

FINANCIAL SUPPLY CHAIN MANAGEMENT – CHALLENGES AND OBSTACLES

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Abstract. *Financial supply chain is all about the movement of money along the chain. To optimize these financial processes, Financial Supply Chain Management (FSCM) helps companies looking from a more external point of view to the whole chain. This holistic approach is focusing on collaboration with other parties within the chain. The paper is aimed at finding differences in Working Capital Management (WCM) between Small and Medium sized Enterprises within the Dutch and Slovakian construction industry. Furthermore, the focus of the research is on finding a way a Small and Medium sized Enterprise can improve its WCM. A Case Study research method is used, because a rich understanding of the context of the research is gained. The primary data of this research is obtained via questionnaires whereas the secondary data is collected and gathered via databases. Research has shown that there are big differences in the way working capital is optimized between SMEs within the Dutch and Slovakian construction industry as well as opportunities for application of FSCM.*

Keywords: *working capital, financial supply chain, construction industry*

Introduction

The current global economic unpredictability and the resulting tightening of credit is impacting trade flows and extending financial pressure not only on global buyers, but also on a growing number of global suppliers. The result is an increase in risk that firms need to proactively manage. Financial supply chain programmes get more popular as a way for large buying entities to protect strategic components of their supply chain.

Many companies recognize the importance of working capital management to support their business in difficult times, and many have begun to look across the financial supply chain for opportunities to improve processes and unlock trapped cash. To achieve long-term cash optimization, companies need an integrated and sustainable approach to liquidity management, including measurable objectives and key performance indicators. This requires a systematic and consistent approach offered by financial supply chain management.

The goal of financial supply chain management is to obtain visibility over processes, such as purchase-to-pay and order-to-cash cycles, as well as processes involved in ordering, invoicing, reconciliation and payment. Companies often overestimate their ability to extend payment terms with their suppliers. They lack awareness of financing opportunities which may add value to the firm, and most SME's do not know how working capital is optimised.

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The paper starts with discussing the concept of financial supply chain management, to be followed by the research method and the findings, exploring practices in the Dutch and Slovak SME's in the construction industry.

Theoretical background

Financial supply chain

Financial Supply Chain Management is about looking at how to optimise working capital of a company, not only from an internal point of view, but also from an external point of view (from the point of view of other parties within the chain). This optimisation can be achieved by collaboration in managing accounts payable, accounts receivable, cash and risk. Eventually, the goal is to obtain visibility over the purchase-to-order and order-to-cash processes. This can lead to efficiencies and cost savings throughout the chain. The better the parties know how and where the cash flows throughout the chain (in other words, better visibility), the better companies may optimise these flows and may need less working capital resulting in less credits to be obtained from banks. This will lead to cost savings for all parties (Treasury Today, 2007), and consequently, to more investment opportunities.

Companies generally focus on their supply chains when they are interested in the following issues (Křištofík, 2010):

- Obtaining visibility over all the processes involved in the financial supply chain.
- Increasing efficiencies throughout the chain.
- Reducing costs throughout the chain.
- Freeing up working capital by obtaining a clearer picture of where funds are required.
- Adopting a collaborative approach towards other parties in the chain.

Appropriate financing techniques are needed to benefit from the collaborative approach. That also counts for right liquidity structures. If liquidity structures are all different within the chain, it can affect the benefits of FSCM in a negative way by not working as optimal as possible. Besides, efficient internal processes are required to optimise a financial supply chain, because, if the internal processes are not efficient, the total chain cannot be efficient. Efficient internal processes are therefore a requirement to optimise a financial supply chain. Furthermore, effective collaboration with financial partners is a must, because all parties involved depend on each other to achieve optimisation (Cronie, 2008).

Cronie (2008) describes the following limitation of a Financial Supply Chain: "An optimised financial supply chain requires efficient internal processes, effective collaboration with financial partners, the right liquidity structures and the use of appropriate financing techniques." Cronie (2008) wants to prove with this statement that many factors are important for an optimised Financial Supply Chain. If one of the factors is lacking, the Financial Supply Chain may not be as optimised as it could be. Stephenson and Hutter (2009) add another factor that is important in order to optimise the Financial Supply Chain: there is a "need to implement technology, for instance to ensure that files of approved payments can be routed from buyer to bank and from bank to suppliers".

Furthermore, Cronie (2008) mentions the problem that different departments are holding responsibilities (e.g. treasury, trade finance, accounts payable and accounts receivable) that are all elements of the Financial Supply Chain. These different responsibilities among departments make it difficult for a Financial Supply Chain to function smoothly. Each

department has its own objectives and performance measurements which can be different from the overall Financial Supply Chain objectives and performance measurements.

Working Capital Management

From an accounting point of view, Sanders (2006) defines working capital as “the difference between short-term assets and short-term liabilities. Cronie (2008) gives the following definition of working capital: “the amount of cash which a company requires to fund the difference between payment and collection”. Van Thienen (2011) criticises the definition of Cronie. He argues that working capital “represents the liquidity a business requires for day-to-day operations”.

Mathur (2002) defines WCM as “the management of current assets and the entire current liabilities, as also a portion of long-term or deferred liabilities, which go to meet the financial requirements of working capital“. Krištofik (2010) has another definition for WCM: “Working capital management is the part that sits between the purchase-to-pay and order-to-cash cycles “.

The goal of WCM is to keep working capital on an optimal level. This optimal level is the level needed in order to meet the obligations of the company without having excessive levels of cash. WCM is concerned with the cash flows moving around the company and it is a big advantage if a company has a clear picture of where funds are required. Nevertheless, it is important to know that working capital levels differ between industries. Working capital would not exist if every product sold was distributed on the same days as the invoice was raised and paid (Treasury Today, 2007).

The amount of necessary working capital depends on several factors. According to Mathur (2002) the amount of working capital a company requires largely depends on:

- Nature of business (e.g. automobiles)
- Seasonal character of industry (e.g. fans)
- Production policy (e.g. varying with peak and slack season)
- Market conditions (e.g. competition)
- Supply condition (e.g. materials)

However, WCM is not only concerned with payables and receivables. Inventory management and cash management are important aspects as well. The longer inventory is held, the longer cash is tied up and will not be directly available for the company (Treasury Today, 2007).

According to Cronie (2008), good WCM is providing the following benefits: “reducing the working capital requirement enhances the balance sheet and reduces the need for short term borrowing. Furthermore, it improves financial ratios and therefore increasing the ability to obtain financing for more strategic purposes “.

According to Bhattacharya (2008) a limitation concerning WCM is the “currentness of assets and liabilities that enter into the domain of WCM”. If some assets are not as current as the liabilities used in the WCM, it can lead to difficulties to make proper decisions. Furthermore, the maturity period of an item can be different from company to company. “In case of both current liabilities and current assets, there may be firms where maturity period of any of the items may be more than a year. If, therefore, we follow the logic of ‘natural business year’, then the true operating cycle of a business should be either the days of current assets or current liabilities whichever is higher. Only in such an operating cycle all current items will mature (Bhattacharya, 2008, p. 7).”

“Poor working capital performance is a symptom of a breakdown in business or financial processes that are also impacting on your ability to generate revenue and earnings (Sanders,

2006).” This means that poor WCM eventually has a negative effect on generating revenue and earnings.

Supply Chain Financing

Supply Chain Financing (SCF) is a product offered by banks to realise lower prices for credits. This product is offered to the supplier on the basis of the creditworthiness of the buyer. Credits can therefore be offered at a lower rate of financing than the supplier would be able to negotiate on its own. The Aberdeen Group defines Supply Chain Financing as: “A combination of trade financing provided by a financial institution, a third-party vendor, or a corporation itself and a technology platform that unites trading partners and financial institutions electronically and provides the financing triggers based on the occurrence of one or several supply chain events (Kerle, 2009).”

Key performance indicators for financial flows include the following (Hausman, 2003):

- Days of working capital (DWC)
- Days of sales outstanding (DSO)
- Days of inventory (DIO) Days payables outstanding (DPO)
- Other important characteristics of financial flows are:
- Reliability of payment methods
- Predictability of payment inflows and outflows
- Information management (invoice-level data with financial data).

The financial flow management challenges such as slow processing, unreliable and unpredictable cash flows, costly processes, high DSO and suboptimal credit decisions require higher working capital than needed. If these challenges were removed, the cash saved could be shifted to more valuable users.

Underlying business arrangements between buyer and supplier need to be taken into account by banks. This will provide the bank a better insight of the risks the SCF packages are bringing along. According to the Bank of America “A SCF programme requires customised solutions tailored to a buyer’s business, systems and processes (Bank of America, 2009).” However, Jacquot (2011) does not agree with the statement of the Bank of America. He argues: “The corporate must avoid a custom-built SCF programme “.

Implementing SCF packages by banks is not always that easy. Wohlgeschaffen (2010) describes in his article the challenges of implementing a SCF package: “It was a challenge to make sure that the system was able to deal with credit notes and different currencies as well as individual limits for each supplier in order to mitigate or reduce risk to the buyer”.

When a buyer wants to implement a SCF programme, several objectives need to be taken into account. According to the Bank of America the objectives of SCF are:

- To improve a supply chain’s working capital:
- To enable a buyer to extend the payment terms of domestic and foreign suppliers.
- To give suppliers access to affordable liquidity by leveraging the buyer’s stronger credit rating.
- To create a value exchange that translates into extended DPO or lower COGS for the buyer and affordable access to liquidity for the seller.

According to Philipps (2007), this is the moment to improve relationships and loyalty by offering suppliers SCF packages: “Yet, this is an opportunity for buyers to develop strong reciprocal relationships of trust and loyalty by offering suppliers supplier finance packages”.

Main benefits of SCF are: “SCF enables sellers to reduce receivables as a lower-cost source of financing while lowering Days Sales Outstanding and limiting credit risk exposure (Bank of America, 2009).” Friede (2010) supports the statement of the Bank of America by mentioning something similar, “They can reduce unitisation of their own credit lines and optimise their own working capital through a reduction of Days Sales Outstanding”.

SCF brings several other benefits along. For instance, buyer, bank and supplier benefit from cost reduction as well as risk mitigation. Moreover, qualitative benefits can be achieved as well, for instance greater visibility and transparency in the trading process, which provides additional confidence for banks. It will be clearer for banks what amounts of money flow throughout the chain. Furthermore, it will provide the banks with more information about the current situation of the buyer (Wohlgelassen, 2010; Stephenson and Hutter, 2009).

Wohlgelassen (2010) agrees with the statement of the Bank of America by mentioning the benefit: “Conversion of accounts receivable to cash through attractively priced, true non-resource sale and cheaper cost of finance (based on buyer’s credit risk) and improvement of financial ratios (Wohlgelassen, 2010).” Cronie (2008) adds to this statement: “SCF has substantial potential to enhance cash flow and DPO for buyers and improve cash flow and finance costs for suppliers”.

Philipps (2009) argues that there are some conditions that need to be done before a SCF project can become a success. Without these conditions, the benefits of a SCF project will not be as successful as it might be. “In order for the supply chain financing project to be a success, a corporate, with its bank’s assistance, needs to get the major stakeholders on board, whether that is within the many different entities of the corporate or in its suppliers’ organisations. Without this buy-in, the project will not deliver the benefits to treasury operations that are needed in today’s economic climate.”

An online trade finance facility is necessary to make a SCF programme a success. “The launch of a successful online trade finance facility has – in recent years – proved to be the backbone to success in offering efficient supplier finance solutions for clients (Philipps, 2007).”

Purchase-to-pay Cycle

The purchase-to-pay cycle deals with the payables of a company. Krištofik (2010) defines the purchase-to-pay cycle as follows: “The purchase-to-pay cycle is the trade cycle from the point of view of the company making a purchase. During the purchase-to-pay cycle, the company selects, receives and pays for the materials or other inputs needed in order for it to produce its goods or services”. To measure the average number of days taken by a company to pay its creditors in a given period, the Days Payables Outstanding (DPO) formula can be used.

In case of cash payment directly, a company has to take opportunity costs into account. According to Van Sten & Knapen (2009), “An opportunity cost is one that measures the opportunity that is lost or sacrificed when the choice of one course of action requires that an alternative course of action be given up...” If a company holds too many products in its warehouse, it will have high storage costs. Besides, if a company has a shortage of goods, it may face lost sales.

“From a working capital perspective, ideally DPO should be as high as possible as this means that the cash is available to the company for longer (Treasury Today, 2007).” A high DPO has the same effect as high Accounts Payable. However, there is some criticism on this statement. Negative consequences for high accounts payable can be “sacrificing early payment discounts or adversely affecting the company’s relationship with its existing and potential future suppliers (Treasury Today, 2007).” Cronie (2008) agrees with this criticism by stating: “In addition to processing, managing payments is also a strategic element of working capital to ensure that the company is able to take advantage of early payment

discounts offered by suppliers where these are beneficial.” Both authors focus on the early payment discount that companies forgo in case of late payment.

According to Mathur (2002) these are some limitations: “If we would be taking these figures from the balance sheet of the company, we may have to take the average by adding the closing balances of the two successive years divided by two. But, with a view to getting a more accurate and realistic picture, we may take the total of month-end figures for the last twelve months divided by 12, or better still, if we take the weekly figures for the last 52 weeks and divide the total by 52”. Mathur (2002) describes clearly the problem of what figures to take when calculating.

Order-to-cash Cycle

Bhattacharya (2008) defines accounts receivables as follows: “Accounts receivables are created by a firm when it sells its outputs on credit”. The order-to-cash cycle relates to a company’s receivables. The order-to-cash cycle is the same cycle as the purchase-to-pay cycle, however, from a supplier’s perspective. Krištofik (2010) defines the order-to-cash cycle as follows: “It begins when a quote is prepared for a customer and ends when payment has been received and reconciled with the appropriate invoice”.

To measure the average number of days taken by a company to collect payment from completed sale in a given period, the Days Sales Outstanding (DSO) formula can be used. “The lower the DSO, the faster payment is collected and the sooner cash can be used for other purposes (Treasury Today, 2007).”

According to Cronie (2008), prioritising collections is more valuable than payments, because benefits are more tangible and receivables are sometimes the largest or second largest asset on SME’s balance sheets.

A criticism concerning accounts receivables is that selling on credit is more expensive than cash sales. “It involves more paperwork, more control and the risk involved is higher (van Sten & Knapen, 2009).” The limitations described by Mathur (2002) on accounts payables and the calculation of the DPO also counts for accounts receivables and the calculation of the DSO.

A company usually does not know beforehand which receivables will become uncollectible. “Accounts receivable are shown in the balance sheet at the estimated collectible amount, the net realisable value. An account receivable that has been determined uncollectible is no longer an asset (van Sten & Knapen, 2009).” So, receivables need to be shown at net value.

Furthermore, DSO is very sensitive to the pattern of sales. “If sales are decreasing, DSOs would tend to fall even if there is no change in the payment behaviour of the customers. Thus changes in DSOs may be misleading if sales vary, such as with seasonal sales (Kallberg and Parkinson, 1993, p. 271).

Research Method

The research is an explanatory case study based on working capital management in SMEs in the Dutch and Slovak construction industry.

The primary data of this research are obtained via interviews and questionnaires. The secondary data are collected and gathered via databases, books, and journals. To ensure validity and reliability, the same questions were asked to all participants.

To obtain information concerning bank products related to FSCM, in-depth interviews were held with managers in the ING bank and the Royal Bank of Scotland.

The quantitative data obtained were used to support the qualitative data. The quantitative information gives an idea of the financial situation of the selected companies by using two liquidity ratios, the current and quick ratio, as well as the 'Days Sales Outstanding (DSO)', 'Days Payments Outstanding (DPO)' and the 'Days Inventory Outstanding (DIO)'.

However, using ratios for gathering the quantitative data brings along some limitations as outlined in previous section. The financial data (for the current ratio and quick ratio in the years 2008 – 2010) of the SMEs in the Dutch construction industry are gathered via the online database 'Company Info'. The financial data of SMEs in the Slovak construction industry is obtained via the questionnaire (years 2008 – 2010).

Fourteen interviews were held in SMEs in the Dutch construction industry. The selected companies were contacted by phone, after being selected on their industry (construction), size (SME) and location (province 'Zuid-Holland'). During these interviews, the questionnaire, which is the same for SMEs in the Slovak and Dutch construction industry, was discussed and filled in by the interviewee. Additional open questions were asked to find out more about strategies, knowledge of and experience with FSCM and SCF.

Five Slovak companies, selected in the database from The Association of Construction Entrepreneurs of Slovakia, submitted answers to the questionnaire.

Limitation of the research was the limited number of companies willing to participate. Moreover, the construction industry consists of all sorts of companies, such as constructors, subconstructors, etc.), some of which are really small and without inventories.

Findings

The interviews revealed that working capital is a major concern for all parties involved in the financial supply chain. Suppliers want to receive their payments as fast as possible; while buyers want to wait as long as possible to do the payments. However, suppliers may have to increase prices due to extra costs they will face by extending the payment terms. Some suppliers may face so many financial difficulties that they will be driven out of business. This will automatically have a negative effect on the buyer, because he will lose one of his suppliers. Therefore, different parties within the chain should start collaborating with each other. Financial Supply Chain Management (FSCM) helps parties involved in the chain looking from a more holistic approach, as Oskam said in an interview.

A holistic approach helps companies to consider the processes associated with the movement of cash. The focus is on financial processes. FSCM can help SMEs obtaining credits easier, something that has, in general, been a problem for many SMEs since banks are more hesitant in giving loans after the crisis. In the pre-crisis period, SMEs have benefited from the relatively low financing costs: cash was available and cheap. However, after the crisis, SMEs were badly hit, because their financing costs increased. Collateral requirements increased and loan limits decreased. At the moment, SMEs still have difficulties to get enough credits. Therefore, collaborating with other parties in the financial supply chain may help to obtain credits at an attractive rate.

To make collaboration easier within the financial supply chain, automated business processes are key factors for success. Concerning invoices, companies are still using paper rather than electronic invoices. Paper invoices are much more sensitive for postal delays, data entry errors and the loss of paper invoices. Costs are not even mentioned. Electronic invoices (e-invoicing) are much faster, safer and easier to use, because details will be directly recorded in the system. However, companies are still quite reluctant to implement the e-invoicing system, because of the general lack of consensus on standards and the difficulties it will face in persuading suppliers to change to an e-invoicing system as well. Due to the fact invoices

are sometimes not used in the most optimal way, credits are held longer, which negatively affects the working capital.

The same problem counts for payments. Paper processing is often still used, which can cause huge delays. The solution will be electronic payments. Most of the Dutch companies already use electronic payments. However, for a well-functioning and effective financial supply chain management, all parties in the chain should use electronic payment systems.

By automating processes in the financial supply chain, a large collaborative platform will be necessary. This platform should span the entire financial supply chain, covering for instance, status updates, document matching, payments, purchase order distribution and invoice submission. A holistic approach to liquidity management enhances process efficiency due to the use of electronic invoices and electronic payments.

Supply Chain Finance products have existed for a while. The 'Asset-Based Financing' is the traditional and still the most used Supply Chain Finance variant in business. Examples include selling receivables at a discount to a financial institution or using different stages in the supply chain, such as inventory, receivables and purchase orders as assets for loan collaterals. This variant is known as 'Factoring'. However, the 'Buyer-Led Financing' is the Supply Chain Finance variant in this research. It is led by buyers (customers) rather than sellers (suppliers). This variant is called 'Supply Chain Financing' (SCF) and is also known as 'Reverse factoring' or 'Supplier finance'. The question is how to optimise the chain and make sure suppliers have possibilities to obtain credits at attractive rates.

SCF works as follows: companies with a strong credit rating can support their suppliers, which eventually will lead to benefits on both sides. The buyer will have longer payment terms which will provide them greater cash flexibility and reduce reliance on external sources of working capital. It will also extend the Days Payables Outstanding (DPO) of the buyer. The supplier will gain earlier payments and will benefit from a lower rate of financing from their buyer's bank as well as access to immediate liquidity. Furthermore, it will lower the Days Sales Outstanding (DSO) of the supplier and it will limit credit risk exposure. Eventually this product will enhance the stability of the financial supply chain.

The use of e-invoicing is a need for companies that want to join a SCF programme. The main difference between SCF (Buyer-Led Financing) and factoring (Asset-Based Financing) is that the risk of the bank is concentrated on a single buyer, as with factoring it is concentrated on one seller (supplier), and many buyers. Nowadays, SCF programmes are mostly used in industries or companies in which working capital is relatively high.

A challenge for banks, when offering Supply Chain Finance products, is to know the creditworthiness of the supplier and the buyer. By focusing on the suppliers (which can be difficult, because there can be many) it is important to be aware of the risks. Problems or risks that banks face include a supplier already receiving cash from the buyers bank (part of the SCF programme), but the buyer not yet having received the products from the supplier. This means the bank takes a risk if the supplier goes bankrupt. Since the buyer has not yet received products, he may not pay the bank. Therefore, the creditworthiness of the suppliers is very important.

SCF programmes are always customised, because every buyer has its own, different, suppliers. No SCF programme is identical.

SCF is offered in the Netherlands by Royal Bank of Scotland, ING, CitiBank and BNP Paribas. ASYX is a Supply Chain Finance services company, helping companies to find supply chain finance solutions.

Factoring ('Asset-based Financing') is offered in the Netherlands by many banks and factors such as Rabobank, De Nederlandse Krediet- en Factormaatschappij and ABN-AMRO.

According to Mikoviny, working for the ING bank in the Slovak Republic, products related to Supply Chain Finance (SCF) are not yet offered in the Slovak Republic, because the country is not yet ready for these modern bank products. SCF or ‘Reverse factoring’ is a modern variant of traditional factoring. Traditional factoring (‘Asset-based Financing’) is offered by several banks and factors in the Slovak Republic (Slovenská sporiteľna, Tatra banka, Volksbank Slovensko and VUB Factoring, a.s.).

The Royal Bank of Scotland in the Netherlands offers liquidity and electronic services, such as electronic invoicing platforms that enable suppliers to send their invoices via this platform and the bank can automatically provide the credit to the supplier based on the e-invoice.

The costs of starting a SCF programme differ per buyer. If the buyer has a lot of suppliers, the costs will be higher. The bank has to evaluate suppliers’ financial position to judge their creditworthiness and reliability.

Experiences of SMEs within the Dutch construction industry

FSCM is not well known within the Dutch construction industry, because the industry is very conservative and traditional. Competition is high and margins are low. Instead of collaboration, companies demolish each other. However, collaboration with preferred suppliers takes place.

The construction industry has the advantage that most companies have had long relationships with their banks (like the Royal Bank of Scotland has with its clients). Banks know the companies and companies know what to expect from the banks. However, a disadvantage is the volatility in demand, particularly at the moment when firms face a financial crisis.

The SCF product and e-invoicing

None of the companies that filled in the questionnaire and have been interviewed have a SCF programme. One of the conditions of implementing a SCF programme is to make use of e-invoicing with a XML standard. Since 2004, ‘Sales in de bouw’, an initiative of ‘Bouwend Nederland’, started to stimulate the whole construction chain to change to automated business processes like electronic invoicing (with the use of the XML standard). As an independent party they offer the guidance and help for a smooth implementation within the chain. All parties within the chain (e.g. subcontractors, constructors) can participate in this programme by paying a yearly fee.

Interviewees mentioned the following reasons for not using e-invoicing:

- Companies have to invest a lot.
- Companies do not see the benefits of e-voicing.
- Constructors do not want to use it (important party within the chain).
- Automation systems in use do not offer the possibility of implementing e-invoicing.

Due to the financial crisis, SMEs in the Dutch construction industry started to have difficulties in getting credits from banks. Banks became stricter and demand higher requirements. The role of the bank changed as well according to the interviewees. Companies first have to find ways to get money somewhere within the chain instead of going directly to the bank.

Selected ratios concerning working capital

DSO (Days Sales Outstanding) ratios

Dutch industry:	Slovak industry:
2010 = 42 days	2010 = 35 days
2009 = 46.5 days	2009 = 39.5 days
2008 = 48.5 days	2008 = 33 days

The average number of days it takes before sales on credit are paid by buyers has been decreased over the last three years for SMEs in the Dutch construction industry. Within the Slovakian construction industry, the number of days decreased as well in 2010. However, it is still not on the level that companies had in 2008. In overall, SMEs in the Dutch construction industry need more days to receive their payments as SMEs in the Slovakian construction industry.

DPO (Days Payables Outstanding) ratios

Dutch industry:	Slovak industry:
2010 = 41.5 days	2010 = 46.5 days
2009 = 44.5 days	2009 = 48 days
2008 = 47 days	2008 = 43 days

The average number of days it takes before invoices are paid by the companies that filled in the questionnaire has been decreased over the last three years for SMEs within the Dutch and Slovakian construction industry. This has mainly to do with the fact that many suppliers wanted their buyers to pay sooner. Therefore the payment periods became shorter. For both, SMEs within the Dutch and Slovakian construction industry, the number of days is more or less the same.

DIO (Days Inventory Outstanding) ratios

Most constructors do not have inventories, because everything is ordered when needed and is sent directly to the place where it is needed (JIT principle). The only inventories they have are work-in-progress.

Dutch industry:	Slovak industry:
2010 = 30 days	2010 = 38 days
2009 = 31.5 days	2009 = 42.5 days
2008 = 34 days	2008 = 46 days

The average number of days it takes before inventory was changed into cash has been decreased over the last three years among the five Dutch and five Slovakian companies that filled in the DIO ratio. As mentioned before, many companies in the construction industry do not have inventories (or just a really small inventory, e.g. screws). They have only 'work in progress' (the buildings which are still under construction).

Outcomes CCC (Cash Conversion Cycle) ratios

Dutch industry:	Slovak industry:
2010 = 35 days	2010 = 27 days
2009 = 40 days	2009 = 34 days
2008 = 41 days	2008 = 35 days

The average number of days it takes to convert company's resources into cash has been decreased over the last three years among the five Dutch and five Slovakian companies that filled in the DIO ratio. The DIO ratio has to be known to calculate the CCC. Therefore of only five SMEs within the Dutch construction industry the CCC ratio is known.

Conclusions

Effective supply chain management requires a different approach to doing business than many companies have had in the past. In particular, collaboration and transfer of information between different departments managing each element of the supply chain is a key.

A holistic approach to liquidity management may enhance process efficiency due to the use of electronic invoices and electronic payment. Finance divisions need to be more innovative in the ways they raise finance and manage liquidity.

By implementing electronic data transfer, companies can increase their competitiveness, freeing up working capital and reducing risk. Companies which ensure that their internal processes are aligned with the new opportunities are likely to derive the greatest benefits.

Since the financial crisis financial markets are failing with increasing number of distortions. Companies can use the financial crisis as an opportunity to rethink their business model. Both the Dutch and the Slovak construction industry may benefit by paying more attention towards their financial supply chain management. This requires also further development of research in the area of short term financial management and tools for a more accurate risk management.

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