand, they want to make sure that their suppliers are in good economic situation to be able to deliver their products in time.

SCF can also improve the commercial relationship between supplier and buyer, by reducing the risk of disruptions in the supply chain.

It allows to standardize the payment terms and to have lower administrative costs.

SCF programs are only available for large companies.

Implementing a SCF program is time consuming and not so easy to do, but the benefits are worthy. Setting up a SCF program usually takes about 3 to 4 months and it requires a strong collaboration between the finance and procurement departments. One of the most difficult tasks is to define the requirements and to adapt the ERP system. The selection of the suppliers to be included in the SCF program is also important.

Accounting issue needs to be clear when using supply chain finance, because even if SCF is not new entry, for IFRS it is not clearly established if a buyers' payable are loan debt or commercial debts when using SCF.

4.3 Banks

The benefits of using SCF for the banks are:

- opportunity to develop new products and services, especially in the actual context of constraint of the traditional financing;
- reduction of transaction time due to new technology used;
- increase in revenues.

5. CASE STUDY FOR A ROMANIAN COMPANY USING SCF

Company Teta is a SME which sells goods to company Alfa, located cross-border, and their invoices have a standard payment term of 60 days. Company Alfa negotiates for a longer payment term of 90 days by offering company Teta to enter in a SCF system. This provides a better interest rate for company Teta, based on the financial rating of the buyer.

Company Teta has its DPO (Days Payable Outstanding) of 50 days and DII (Delivery Inventory In) of 40 days.

Cash Conversion Period (CCP) = DSO+DII-DPO.

Before considering the new agreement CCP = 50 days. Under SCF, the new CCP is significantly reduced. For example, if only 50% of the invoices are approved for early payment, this means a CCP of 20 days.

Companies are aiming to increase their value and in order to achieve this goal, they try to get a low cost of the capital.

We compare invoice discounting (the alternative for an early payment) with supply chain finance: basic condition for invoice discounting is 2% for 20 days payment and for SCF we consider an interest of 10% for Teta, lower than its usual of 15%, due to the buyer's credit ranking. The monthly amount of the receivables from company Alfa is 150000\$. In case of the invoice discounting, this translates in a financial cost of 3000\$ and if company Teta joins the SCF program, the financial cost will be 1250\$. The high cost of the invoice discounting is due to the 2% discount, which means a yearly interest rate of 36%.

If the fact that company Teta has an interest rate of 15% is taken into account, in the situation when there is no SCF program, Teta must obtain a loan in order to be able to provide the goods according to the new payment term.

That means a financial cost of 1875$ for the supplier and at a 3% cost for the buyer, the buyer will save 370$, but this is not a good result for Teta. Company Alfa should take into consideration that by pushing this payment term, it can create long-term liquidity and solvability problems for Teta and new cost of finding new suppliers for Alfa.

Introducing a SCF program saves the buyer the same amount of 370$ and the supplier 625$ (the difference between the loan cost of 1875$ and the cost of advance payment through SCF of 1250$).

One of the main goals of a SCF for a supplier is the optimization of cash-flow. Company Teta can further improve its cash-flow by on boarding to the SCF platform (if the agreement permits) some of its suppliers (company Gama), in which case it can extend its DPO from 50 days to 60, which translates in terms of CCP in a period of 10 days.

In the above case scenario, company Teta can benefit even more from the SCF program and reduce its cost by 208$, calculated based on its carrying cost.

In the next table, the financial costs of the 3 companies without and with a SCF program are shown.

Table. 2. Financial cost without and with SCF

	Alfa	Teta	Gama
Accounts receivable ($)	9000000	450000	300000
DSO without SCF	90	90	60
Interest rate before SCF	3%	15%	18%
Interest rate with SCF	3%	10%	14%
Financial cost without SCF ($)	76500	16875	9000
Financial cost with SCF ($)	76500	11250	7000
Net benefit ($)	-	5625	2000

It can be noted that the savings that both suppliers have makes SCF a good option for them and this is the effect without taking into consideration the possibility to increase production capacity due to a better cash-flow, new investments etc.

The following formula helps to see that using SCF benefits the supplier by reducing the total cost of the capital:

$$\mathrm{WACC} = k_e \frac{E}{Assets} + k_d(1-\tau)\frac{Debt}{Assets} \qquad (1)$$

where: WACC - weighted average costs of capital

k_e – equity cost

E – equity

k_d – debt cost

Assets – equity+debt (long and short term)

τ – tax rate

However, the cost is just part of the equation. What has to be taken into consideration as well is the role that some types of early payment facilities can play in reducing transaction processing costs.

This can be approached not only in terms of cash issues, but also in terms of rates. SCF influences cash to cash cycle and net cash flow and profit are related (Hillier, 2011), like: Profit + Depreciation = Cash flow (from operating activities).

$$R_f = R_e + (R_e - d)\frac{Debt}{Equity}(1-\tau) \qquad (2)$$

R_f – Return on equity (ROE)

R_e – Return on assets (ROA)

ROE, the rate that shareholders are interested in, is increasing by using SCF, due to the increase of ROA, generated by the growth of operational profit (increase in sales, lower financial cost). Another contribution to rate optimization is due to the reduction of d (interest rate), this being the principal benefit of the SCF for the supplier.

Finally, the goal of all companies and managers is maximizing the value of EVA (Economic Value Added). EVA is an indicator of the efficiency of a project and real profitability appears when the return is above the cost of capital.

EVA is calculated according to the following formula:

$$\mathrm{EVA} = \mathrm{NOPAT} - \mathrm{WACC} * \mathrm{Asset} \qquad (3)$$

NOPAT – Net operational profit after taxes

The conclusion is that EVA is influenced by SCF through the working capital optimization (reduced cash cycle, lower inventory and reduced debts) and through the increase in NOPAT (increase in sales, lower financial cost).

The supplier (company Teta) should also take into consideration the cost of entering a SCF program, because sometimes it takes investments in e-invoicing and some other administrative costs. This can affect the benefits of the SCF and even turn it to a loss.

The company should also pay attention to the SCF agreement and the impact on the payment term if it wants to bail out of this program.

6. CONCLUSIONS

Supply Chain Finance market is continuously growing and there is a large interest and demand for all the actors to participate.

SCF alone is not the strategy, but rather the strategy of the corporation is to improve liquidity, and SCF is the tool to do it. The establishment of a well structured SCF program can contribute to a higher EVA.

As no more than 10% of the companies declare using SCF, implementing the concept could be an opportunity to gain an advantage on the market by improving liquidity, reducing working capital, increasing profitability and company value.

Implementing a SCF program raises legal and accounting issues that should be cleared, especially those related to late payment terms, longer than EU regulations allow (Directive 2011/7/EU of the European Parliament on combating late payment in commercial transactions limits the commercial credit).

Also, another direction in order to develop the SCF market is to help the small companies understand and benefit from the advantages of the supply chain finance and to integrate all departments in the process, not only the finance and procurement departments.

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Supply chain finance - o solutie pentru imbunatatirea eficientei afacerilor

Rezumat: Mediul social și economic al companiilor românești este influenţat de mai mulţi factori, printre care măsurile protecționiste anunţate care reduc exporturile, impactul incert al Brexit-ului, probabilitatea recesiunii în SUA, incertitudinea cadrului legislativ și politic, lipsa stabilității și a predictibilităţii în legislația românească etc. Companiile se confruntă cu problema lipsei de capital și necesitatea reducerii capitalului circulant. Până acum, singura soluţie viabilă a fost reducerea stocurilor, însă finanțarea lanțului de aprovizionare (SCF) poate fi soluția pentru reducerea termenului de plată, reducerea riscului, optimizarea capitalului de lucru și îmbunătățirea relației dintre furnizor și cumpărător. Mecanismul SCF permite furnizorilor să beneficieze de facilitățile de finanțare ale cumpărătorului, prin negocierea pe baza ratingului de creditare, mai bun, al cumpărătorului.

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