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Maija Vuorikari

# **Optimizing Working Capital Management from Processes Perspective**

Master's Thesis 2012

## **Abstract**

Maija Vuorikari

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Instructor: Lecturer Saara Heikkonen, Saimaa University of Applied Sciences

The purpose of this thesis was to study working capital management methods in the case company and find ways to improve them. Analyzing current situation gave direction to what kind of plans have to be done to free tied-up capital. The aim was also to create new rules and policies for routine work. Main research question for this thesis was "How should processes be enhanced to improve working capital management?" In order to answer the research question the current economic situation and the existing processes were analyzed to understand and find the best ways to optimize working capital management. Defining the current situation formed two sub questions which were: What is the current situation of working capital management in the case company? What are the factors affecting working capital?

Research was carried out using qualitative research methods. A consulting company was hired by the case company to conduct a working capital project, a part of a larger project to which this thesis also contributed. The theory base for this study was gathered from literature, articles, the Internet, and from the case company's internal reports. Data for some internal reports were collected by the consulting company. Most of the information concerning the case company was declared confidential because it contained key figures. Working capital was studied from the operative point of view; financing was also probed briefly.

Based on the findings of this study it was concluded that working capital management can be improved by many actions with little effort, however, seeing the impact of the actions taken is a further study to carry out. The most important processes determined in the thesis needing reformation were invoicing, purchasing, and credit management. The findings suggest that faster invoicing and short payment terms reduce the length of receiving the payment from the customer. Negotiating longer payment terms and bigger order sizes are important in the purchasing process. It was also discovered that collecting and checking credit rating minimizes the risk for bad debts. In the case company working capital project ends in December 2013, so the final results of the project were not studied in this thesis.

Keywords: Working capital management, credit management, cash conversion cycle

## ABBREVIATIONS

ACP	Average Collection Period
AR	Accounts Receivables
B2B	Business-to-Business
CBD	Cash Before Delivery
CCC	Cash Conversion Cycle
COD	Cash On Delivery
CRM	Customer relationship management
C2C	Cash-to-Cash Cycle
DIH	Days Inventory Held
DPO	Days Payables Outstanding
DSO	Days Sales Outstanding
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EOQ	Economic Order Quantity
ERP	Enterprise Resource Planning
JIT	Just in time
MRP	Material requirements purchasing
ROE	Return of Equity
RTD	Receivable turnover in Days
SCM	Supply Chain Management
WACC	Weighted Average Cost of Capital

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# **1. Introduction**

## **1.1. Background and research problem**

During the economic recession companies start to seek ways to improve and intensify their actions. External factors have a huge impact to organizational operations, and in this situation enhancing the effectiveness of internal functions becomes increasingly important. Emphasizing the role of working capital is significant in these challenging times and recently many organizations have paid lot of attention to improving and managing working capital. Especially in large companies efforts made to optimize cost-effectiveness relate to working capital management. By systematic working capital management, liquidity problems can be prevented which strengthens organizations' ability to cope with unexpected changes. Economic crisis has influenced the external financing resources as lenders are choosing the target investments more carefully, forcing companies to find funding internally. The case company of this study employs effective capital management to ensure operational sustainability and competitive position regardless of the economic climate.

Due to the economic factors the role of managing working capital has become an essential part of companies' financial plans. As financing operations advance the companies are trying to release money from their own operations which results in effective working capital management. In this thesis working capital management is studied from the operational perspective, meaning how much a company has tied up its capital in operational functions.

The case company has launched a harmonization process called "one unified company," and the aim of this process is to cut down the number of suppliers and to reduce the number of several similar IT programs and therefore find ways to save costs in its operations. Working capital project is one part of this one unified company process.

Working capital as a subject has been widely studied so limiting the subject should be done accurately to avoid excluding important matters outside the study. Using the material that has been already produced has to be studied carefully and consider if the previously issued recommendations are suitable for

the case company. Relationship between working capital management and profitability was the most common subject among new articles; Mojtahezadeh, Uyar, Narware and Mathuva are examples of many researchers who have studied this subject. Management of current assets and current liabilities has been studied broadly, and the topic is very important in corporate finance because it affects the liquidity and profitability of the company. Working capital and profitability were not studied in this thesis, but a lot of basic material was found from these articles for this study. This thesis concentrates more on working capital management on a practical level, and on this particular theme articles and literature were not available. Some articles regarded account receivables or account payables only, so to broaden up the subject, many previous studies, articles and literature were explored.

## **1.2. Objectives and limitations**

The objective of this thesis is to find out ways to optimize working capital processes and management in a case company. Defining the current situation and identifying desired results indicate where to start looking for more effective ways of managing working capital and the appropriate actions to be taken. The objective is to determine what kind of savings the firm is able to make in order to improve working capital procedures. The main research question is:

- How should processes be enhanced to improve working capital?

To answer the main research question one must first explore and define the factors related to working capital management. The sub questions hence are:

- What is the current situation of working capital management in the case company?
- What are the factors affecting working capital?

Working capital is studied extensively to form a clear picture of the concept. Inventories, impact of payment terms, cash flow including account receivables and payables as well as payment collection are studied in detail. Financial markets and financial instruments are discussed shortly. The case company is a part of a group of four business sectors. In this research only the domestic

operations are studied, and the focus lies in services sector. The case company has from very little to no raw material in stock, so in this thesis raw materials are only studied very briefly.

### **1.3. Research method**

This master's thesis is a literature review where qualitative research methods are used. It endeavors to come up with propositions of how to improve working capital management so qualitative methods are appropriate in this case. Qualitative researcher generally uses empirical generalizations or middle-range propositions to help forming the initial questions and working hypotheses during the beginning stages of data collection. In qualitative research focus is on data analysis and also in seeking for other theories to help examine data from different perspectives. (Glesne 1992, p. 21)

The assumption that quantitative and qualitative research methods represent the opposite sides of the world of research methods might limit the potential of researchers to build their methodological design for their research problem. For example, quantitative research is often described as an objective search for singular truths that relies on hypotheses and variables, and is conducted on a large in scale. On the other hand, qualitative research is said to be a subjective, value-laden, biased, and is an ad hoc process that accepts multiple realities through the study of a small number of cases. (O' Leary 2004, p. 99.)

Compared to quantitative methods, qualitative research takes a more holistic approach to the research objective and studies a phenomenon in its contexts. In this method it is important to choose the right instruments to suit the particular situation or location in which the research is being conducted. (Marshan-Piekkari 2004, p. 8) Hence choosing the right approach is important, and therefore in this study questionnaires would have been not as effective a method for collecting information as face-to face interviews. In the interviews, the subject was discussed widely and new sub-questions and viewpoints emerged.

Marshan-Piekkari (2004) mentions in her book that interviews are potentially a rich source of data but they suffer from biases and limitations which can,

however, be the case regardless of the research method. Qualitative interviews are strongly influenced by the relationship that develops between the researcher and research participant. Interviews in this research are organized by outsider of the company, but of course, as the project is long, relationships form naturally. However, as the subject is based on facts and mode of acts, personal feelings have minor effects in the interviews.

As mentioned earlier, qualitative research designs tend to work with relatively small number of cases (Silverman 2005, p. 9). Typical elements for a qualitative research method are small scale interviewing, observation and document analysis. This method also permits the evaluator to study selected issues in-depth and in detail. A qualitative research method typically produces a wealth of detailed information on a much smaller number of people and cases. This increases understanding of cases and situations studied but reduces generalizability. (Patton 1990, p.14) For this thesis I have attended one interview, three meetings concerning working capital, and conducted one interview myself.

Qualitative methods are used to find out what people do, know, think and feel through observing, interviewing, and analyzing documents. Concentrating only on one or two cases makes research more manageable, and it is more desirable to have a few carefully done case studies with results than can be trusted than to aim for large, probabilistic, and generalizable samples with results that are dubious. (Patton 1990, p.100) In data collection, program-based data is collected fairly easily but analyzing them is more difficult of course depending on subject. In this study I collected some data from the ERP system, and the main analysis was done by the consulting company. I found it interesting and important for this study to know how the figures ended up to the program, so getting behind-the-scenes is fundamental when analyzing the results which the program has produced. Overall understanding of how the whole processes are conducted is vital for this kind of study.

Interviews are highly appropriate when studying processes because depicting them requires detailed description: the experience of the processes typically



varies for different people, they are fluid and dynamic, and participants' perceptions are the key process consideration (Patton, 1990 p.95).

This research concentrated on analyzing the textual material gained from the conversations raised during the group meeting and other interviews. Conclusions were built based on the theoretical background and on the findings of the interviews and the project group meeting in which I attended.

#### **1.4. Structure of the study**

There are four main areas in the structure of this study. First is the introduction where the background and the research problem are presented. Briefly, this is a case company which needs to improve its working capital management processes. Objectives, limitations and research methods are also discussed in this first main chapter, and the objective is to find solutions for more efficient processes for the case company to release more of its tied-up capital.

Second comes the theoretical part which is divided to many sub-chapters concerning the subject of this thesis. For this part, much background information has been collected from different articles and literature.

The third part is the case company presentation. At first I have shortly introduced the history of the company then advancing to describe the current financial situation.

The last main area of the thesis is the empirical part where the current situation of the processes is defined and solutions for more efficient methods are presented. Conclusion and discussion, the summaries of the findings of the study, and suggestion for possible further studies end the fourth part of the thesis.

## **2. Working capital management**

The management of working capital plays an important role in maintaining the financial health of the company during the normal course of business. Short-term finance is an essential part of working capital management. Working capital is the only investment a company makes without expecting a defined

return. The investment is needed in order to keep the business going rather than to produce something from itself. Because of this, many companies have over-invested in working capital leading to cash flow problems and to a decrease in shareholder value. For many businesses the components of working capital represent the largest items on the balance sheet. Despite this they tend not to be seen as issues demanding strategic consideration or top management attention. (Bender 2009, p. 325.)

Hofmann and Kotzap (2010) summarize in their journal that the management of working capital includes all aspects of the administration of current assets and liabilities. Working capital management aims to minimize the capital to be tied up in the company's turnover process by reducing current assets and extending current liabilities. Companies invest in short-term assets, which are inventories, accounts receivables, cash and short-term securities. Each of these need to be managed. (Brealey 2011, p. 810) In the next chapters the most essential parts of working capital are studied in more detail.

## **2.1. Working capital**

Depending on the source, working capital can be defined in different ways. Working capital is a category of resources that includes cash, inventory, and receivables, minus whether a company owes in the short terms. Working capital comes straight from the balance sheet, and it is often calculated according to the following formula:

Working capital = current assets – current liabilities

Or in some context the formula is:

Inventories + Accounts receivables – Account payables – Advances received = Working capital

The term working capital refers to a firm's short-term assets or current assets. Managing the firm's working capital is a day-to-day activity which ensures that the firm has sufficient resources to continue its operations. This involves a number of activities related to the firm's receipt and disbursement of cash (Ross 2007. p. 4). Most companies require certain levels of working capital to deal

with variable and somewhat unpredictable financial inflows and outflows. Challenges such as disconnected supply chains processes, excessive stocks caused by non-bridged interfaces, inadequate trade credit terms, and suboptimal loan decisions require higher working capital than necessary. While the latter two originate from the financial area, connecting supply chain activities and reducing stock and inventory belong to the operating area. Companies tend to try to have less capital tied up in non-productive stocks, shorten the collection period for account receivables, and stretch cash payments for accounts payable as far as possible. (Hoffmann 2010, p. 308.)

Cash conversion cycle, which is central part of working capital, has been studied as well. The working capital cycle commences when the company receives an order from its customer. Inventories are acquired, which may be converted through the stages of work in progress and finished goods. Until the customer buys the product, stocks are held as current assets. The company has to finance the business for the whole of the operating cycle. It does not need finance out of its own resources, for example some of inventories are usually bought on credit, and trade creditors finance part of the working capital investment. Still the company's cash requirement is limited to the net of inventories and debtors less creditors. (Bender 2009, p.327.)

In a "perfect" world, there would be no necessity for working capital assets and liabilities. In such world, there would be no uncertainty, no transaction cost, information search costs, scheduling costs, or production and technology constraints. The unit cost of producing goods would not vary according to the amount produced. Firms would borrow and lend at the same interest rate. (Sherr 1989, p. 3). To be realistic, that is impossible. The reality is characterized by the company's considerable uncertainty regarding the demand, market price, quality, and availability of its own products and those of suppliers. These real-world circumstances introduce problems which the company must deal with. While the firm has many strategies available to address these circumstances, strategies that utilize investment or financing with working capital accounts often offer a substantial advantage over other techniques. If assuming that that the company is faced with uncertainty regarding the level of its future cash flows, substantial costs will incur if it has insufficient cash on hand to meet expenses.

Among these strategies are some that involve working capital investment or financing such as holding additional cash balances beyond expected needs, holding a reserve of short-term marketable securities, or arranging for the availability of additional short-term borrowing capacity. (Sherr 1989, p. 3.)

The use of working capital accounts as presented in Figure 2.1 is one of the possible ways firms can do to proactively respond to financial problems.

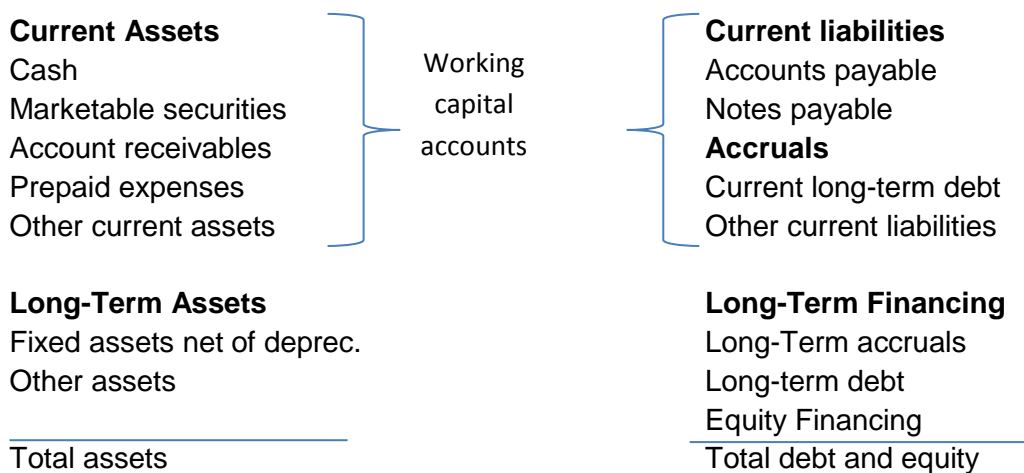


Figure 2.1. Typical Firms' Balance Sheet

Companies usually sort the assets to fixed and current assets. Lind (2011) describes the fixed assets are comprised for example of the plant and equipment of a company, while the working capital refers to a firm's current assets. A company's current assets are considered as those assets that are expected to be able to turn into cash within one year. In addition to cash itself, a firm's primary current assets consist of short-term marketable securities, accounts receivables and inventories of raw materials and finished goods. One remarkable difference between fixed capital and working capital is the fact that working capital components – inventories, receivables, and payables – can be decreased or increased in small units. Plants and equipment are always purchased as a whole. Also typical for working capital is that it is possible to transform its components quickly into other assets. (Mao 1976, p. 183, p. 209; Levy and Sarnat 1994, p. 180.)

## 2.2. Liquidity

Liquidity means the amount of capital available for company to invest and spend. The working capital investment needs to be funded and companies have several strategic options in managing this financing requirement. Some businesses choose to have sufficient cash funds available to meet their daily needs, some firms have overdrafts or borrowing facilities, and others use a form of asset finance (Bender 2009, p. 330). In the website, about.com (2012) Amadeo Kimberly states that businesses use liquidity ratios to measure their financial health. Current ratio, Quick ratio and Cash ratio are the most common ratios companies use.

**Current ratio:** the firm's current assets divided by its current liabilities. It determines whether a firm could pay off all its short-term debt with the capital it got from selling assets.

**Quick Ratio:** same as the current ratio, only using cash, account receivable and marketable securities divided by current liabilities.

**Cash Ratio:** The firm can only use cash to pay off its debt.

Holding cash as an investment has a negative side as it generates a very poor return. Funds on deposit with the bank are unlikely to produce a return which would satisfy shareholders. As a management point of view keeping excessive cash deposits is a poor strategic decision. Company should finance its operation with both short-term and long-term funds, of which cash plays a part. (Bender 2009, p.331.)

Companies keep a close watch on their current and forecasted cash positions to ensure their essential liquidity needs can be met at all times. They do not wait until the cash register is empty. To prepare for liquidity shortages companies arrange financing in advance using both the asset and the liability sides of their balance sheets. On the asset side, they may collect liquidity by buying safe assets, for example treasury bills which can be easily sold when necessary. On the liability side, they may take out credit lines or issue securities giving them flexibility in their management of cash, such as long-term debt. (Holmström 2011, p. 11.)

Companies demand liquidity because they want to insure themselves against credit rationing. Credit rationing is caused by the wedge between the pledgeable income and the total income to the company. When the cost of continuing a project falls between the pledge-able income and the total income, the project can continue only if its funding has been arranged in advance. This shows that companies must also plan their liquidity. (Holmström 2011 p. 43.)

Liquidity risk management is addressed through strategic and operational considerations. A company makes plans how to protect itself from a liquidity crisis. The operational consideration means that certain constraints could be imposed on short-term borrowings or asset mix to ensure the firm is enough protected. The assets management must work closely with the cash management to define the short and medium term cash needs and possible impact of several liquidity scenarios, and determine actions required to address these issues. The liquidity ratios, net working capital, cash flow analysis and the cash conversion cycle are the basis for liquidity risk management. (Tarnóczy 2011, p. 530.)

### **2.3. Cash conversion cycle**

In Cash conversion cycle, also called as cash cycle or in some context as Cash-to-Cash Cycle (C2C), exposure arises as a result of the timing difference between the purchase of raw materials and their ultimate sale after processing. In normal situation all actions in the cycle are funded by the company's short-term resources. (Back 1988, p. 47)

Below is the cash conversion cycle figure.

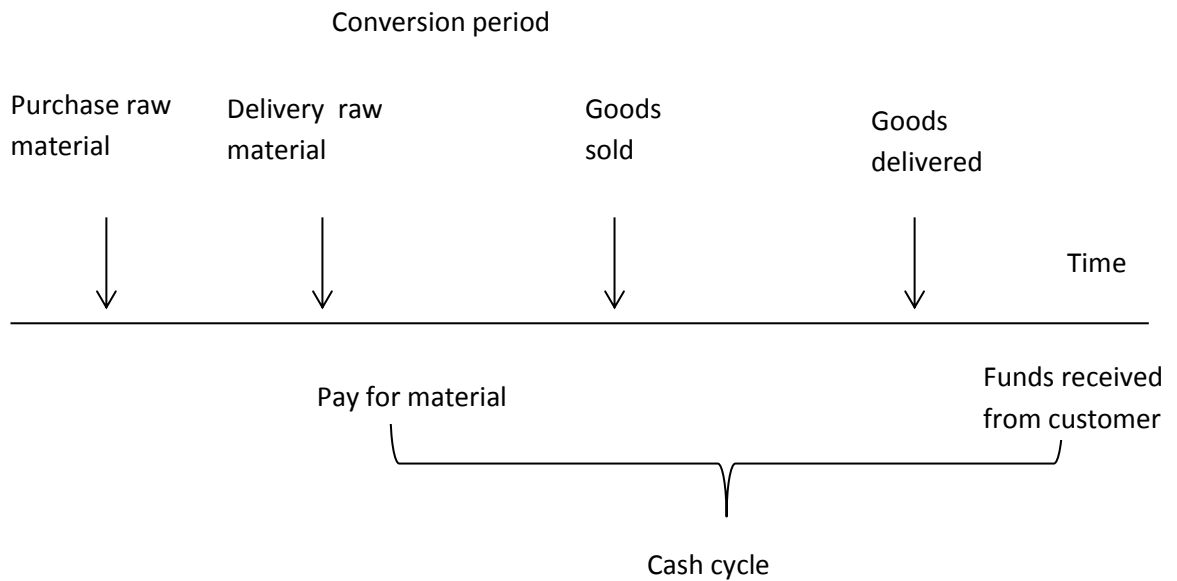


Figure 2.3 Cash conversion cycle (Adapted from Back, 1988 p.47)

The significance for this cycle is its ability to show the number of days the cash flow of the company is limited in operations. A comparison of the cycle in various years indicates the red line that the company faces in its cash flow. A negative time period for this cycle indicates that the company benefits from complete health; this is due the fact that inventory sales and collecting receivables will be made prior to settlement of liabilities. These conditions exist in companies where high levels of inventories are sold while no payments have

One principle of finance is to collect cash as quickly as possible and postpone the outflow as long as possible. This cash management principle is based on the traditional concepts of the cash operating cycle and the cash conversion cycle (CCC). The CCC is based on accrual accounting information and it is indirectly related to company's valuation. That is, a short CCC in relation to a lengthy CCC usually indicates the firm is receiving cash quickly while paying suppliers close to the due date. The result is a higher present value of the net cash flow and the value of a company, or vice versa. Likewise, the shorter the CCC, the more efficient the internal operations of a company and the closer the availability of net cash flow which suggest a more liquid condition of the firm, or vice versa. Cash conversion cycle measures the number of days funds are committed to inventories and receivables, less the number of days that payment

to suppliers is deferred. The CCC focuses only on the length of time funds are tied up in the cycle and does not take into consideration the amount of funds committed to a product as it moves through the operating cycle. (Gentry et al. 2001 p. 90.)

An aggressive approach to liquidity management results in a lower or higher CCC by reducing/increasing the inventory period and the accounts receivables period while increasing/reducing the accounts payable period. Management of the company's CCC involves tradeoffs between liquidity and profitability. If the days-in-inventory is reduced too far the firm loses sales from customers requiring credit. If the firm increases the day-in-payables too much, discounts for early payments and flexibility for the future debt are both lost. (Jose et al. 1996, p.35.)

To measure working capital management, many studies have used measures based on the CCC. Longer CCC may increase the company's sale and, consequently, their profitability, because of greater investment in inventories and trade credit granted. Also, companies may get important discounts for early payments if they reduce their supplier financing. Keeping a high CCC also has an opportunity cost if firms forgo other more productive investments to maintain that level. (Baños-Caballero et al. 2010, p. 512.)

Baños-Caballero et. al. (2010) suggested in their article that in the perfect capital markets investment decisions are independent of financing decisions, and hence investment policy only depends on the availability of investment opportunities with positive net present value, because companies have unlimited access to sources of finance and external funds provide a perfect substitute for internal resources. In this situation, a longer CCC would have no opportunity cost because firms could obtain external funds without problems and at reasonable price. However, internal and external finance are not perfect substitutes in practice. External finance, debt or new share issues may be more expensive than internal finance because of market imperfections. In these circumstances a company's investment and financing decisions are interdependent, and companies may have an optimal CCC that balances costs and benefits and maximizes their value.



The length of the cash conversion cycle will determine the company's ability to generate cash from ongoing operations: the shorter the length the higher the frequency of cash generation. If company manages to have a shorter CCC it will have a lesser need of cash balances and this should hold both for public and private firms. Managers of listed companies may prefer to hold more cash either because they are risk-averse or because cash helps the consumption of perquisites or the financing of excess investments. (Bigelli & Sánchez-Vidal 2012, p. 28)

As mentioned earlier, a large CCC may increase a company's sales and consequently, its profitability for several reasons. First, larger inventories can prevent interruptions in the production process and loss of business because of the scarcity of products can reduce supply costs and price fluctuations. Second, by extending greater trade credit, the company can increase its sales for it allows customers to check that the product they receive is as agreed in terms of quantity and quality, and to ensure that the services contracted have been carried out. (Baños-Caballero et al. 2010, p. 512) This helps companies to strengthen long-term relationships with their customers. This is discussed in more detail in the empirical part of this thesis.

In conclusion, cash conversion cycle is the net time interval between the consuming of cash in paying the liabilities and the receipt of cash from collection of receivables.

#### **2.4. Time-based measure**

In empirical part of this thesis time-based working capital measures are explored with an example from the case company. It is important to see the value of one day to form a realistic view of the costs that non-purpose delays are causing.

As mentioned before, companies are aiming to reduce their tied up working capital and essentially this is done by eliminating non value-adding time and activities. The indicator to measure how long cash is tied up between procurement and sales is the cash-to-cash cycle, defined as the time elapsed from the payment of cash for materials or components through to the receipt of

cash for sale of the finished product (Hofman 2010). Important indicator for this study is the days sales outstanding (DSO) and it is calculated with the following formula

$$\text{DSO} = (\text{Accounts receivables}/\text{Invoiced sales in period}) \times \text{Days in period}$$

DSO is a commonly used measure for the invoicing collection process. Formula measures the average number of days that it takes for a company to collect revenue after a sale has been made. Delays in invoice reconciliation are a particular cause of additional working capital; they delay receipt of payments and increase DSO of receivables. A typical tradeoff at the demand side exists between the gains from a faster cash collection, the increased cost of introducing and maintaining new debtor management processes, and changed customer behavior. (Hofman 2010, p. 312.)

When companies purchase materials it is important to see also the cycle of payables. Days payable outstanding (DPO) is the indicator for calculating how many days on average a company pays off its accounts payables (Investopedia 2012). See the following formula below:

$$\text{DPO} = (\text{accounts payable}/\text{cost of sales}) \times 365$$

This formula calculates the number of days between the purchase of an input from a vendor and cash payment to that supplier. Hofmann & Kotzap (2010) point out in their research that problems at the supply side entail dealing with supplier interactions, cash disbursement, and the DPO. On one hand, buying firms want to develop long term relationship with suppliers, but on the other hand these vendors are often seen as cheap sources of cash. The result, when confronted with unanticipated volatile demand and extended terms of payment, is that a supplier's approach usually includes either an increased unit price or a reduced quality or service level in the long term. (Pike et al. 2005)

Also an important indicator is days inventory held (DIH). DIH calculates the speed with which the stock value of raw materials, work in progress and finished goods of a company are converted into product sales. It is calculated with the following formula:

DIH= (Inventory/cost of Sales) x365

Generally, the lower or shorter the DIH the better, but it is important to note that the average DIH varies from one industry to another (Investopedia, 2012).

This time-based working capital measure is important from both an accounting-based and an operations-based management perspective. For accounting purposes, the metric can be used to help measure liquidity and organizational efficiency, and it assesses the company's ability to cover obligations with cash flows. Additionally, companies can use the measure to evaluate changes in circulating capital and thereby assist in the monitoring and control of its components. For operations management, the cash-to-cash cycle serves as a measurement that attempts to link flows into and out of the company using common accounting principles. This view also tries to identify how the company's financial activities impact suppliers and customers. (Hofman 2010.)

Time-based formulas DSO and DPO are studied with examples of the case company in the empirical part of this thesis.

## **2.5. Inventory**

A firm needs to be liquid enough to pay the wages and other bills when required but on the other hand it needs to carry sufficient stocks so that production is not unduly disrupted nor customers dissatisfied with "stock-outs". Both of these requirements can be met given unlimited working capital, but much stock would be idle for long periods of time. This means that profit would be lost due to the extra holding costs of large stocks and interest costs of the capital involved. (Mott 2008, p. 231.)

Most suppliers allow their credit-worthy customers to defer payment for their purchases. Any payment more than zero provides both storage-related production cost and transaction costs savings to customer. Deferred payment reduces storage-related production costs by shifting the financial opportunity cost of storage from the customer to the supplier. (Emery G. et al. 2011, p. 240)

Management of inventories is an important subject of the whole working capital management. Companies which are willing to reduce working capital should

focus on stock reduction. To be able to operate, companies need reserves of raw material, work in progress and finished products. Typically, the more finished the product is, the more working capital is tied up in the inventory. These inventories can be expensive to store and they tie up capital. This way inventory management involves a trade-off between the advantage of holding large inventories and the costs. It is not obligated to keep inventories of raw materials, finished goods etc. but from cost-effective point of view keeping inventories is cheaper than for example buying materials day by day. Money tied up in inventories does not earn interest, and storage and insurance must still be paid for. Companies need to strike a sensible balance between the benefits of holding inventory and the costs (Brealey, 2011 p. 786). Inventory management is a part of supply chain management.

### **Supply-chain management**

It is often taken for granted that supply chain management (SCM) has significant impact on a company's financial performance. As SCM refers to inter-organizational arrangements one can identify a certain dilemma between the members of a supply chain when all actors want to achieve the same goal of financial improvement. Credit risk and capital costs are often transferred to other stages in a supply chain when practices such as payables extensions to suppliers, enforcement of receivables collection to customers, or unbalances inventory programs are applied. Extended payment terms that pose a lower risk to buyers include a higher risk for suppliers, who may often have restricted access to short-term financing and higher cost of capital. Simply shifting costs to suppliers may result in short-term balance sheet benefits. It can come back however in the form of a less financially stable, and thus a higher-risk supplier base. (Hofman 2010, p. 305.) All these payment term factors affecting to suppliers are studied in the empirical part of this thesis.

For managing inventories many models have been developed. The purpose of these models is to assist in finding the optimal level for inventory. For example, economic order quantity (EOQ) is used to calculate the inventory level where the total inventory holding costs and ordering costs are in minimum, and just-in time (JIT) is based on long-term contracts with suppliers and deliveries exactly

in needed amounts and times. EOQ estimates demand from past experience, material requirements purchasing (MRP) is based on what needs to be purchased or manufactured to fulfill the planned level of production, to meet actual or expected orders from customers. (Mott 2008, p. 243.)

### **Raw materials inventory**

Scheduling production is necessary for producing companies so keeping raw materials in stock is vital for these organizations and makes scheduling easier. Since the raw materials for the production process are on hand scheduling of the company's production equipment can proceed without concern over when these goods will arrive. Avoiding price changes for goods is also a reason to keep raw materials in inventory, the company can purchase materials when it believes that prices are low and can decline to purchase when it believes prices are high. There are also other reasons to keep an inventory of raw materials, such as protection against supply shortages and taking an advantage of quantity discounts. (Scherr 1989, p. 281.)

### **Work In Progress Inventory**

A certain amount of work-in-progress inventory occurs as products move from one production process to another. A major reason why firms keep work-in-progress inventory beyond this minimum level is to buffer production. Buffering is part of the planning process and allows flexibility and economies that would not otherwise occur. (Sherr,1989 p. 282.)

## **3. Credit management**

To maximize expected profit a company needs to have proper credit management in place. Credit management is concentrating mainly on account receivables, account payables and collecting. It is a process for controlling and collecting payments from customers. A good credit management system will help company to reduce the amount of capital tied up with debtors and minimize firms' exposure to bad debts. Good credit management is vital for company's cash flow. The basic goal of the credit granting process is to evaluate credit applicants with the objective of determining the appropriate risk-return tradeoff.

The problem can be viewed as forecasting question: when you give credit to a customer you have to evaluate what will be the future payment behavior. It is very relevant to also consider the risk of costs errors in forecasting. (Kallberg 1984, p. 168)

Credit granting goal is to evaluate credit applicants; in this case they are customers who are buying services by credit, with the objective of determining the appropriate risk-return tradeoff. Giving credit is always a risk as it is hard to forecast customers' future payment behavior. The basic qualitative principles of credit granting are often referred to as the four C's of credit: character, capacity, capital, and conditions. The first concerns the willingness to pay and the others measure the ability to pay. Character is usually inferred from past payment performance, personal references, and verification of statements made in the credit application. Capacity is usually related to the financial resources of the applicant. Conditions refer to the pertinent economic environment in which the credit applicant and credit grantor operate. The generality of these four characteristics cannot be easily translated into workable policies; they do however suggest a framework for credit investigation. (Kallberg 1984, p. 168.)

Credit management is responsible for the credit control system. As the creditworthiness of a customer has been assessed and credit limit agreed, the company should ensure that the customer keeps the agreed limit and the terms of sales. It is important to review the periodic customer information reports to ensure the agreed limits are kept. In order to encourage exact payment, invoices and statements should be carefully checked for correctness and informed promptly. Businesses should be informed immediately if a customer has exceeded its limit, so it would not be able to obtain any more goods or services. (Short-term Finance and the Management of working capital)

Next in this thesis, account receivables, account payables and collecting are studied more extensively.

### **3.1. Account receivables**

Term accounts receivables (AR) means when company sells for example goods or services to another it does not usually expect it to be paid immediately, these

unpaid services are called as account receivables. Account receivables ties up a lot of assets which is a major investment, and the continuous assessment of the state of this asset is a necessary function in the financial management of the firm. (Sherr 1989, p. 250)

In working capital management the receivables are a very important component of current assets, and receivable turnover in days (RTD) is the average length of time required to convert the firm's receivables into cash, like in the CCC getting payments from customer is very vital for fluent business. The managerial efficiency in granting and controlling credit could be ascertained on the basis of RTD. It would indicate the pattern of debtors on the basis of which liquidity of debtors could be ascertained. If the firm takes more time in collecting receivables, the profitability of the firm declines. (Raheman et al. 2011, p. 288.)

Once the decision of the credit granting has been made the next phase of accounts receivable management is the monitoring of the outstanding receivables. Ideal situation would be that a company was able to detect changes in payment behavior, to assess the liquidity of the receivables portfolio, and to generate forecasts of cash flows from given collection of receivables. (Kallberg 1984. p. 180)

A company's investment in account receivables depends on how much it sells on credit and how long it takes to collect receivables. AR constitutes one of the most important assets categories for business. The objective of receivables management is to promote sales and profits until the point is reached where the return on investment is further funding of receivables is less than the costs of funds raised to finance that additional credit. (AR management 2012, p. 159) The days accounts receivables as an outstanding indicator were studied under time based measure, which is an important component of working capital management.

Lind (2010) indicated in her thesis that the generous credit terms may be used as a part of marketing but they might be also required by customers. If competitors permit sales credit to be able to stay in the competition the company is also required to do so. For this reason the credit terms in general are similar throughout the whole industry. All these goals of accepting credit

purchases from customers aim to the larger flow of operating revenue. (Hampton 1976, p.155-156; Mott 2005, p. 237)

Nowadays, before the trade, the credit rating of the customer company is usually checked. There are a number of ways to find out whether customers are likely to pay their debts. For existing customers an obvious indication is whether they have paid promptly in the past. For new customers various customers financial statements are investigated and used to make an assessment, or the seller may be able to look at how highly investors value the firm. Anyway, the simplest way to assess a customer's credit standing is to seek the views of specialists in credit assessment (Brealey 2011, p. 790). The case company of this study uses credit rating checking services provided by "Suomen Asiakastieto Oy" via internet at: [suomenasiakastieto.fi](http://suomenasiakastieto.fi). When establishing new customers in the ERP-system every rating should be checked. After this step the seller makes a decision whether to sell with credit or by cash, however, inconveniently very often the trade has already been processed when the request of checking the rating is done. This scenario is also analyzed in the empirical part.

Many studies have proved that working capital management has an influence to company's profitability. Also Mathuva (2010) wrote in his article that firms can improve their profitability by reducing the number of days accounts receivables are outstanding. The result can also be interpreted as the less time it takes for customers to pay their bills, the more cash is available to replenish inventory, and hence the higher the sales realized leading to higher profitability of the firm. The negative factor on the accounts collection period suggests that an increase in the number of days accounts receivables by one day is associated with decline in profitability. This finding implies that a more restrictive credit policy giving customers less time to make their payments improves performance of a company. (Mathuva 2010, p. 8)

Following balance of accounts receivables should be done on daily bases. Too big amounts of AR may become too expensive for the company, because those are usually financed by short-term liabilities. And furthermore, huge AR balances may be a signal for the third party indicating that company does not



have a proper attitude towards customers who do not pay on time. (Niskanen & Niskanen 2000, p.364)

Not all sales involve credit, but in B2B trade, cash payments are a minority. When looking at transactions that do involve credit, as mentioned above all industries have their own policies in deciding the terms of payment. For example, selling spare-parts for machinery may allow the buyer a month to pay, while those selling daily products typically demand shorter payment time. To encourage customers to pay before the final date a cash discount can be offered for prompt settlement (Brealey 2011, p. 789). Later in the empirical part it will reveal that cash discounts are often very large, for example, if a customer pays 14 days before the due date the discount is 2 %. Even though cash discounts may encourage early payment, the cost of such discounts must be less than the total financing savings resulting from lower trade receivables balances, any administrative or financing savings arising from shorter trade receivables collections periods, and any benefits from lower debts. (AR Management 2012, p. 87)

### **3.2. Account payables**

Accounts payable has an affect on company's cash flow and cash management. Managing short-term liabilities is challenging because usually companies are financing their short-term actions with short-term liabilities. Temporary short-term financing is used to provide funds for transient cash flow shortages, such as those caused by seasonality in sales. Some sources also mention permanent short-term borrowings; these are used by firms on an on-going basis and are refinanced with short-term debt as they mature. There is a benefit to use short-term financing, like the interest expense of short-term debt is less than it would be on long-term debt. (Sherr 1989, p. 383) Account payables are one of the short-term financing sources.

Accounts payable are generated when firms purchase goods and services on credit. Account payable, also known as trade credit, usually creates the largest source of the company's short term financing. Using trade credit from the company's point of view as a way to finance the operations is the exact opposite of accounts receivables. There are three types of trade credit

financing: open account, notes payable and trade acceptances. In some cases seller may offer a cash discount from early payment. The terms 2/10 net 30 indicate that the seller offers a 2 percent discount if the invoice is paid within 10 days; otherwise, the buyer must pay the full amount within 30 days. (Van Horne 1995, p. 447) The most common type of trade credit in Finland is open account, so that is the only type discussed in this thesis.

From a supply-chain perspective, companies in supply chain have different payment terms and very often large and powerful companies can force their payment terms onto smaller companies, which in turn force their terms onto even smaller firms. Small and powerless firms in the supply chain have little redress in the situation, in which they are providing net funding to their larger customers believing that a demanding collecting effort could jeopardize their sales volume. The way in which power is used leads to question of whether smaller or weaker supply chain members are pushed to finance the working capital for the benefit of bigger, an issue which is also analyzed from the case company's point of view in the latter part of this thesis. (Hoffman E., et al. 2010, p. 306.)

Doing business with an open account highlights the importance of the terms of sale. A company can decide to use COD which means cash on delivery or CBD which mean cash before delivery which both allow no extension of credit to the customer. These terms are very useful when the company manufactures e.g. buildings and large amounts of money are tied up in work in progress. They are also frequently used with low credit potential. (Van Horne 1995, p. 447.)

Other terms of sale for open account transactions include a net period with or without cash discounts and dating. The "net period" terms depend very much on the seller's need for money, since cash discount is offered as an incentive to the buyer to pay early. In Finland using cash discounts is not very common and its importance as a way to speed-up collections is diminishing. In dating, the customers are asked to place their orders well in advance of their selling peak and the seller allows them to pay the goods when they actually begin the selling of products. In this case, the seller can smooth the production peak and he does not have to store the finished goods inventory. (Van Horne, p. 448)

When companies organize their short-term financing with trade credit, they should naturally make the maximum use of it. They should either pay their accounts payable exactly at the end of the discount period or at the end of the net period but not in the time between. If a company misses the offered cash discount date, it should not pay immediately but invest the money until the last day of the net period. A company can also stretch, or postpone, the accounts payable beyond the due date. But there are some limits to this kind of an arrangement. Excessive postponing could cause the company to lose its good credit rating and force it to pay a higher interest on the loans. It may also encourage the suppliers to insist on stricter terms of sale. However, at least to some extent, stretching payables is not a bad thing to do. If the stretching is needed only on periodic basis most suppliers are willing to do so provided that they are informed well in advance. The cost of postponing payments is difficult to measure due to the unpredictable reaction of suppliers to the postponement. The cost should be evaluated carefully to determine whether or not stretching really is a reasonable option. (Van Horne 1995, p. 449.)

Account payables are part of supply chain management, and as supply chain management refers to inter-organizational arrangement a certain dilemma can be identified between the members of supply chain when all actors want to achieve the same goal of financial improvement. Credit risk and capital costs are often transferred to other stages in a supply chain when practices such as payables extensions to suppliers, enforcement of receivables collection to customers, or unbalanced inventory programs are applied. Extended payment terms that pose a lower risk to buyers include a higher risk for suppliers who may often have restricted access to short-term financing and a higher cost of capital. Simply shifting costs to suppliers may result in short-term balance sheet benefits. It can return back in the form of less financially stable and a higher-risk supplier base . (Hofman, et al. 2010, p. 305.)

### **3.3. Collecting**

During the recession companies woke up and changed their necessity to collection process to a high priority. To fluent business, crediting it is a central part, but following customers' credit history is also worth doing in order to avoid

lost sales. So a common goal of accounts receivable management is to ensure debts are collected within specified credit terms.

A firm's decision on how much to lend to its customers is determined from the level of company's account receivables. Still the quantity of trade credit a company offers is influenced by a demand component. This demand on the whole is not possible to compute directly as approaches to trade credit of nearly all firms' consumers varies. This is due to the reason that, just as an example, a retail company can contain thousands of credit consumers which can be either persons or other firms. Whereas the accounts payables of a particular company can be similar in greater part as they are payable to the other companies which are comparatively little in number in any particular industry. As the demand curve for trade credit is not identified, interpretation of estimated coefficients can help in understanding this problem. (Khan, et al. 2012, p. 244.)

As mentioned earlier, carrying receivables has both direct and indirect costs but it also has an important benefit: increased sales. Receivable management begins with credit policy, but a monitoring system is also important. Corrective action is often needed, and the only way to know whether the situation is getting out of hand is with a good receivables control system.

Offering sales on credit is a common practice for most organizations, and accounts receivable can be one of the most significant assets on an organization's balance sheet. As a percentage of total assets, account receivable has been estimated to constitute 20% for large organizations and 30% in SMEs and up to 80% of business transactions between corporations are conducted on credit. Given the size of the accounts receivables balance for many organizations and the significant degree of sales that are made on credit, it is important that this asset is appropriately managed and that suitable financial analysis tools are used for internal control purposes. (Leitch & Lamminmaki 2011, p. 1.)

Usually once a month proper companies make a list of overdue receivables. An efficient credit-recoding system gives a report which splits up each amount outstanding into monthly scale. This kind of report is an excellent starting point

for the collection process (Firth, 1986 p. 153) and the case company also uses such an aging report.

Managing overdue receivables needs constant controlling. There are some phases that should be considered in the company's action plan.

The first stage is to establish a credit control function to assess the credit worthiness of a customer, process orders, keep the sales ledger, process invoices and collect debts. In large company this function is separated from the cash management, like in the case company which has a separate credit controlling department. Credit control will be responsible for bad debt collection, and ensuring that all cost-effective methods of collecting are used. (Back 1988, p. 50)

The second stage is financial management to reduce debtors. This includes for example giving shorter credit terms which might meet with some customer resistance. In order to retain the level of sales, prices may need to be reduced temporarily. Of course this must be compared against any loss in sales due to the "aggressive" move of cutting credit period. These procedures cannot always be generated and they naturally vary from company to company. Giving discounts for prompt settlement will encourage late payers to pay earlier, but those who already pay promptly will get the benefit of the discount. (Back 1988, pp. 51-52.)

After checking customer's credit history, there is also possibility to trade on for cash if the credit information shows negative information about the customer. But a realistic thread for a company is to lose the customer if only cash payments are suggested.

Leitch & Lamminmaki (2011) wrote in their study that accounts receivable collection efficiency measures indicate the performance of the accounts receivable processes and the success of collection policies applied (Carpenter and Miller 1979).

The two commonly used accounts receivable collection efficiency indicators are the Ageing Schedule and Average Collection Period (ACP).

ACP is most commonly used accounts receivable collecting measure. Below is the formula how it is calculated.

$$\text{ACP} = (\text{balance of accounts receivable} / \text{total credit sales}) \times 365$$

Figure 3.3 ACP formula (adapted from Leitch 2011)

In the formula, credit sales are the total credit sales for previous 12 months or credit sales for the previous month multiplied by 12. The balance of account receivables is the total balance of outstanding credit sales. This is a generalized formula and can provide misleading indications of collection efficiency when credit sales are not constant. There is a direct relationship between ACP and credit sales. An increase in credit sales will trigger an increase in the ACP, falsely implying a decrease in accounts receivable collection efficiency. Similarly, a decrease in credit sales will lead to false suggestion of an improvement in account receivable collection efficiency. (Leitch & Lamminmaki 2011, p. 4.) Correcting the measures will not be studied in this thesis.

Managing accounts receivables is costly. To collect company's debt, the credit department of the organization generally employs telephone calls, letters and other mechanisms. These entail postage, telephone charges, time and effort. While these costs usually rise with sales volume, their amounts vary among types of customers; risky customers with financial problems require disproportionate collection costs. (Sherr 1989, p. 161)

To maximize profits arising from credit and collection policies the company should pilot these policies jointly until it achieves an optimal solution. The management solution will determine the best combination of credit standards, credit period, cash discount policy, special terms, and level of collection expenditures. As concluded before, credit policy can have a significant influence on sales. In theory organizations aim to issue short payment terms to receive payment faster and on the other hand, require long payment terms to themselves. (Van Horne 1995, p. 411.)

## **4. The Case Company**

The Case Company is part of a bigger construction group. Case Company was established in the beginning of 1900s when building construction business was recovering from a small recession of that time. In the beginning of 1900s Case Company was operating in several sectors, the company's office and manufacturing plant was a small board building in a warehouse area in port of Helsinki. Today the head office is located still in Helsinki. Case Company is quoted on NASDAQ OMX Helsinki Ltd. Operations have expanded from the beginning and now the company operates in all areas of the construction sector (Case Company 2012)

Case Company group has four business sectors: case company is operating in service sector. Case Company is undergoing a renewal into a unified, profitably growing construction firm. The main goal is to improve profitability because the profitability development has been slower than expected since the recession years 2008-2009 (Case Company annual report 2011).

### **4.1. Case Companys' financial situation**

In the autumn 2011 Company launched a boosting program with a goal of annual cost savings. These are profitable growth, customer experience, the best solutions, the development of management skills and supervisor work, and efficient operations. In profitable growth the aim is to enhance the use of capital. Efficient operations are also aiming to bolster the balance sheet; company initiated a working capital optimization program in the spring 2011. Methods include the enhancement of the efficiency of company's own processes. The next chapters walk through the current methods that can be improved towards a better working capital. (Company annual report 2011.)

A fundamental aspect of Company's business management is risk management which will be discussed here briefly. Company is exposed to financial risks, the major ones being interest rate, exchange rate, liquidity and credit and availability of funding. By managing financial risks the company seeks to reduce the uncertainty which the changes in financial markets may cause to Company's value, result and cash flow. Because the focus of this thesis is on

the domestic operations only, the risks related to credit and liquidity risks will be touched on rather than going in-depth in the topic. (Company annual report 2011.)

Company seeks to optimize the use of liquid assets in funding business operations and to minimize interest and other financial costs. Company has a group treasury team which is responsible for overall liquidity management and ensuring the company has proper credit lines and a sufficient number of financing sources. The treasury also ensures that loans mature evenly over several years. Liquidity risk management is based on monthly forecasts and daily cash flow planning. (Company annual report 2011.)

Company is exposed to credit risks through all of the group's receivables, both through trade receivables and through those associated with financial intermediaries like cash, deposits, derivatives and equivalents. The company manages credit risk by retaining possession of buildings until it has received payment for their construction and by minimizing and spreading out our receivables. Capital structure, capital invested in operations and liabilities with interests poses a risk to profitability. The company employs effective capital management to ensure Company remains operational and competitive whatever the economic climate is, and the company also continually monitors liabilities, equity ratio, and net debt to EBITDA ratio. (annual report 2011.)

The case company Case Company has recovered relatively slowly from the 2008 recession as competition in this kind of services field has been intense. A rise in certain raw material and input prices has also burdened earnings trends in the sector. A chart illustrating how working capital has improved in year 2012 will be presented later.

#### **4.2. Working capital management**

Case Company is the third entity going through the working capital improvement program in Group. The potential reduce of Case Company working capital is about 20 percent of the whole group goal. There are several factors affecting how companies form their working capital strategies. In the article "Working capital management in SMEs" Banos-Callebro et al. (2010) identified eight



determinants that have an effect to company's working capital policies, and these determinants and the relation in some determinants to the case company will be discussed next.

### **Capacity to generate internal resources**

Banos-Callebro et al. (2010) stated that asymmetric information between insiders in the company and the external potential investors results in a higher cost for external sources of funds, so companies are giving priority to resources generated internally over debt and new equity. Findings suggest that firms with a larger capacity to generate internal resources have higher current assets levels which might be caused by the lower cost of funds invested in working capital. Banos-Callebro et al. (2010) found that firms with greater operating cash flows have a better working capital management.

At Case Company, funding is organized inside the group, and during this successful working capital program external funding has not been needed as much as before. But the negative side of this is that order book has been lower than expected, so the funding is not needed for this reason either. Working capital management is effective and the knowledge about this subject and the actions to be done to improve working capital among management have taken a huge step forward.

### **Leverage**

The cost of the funds invested in the cash conversion cycle is higher in firms with a larger leverage, so they also have to pay higher risk premium. Banos-Callebro et al. (2010) found that a reduction in the measures of working capital management is negatively related to larger leverage. In some studies it has been found out that leverage has a positive relation to the cash conversion cycle (Lukkari 2011, p. 12).

### **Growth opportunities**

Growth opportunities could also affect company's working capital management and this opportunity might affect trade credit granted and received by companies as well as their investment in inventories. Research suggests

companies build up inventories when they expect sales to grow. Also companies may grant more payment time to their customers to increase their sales in periods of low demand (Banos-Callebro et al. 2010, p. 515). Giving more payment time to customer is not in the line with the new working capital policy. In services sector the sales are not tied to seasons and therefore the work can be done around the year due to which there is no need for increasing sales in low demand periods. But trade credit received has an impact to case company's cash flow; according to the cash flow statement, the cash flow was remarkably better than last year in the first half of the year. The change was primarily due to the higher efficiency achieved in the turnover rate of the trade receivables and the better payment terms of procurement agreements. (Interim report 2012.)

### **Size**

Banos-Callebro et al. (2010) studied that smaller firms have a greater cost for credit because they have greater information asymmetries, greater informational opacity and less follow-up done by analysts. Moreover, according to the trade-off theory smaller firms have a higher likelihood of bankruptcy as larger companies tend to be more diversified and fail less often. This may affect the trade credit granted, firms with better access to capital markets extend more trade credit. Smaller companies also face greater financial constraints which also can increase their trade credit received because they used this form of credit when other forms were unavailable or had already been exhausted (Banos-Callebro et al. 2010, p. 516). If simplifying the scenario, one could imagine that the case company is crawling in its business, however, Case Company as a subsidiary does have good opportunity to continue business by getting funding from parent company.

### **Age**

Age has a positive influence on working capital requirement and this may be explained by the fact that older firms can get external financing more easily and under better conditions so the cost of the funds used in this investment is lower in longer-acting companies (Banos-Callebro et al. 2010, p. 516). Even though

parent company is an old company, financing actions by external funding is always considered carefully.

### **Tangible fixed assets**

Lukkari (2011) researched in his thesis that investment in tangible fixed assets could affect the company's working capital management for two reasons. Research has shown that fixed investment competes for funds with levels of working capital when firms have financial constraints. Still intangible assets generate more asymmetric information than tangible assets so companies with more tangible assets may get financing with lower costs. It has been found that firms with more investment in fixed assets have more aggressive working capital management. (Banos-Callebro et al. 2010, p. 517.)

### **Return**

As mentioned above companies with better performance can get outside capital more easily allowing them to invest in other more profitable projects. Also companies with higher returns tend to have better working capital because of their market dominance, and because they have better bargaining power over suppliers and customers. Companies with higher profitability receive significantly more credit from their suppliers (Banos-Callebro et al. 2010, p. 517).

### **Industry**

In the article of Banos-Callebro et al. (2010) writes about an industry effect on company's working capital policy which might be explained by differences in the trade credit and investment in inventories across industries. There are variations between industries in levels of accounts receivable and accounts payable.

## **5. Current situation – working capital project**

The management of Case Company determined working capital as one of the most important development objectives and decided to start a project to manage improvement of the working capital. Aim of the project is to improve

cash flow and strengthen the balance sheet. The project is divided in three phases: First phase is to recognize the potential inside the working capital and boosting efficiency especially in terms of accounts receivables, inventories and account payables. Second phase is to bring into use earlier defined actions for improving the working capital. Third step is to spread the knowledge of the importance of working capital inside the whole company. (Working capital project meeting 28.02.2012.) The chart below compares the working capital development from January to September in years 2011 and 2012.

The working capital project is divided to several sub-projects and Company has hired a consulting company to run the project. Company is going on a harmonization process aiming to savings and more efficient operations. An example of a sub-project related to working capital project is unifying procurement in the group. In next chapters the internal subjects and related topics of the working capital project are discussed more thoroughly.

### **Interviews and working capital project meeting**

The consulting company is responsible for implementing Company Group's working capital project. They arranged some interviews to define current situation for further actions plans. I attended the interview of the case company's financial manager, which was arranged on 6th of February 2012. It was an open discussion with interview, and I made my own notes. The interviews were not recorded. Interviewee told about the current processes like procurement, sales/invoicing and also about inventories. Conclusions of these interviews were prepared by the consulting company, so I have used later their material for this thesis.

For credit management I interviewed the head of sales, invoicing and collecting department. I prepared few questions concerning collecting, but mainly this was also open discussion about the subject that I defined for this interview. In the collecting chapter below more is told about results of this interview.

After defining the starting situation, working capital workshop was arranged in the main office of Case Company. Aim of this workshop was to find ways to optimize all processes with a goal of reducing working capital. Project

personnel, such as project manager, assistants and site engineers attended to this meeting. We worked in groups and composed several points where we can work more efficiently from the working capital point of view. All these processes and defined optimizing plans are studied more in-depth later in this thesis.

Interviews were conducted by writing notes. There was a time gap of several days between the interview and processing the answers of head credit control, and more than a month's time gap between financial managers interview and processing the answers. Looking back it would have been more convenient and practical to record the interviews which would have facilitated my concentration on the discussions and also allowed further analysis.

Interviews were so called theme interviews and there were no questionnaires. The conversations were free discussion about the subject. It is clear that in interview of financial manager, consulting company had good knowledge about the subject so they could control the conversation to right directions. And the focus stayed on the subject through the whole interview. In the interview of head of credit control I had basic knowledge of the credit control as I had worked in the same department, but I needed to deepen my knowledge for this thesis. I made few general questions about payment schedules, credit limits, credit losses and reporting the receivables for management. After asking about this subject the conversation broadened and I got valuable information.

### **5.1. Customer base**

Case Company has 33 percent customers of the whole groups' customer base, although not all of them are currently active. All inter-company customers are excluded from the analysis. To analyze the customer base the ABC analysis is used for categorizing defined items. In this study customers are categorized by sales per customer in the group, and the groups are: A, B and C. Class A customers are other large Finnish companies; B customers are mainly gasoline stations, smaller estates and municipality services, and C customers are individual customers.

*Removed ABC analysis Figure*

The use of ABC analysis segmentation by amount of the sales clarifies that largest customer have longer payment terms and the value of one day is higher. The calculation of the value for a day is explained in the chapter 5.4 invoicing process.

## **5.2. Accounts receivables**

Key variables affecting the level of receivables will be the terms of sale prevailing in a firm's area of business and the ability of the company to match and service comparable terms of sale. There is also a relationship between the level of receivables and the company's pricing policy, for example, it may choose to keep selling prices relatively high while offering attractive terms for early payment. The effectiveness of the follow up procedures of account receivables used will also influence the overall level of receivables and the likelihood of bad debts arising (Short-term finance and the management of working capital, 2012).

Most of the industries sell products or services on credit instead of requiring immediate payments from their clients. These amounts are carried on the balance sheet under accounts receivables. A company's investment in account receivables depends on how much it sells on credit and how long it takes to collect receivables. Receivables management deals with the formulation of credit policy, concerning credit standards and credit period and it can be liberal or restrictive. Also the discount offered for early payment and the collection policy and procedures undertaken should be considered. The credit period in the case company ranges lot of days. Maximum receivables ties up resources for several days or more if the payment is late.

Lehtinen (2005), mentioned in his thesis that a company's credit policy is a set of decisions that include the company's credit period, credit standards, which may be required to evaluate financial position of acceptable customers, and also the decision of collection procedures and discounts offered for early payment. Various sales aspects should also be considered. These include, for example, the size of a new customer, possibility of future gains resulting from the business with the new customer and the company's objectives regarding market share.

Comparing the case company's largest customers by sale they have longer payment terms than smaller ones. The case company aims to establish long relationships with the largest customers by compromising in the payment terms. But still the aim of this working capital project is to deduct payment terms. Like mentioned above receivables tie up money, and in theoretical part of this thesis in Chapter 2.4 a formula for calculating the day that sales are outstanding (DSO) was presented. It measures the number of days it takes for a company to collect receivables after the sale has been made.

In June 2011 average DSO amount was many days among Case Company customers and in January 2012 DSO was 35.4, so there has been a positive decline since the project started. Information is based on the analyzed data from invoicing and collecting department. There are also regional differences in Finland, which

*Figure 5.2 removed*

### **5.3. Discounts**

One important decision concerning receivables is the issue of discounts. Discounts are usually used in order to get customers pay their invoices earlier than they would normally do. Offering discounts can be used as a way for short term financing but it is usually a very expensive source of financing. Counting a discount was presented in chapter 3.1. The case company has a few municipal customers for whom have given the opportunity for discount if they pay within 14 days, but after 14 days they are expected to pay the invoice without discount. Usually discounts are offered to long term clients aiming to long business relationship and of course getting resources faster.

There is a negative and a positive side of the discounts. Early payment induced by cash discounts will reduce profit, but it may be largely compensated by not having to lend so much capital. The effective annual rate of cash discounts can therefore be compared with the cost of bank overdrafts or loans, which would be needed to finance the longer credit period taken when discounts are not offered. (Mott G. 2008. p. 237.)

Another factor to consider is the administration and the loss of goodwill when disputes arise. Customers may claim cash discounts even though the cash is received after the end of the discount period. Having to sort out this kind of problem can negate some of the advantages of early payment. Some companies offer a tapering discount/penalty scheme where the cash discounts reduces in steps as the normal credit period shortens but after that a stepped penalty is added to the invoice value according to the lateness of payment. (Mott G. 2008, p. 238.)

In the case company the maximum discount is x % and the grant of it is considered carefully. The ERP system counts discounts automatically and if the payment is late and customer pays the invoice with discount, the ERP system does not accept the payment as whole but as a part payment and the x % remains open. But this can be fixed manually, for example in a case when the due date is Saturday and customer pays invoice on Monday. Net value of the invoice is required if the payment comes after the discount period, and customers are informed about this.

Accounts receivables are a part of business almost among all industries. By giving credit for customers companies are aiming to better sales, but giving trade credit has also other motives such as financing, pricing and operative factors, like balancing the sales in seasonal business. For the case company it is vital to create long term relationship with customers, and therefore trade credit is given mainly for all customers excluding a few exceptions which are studied in the latter chapter, credit ratings.

#### **5.4. Invoicing process**

Company group's own service center provides invoicing services and in future all of the group's invoices will be drafted there. Case Company is behind of transferring invoicing to service center and currently only few percent of all invoices are processed there. As a comparison, 99 percent of other sector's invoices are drafted in the service center. The service center's target is to unify all procedures and get up to date information about changes for example in legal terms. Freeing resources on more productive work is also one of the objectives of the centralizing all services to a one hub. As mentioned already



the cost saving actions are the increased efficiency as well as faster billing, for example in sites usually the secretary does the invoicing in addition to a lot of other duties, so invoicing is faster in the service center.

Case Company invoices are drafted every day, businesses send information for the invoice right after the work is accomplished or there is a reason to invoice the customer. So in an ideal situation is that all works should be invoiced as soon as they have been completed. Fast billing requires a commitment by the entire process from the site to the invoicing department. Invoicing is an essential part of companys, cash flow (Mendlowitz 2012, p. 25). For ensuring the flowing invoicing, all phases has to be clear, the invoicing orders are appropriate and there is no lack of information.

In the case company invoicing is mainly done in the districts. One part of the harmonization process is to develop a service center which takes care of all shared services in the company, such as invoicing, managing account receivables and account payables, and also collecting department and accountant department are integrated in the shared services. The migration of the service center is in good phase, only the case company's invoicing is transferring slower to the service center than was planned. So there are still challenges in unifying the invoicing process of the case company.

Current situation of the invoicing process is following:

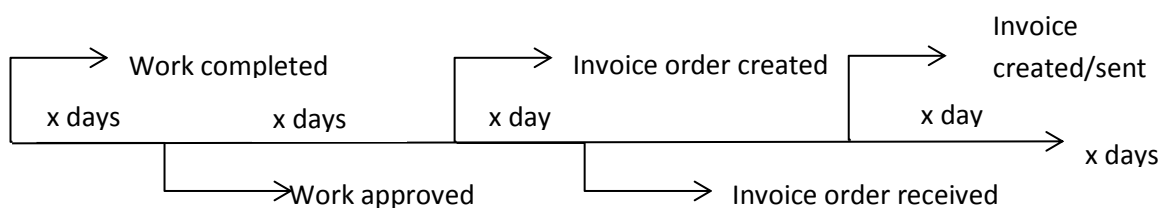


Figure 5.4 Invoicing process

When a project is finished a completion document is created and provided to the customer for approval, post approval the site person makes an invoice order to the service center in the service now platform. Personnel in the invoicing department get a service order and create an invoice in the ERP system. This process takes less than ten days from completing the work to invoicing. Below is an example how to calculate value for one day:

Project value is 1 000 tEUR and duration of the project is 365 days. So the value of one day is  $1000 \text{ tEUR}/365 = 2\,740 \text{ tEUR}$ . If the delay is 7 days, it reduces the project cash/balance by 19 180 EUR.

It is possible to improve the invoicing process, in other words the approval and the invoice order phases by a few days. Before the invoicing date was the date when the invoice was created and the payment time started from that date. The new mode of action is to date the invoice by the approval date but maximum few days backwards. This also cuts up the gap between the work completed and money received from the customer. If the invoicing is delayed by the customer, invoice is still dated to the date when the work was carried out. For example, if the client delays signing the finished work documents or returning them it does not lengthen their payment time.

Information received from the invoicing department shows that invoice orders are received more at the end of the month, and the difference is noteworthy, see the graph below.

*Removed Figure 5.4.1 Invoices created during a month*

The invoicing is accruing to the end of every month and even though works may be completed before the last half of a month, the project person does not create the orders flowingly but remembers to do that only at the end the month. Project supervisor's interest is only that the sales are shown in the monthly report but it is important that the invoicing is stable during the month. The working capital project is about getting to practice level what actions should be done to free tied up capital, and balancing the invoicing is a very simple action to implement. Fast billing requires a commitment by the entire firm. Unfortunately the process is also dependent on individuals who might be active or passive in their level of commitment. Also more careful monitoring is implemented when the phases are completed to get the invoice order done and forwarded as soon as the phase is completed. The most time consuming stage is to get the acceptance of work completion from the client. Now, approving the work phases are arranged manually, the project supervisor delivers the document to the customer and the customer signs the approval. This could be arranged faster by an electronic approving system or a program or a similar solution.

Projects are financed by the group loans, if needed. But if the delays were shorter, or if invoicing was organized in a more regular and consistent manner, and forecasting incomes and expenses were more detailed, financing would not be needed, thus paying attention to cash flow forecasting is important.

After the project started at Case Company all installments are invoiced as separate invoices, before there were many installments in one invoice and if the customer complained about one part of the invoice they usually left the whole invoice unpaid. Also efficient handling of the reclaims is vital, so if there is mistake in the invoice it should be corrected immediately. Drafting a new invoice with the same due date as the original incorrect invoice helps to ensure the payment is received according to the original plan.

Managing and administrative partners must convince other partners and staff of the importance of prompt billing. Management has to emphasize the importance of prompt invoicing, meaning that invoicing has to be taken into daily base actions. When personnel fail to accept the importance of prompt invoicing they cause delays in cash flow and increase the likelihood that some invoices will not be paid in full or at all. (Mendlowitz 2012, p. 27.) At the end management is responsible for the actions carried out in the sites and ensuring invoicing process is ideal. Payment terms are essential part of the working capital project and defining ideal and realistic terms are studied in the Chapter 5.6

## **5.5. Inventories**

An essential part of working capital management is to manage inventories which tie up a lot of capital. Increasing efficiency in the cycle of inventories is also considered in the case company as a point to improve. In Case Company stocks are minimized and, if possible, all materials are stored in whole sellers stock, and delivering materials to site are done in stages. Site manager should plan the need of the material carefully, and inform the procurement department of it. Whole Company's procurement is centralized which will be explained more thoroughly under the purchasing chapter. Cycle of the inventories should be short so it would not tie up capital because Case Company does not manufacture anything; it mainly provides services, and the type of inventory in the case company is work-in-progress. In Case Company managing inventories

concentrates on getting just in time contracts with suppliers so the supplier delivers exactly the needed amounts and in the right time keeping the stock size minimized. Case Company has storage space, but it is only for storing equipment, so the size is not huge which reflects to the insurance payments and rents.

## **5.6. Payment term**

Payment term is defined as the gap between giving the credit and getting the payment from customer latest on the due date. Giving credit to customer is a way to support sales. Giving credit to customers is always risky if the customer does not pay on time or left invoice unpaid. Discounts are also linked to payment terms, like studied before if customer pays invoice before the due date it may get earlier determined discount. There is huge variation in payment terms among the clients.

Case Company average payment term in sales is less than 30 days but the average payment time more than 30 days. There is also variance in payment terms in different cities; aim of this working capital process is to unify all actions. Furthermore for producing comparable information in future payment terms should be similar. Now there is a negative gap between the payment term and payment time. This means that company has to find funding for these three days where as in a normal situation this gap is funded by the company's short-term resources. Like already studied the short-term resourced are known as working capital.

Payment terms depend on the size of the sale, and on the length of the business relation. This is a part of cash cycle management, and reducing the customer credit is essential. In general payment term around 30 days is good average for a bigger company so for small businesses the term could be less days or even few days for one-time or single, individual and housing association customers. For the biggest customers the payment term is around 40 days and payment time is more than 40 days. Here is a point to improve.

Below is a picture about Case Company customers and their payment terms. The names are not included as per the request of the case company

management. The information was gathered by consulting company from the ERP system.

*Figure 5.6 removed*

The figure shows there are delays in payments which also have an influence on forecasting cash flows, which is really important when planning the whole Company group's financing. Checking customers' credit record has also an influence when negotiating payment terms.

Interest rates are also a decision to make: the current rate is 16% for most of the customers, where as for some the rate is still 8 percent. By increasing the rate to 16 % for all corporate clients the company could also affect to receive receivables faster.

### **5.7. Accounts Payables**

In year 2011 Group handled hundreds of thousands invoices, 66 percent of those were e-invoices and 34 percent were paper invoices. Handling e-invoices is faster and circulation does not take so much time. Paper invoices are scanned before sending them to approving round. In account receivables company is aiming to reduce payment terms, it is opposite in account receivables. Company negotiates as long payment terms to itself as possible. So company is trying to stretch its creditors in order to give itself extra cash flow liquidity.

Case Company cooperates also with small companies where resources may be tied up wholly to the project. Stretching payment terms has another side also. Too long payment term may be vital for subcontractors; they may not have as good cash reserves to be able to pay bills and salaries in time if the customer requires long payment time. But still small companies need to get projects, so the big public companies are running this business by giving to small companies a bad negotiating position. Account payables involve payments to vendors for inventory, supplies and services. The current liability with the most working capital significance is account payable. Developing payable policies is important in managing company's funding for more efficient and centralized, like the case company is aiming to do. In policy determining management has to

decide whether to take discount or not and also consider if the company should pay supplier on or after established terms. Also demanding longer terms or discounts have to be considered carefully. Case Company is asking for longer payment terms, if the supplier refuses to lengthen the term the case company is ready to pay some extra percent of the price to get the longer payment term. If the payment term is longer it frees up more capital, and this is also affecting to the interest paid from capital. The payment process is described in a later chapter.

## **5.8. Purchasing**

As discovered earlier Company has made huge changes in the organization during the last few years, aiming to savings and to one unified Company. Purchasing has also changed from old unit level purchasing to centralized purchasing unit.

Unit level purchasing was uncoordinated and financially unprofitable, where almost every project had its own ways of purchasing and the supplier register was divided on several programs, which led to double work and overlapping. For example, one project is using other program to create supplier database, another project some other program. If Case Company had one database for all suppliers working would be more efficient and less time-consuming. So standardizing procurement models are a huge step to more efficient working and of course it's more cost effective and results to a better quality.

By centralizing purchasing activities organizations attempt to capture the economies of scale in purchasing prices and process costs by replacing individual purchases done throughout the organization with corporate-wide framework agreements. These benefits are achieved by formalization of purchasing processes and channels, e.g. e-procurement, which Case Company also uses, and the reduction in supplier base developed by the central purchasing unit. But these changes may challenge the other employees used to handling purchases more informally at local level as well as limit participation of smaller suppliers.

Before the changes in Case Company, customer register had tens of thousands suppliers, but there are some duplicates records which is one of the reasons for creating a new purchasing model.

Negotiating payment terms are essentially important for reducing working capital. Centralized purchasing organizations are targeting for annual contracts with the same payment term, meaning that all project and works are using the same supplier with same payment terms around Finland. In current situation the payment terms are even longer than in account receivables, this means that operations are not even in balance between receivables and payables.

Mathuva (2010) found in his article the relation between working capital and profitability; more profitable firms wait longer to pay their bills. This implies that they withhold their payment to suppliers by taking advantage of the cash available for their working capital needs. Also the longer a firm delays its payments to its creditors, the higher the level of working capital levels it reserves and uses in order to increase profitability. This finding is in line with the working capital management rule that firms should postpone payments to creditors as much as possible, taking care not to spoil their business relationship with them. (Mathuva 2010, p. 9.)

*Figure 5.8 Removed*

Above is a graph about account payables cycle or days payables outstanding illustrating how long it takes to pay the invoice comparing to payment term. In general Case Company has short payment terms compared to the competitors. For example, if Case Company pays its bills in day x, the main competitor pays it in several days after the day x, which is a huge difference. And when calculating benefits which the competitor gets from longer payment process, they are remarkable. Later when discussing the payment process also delays and value for one day are presented. If the project is reimbursable, meaning that all costs are invoiced from customer, and the DPO is long for approving the invoices takes many days, it delays the invoicing from customer. The timing is vital also in outflow of the money.

## **5.9. Payment process**

Once the invoice has been approved the date of payment will have to be considered. Some organizations pay consistently on time but others delay the payment; sometimes because of shortage of cash and sometimes because of the interest that funds in hand can accumulate (Kirkman 1986, p. 153). Part of account payables is the payment process of the company.

Delayed payment can cause damage to the payer in terms of reputation, credit rating and certainty of supplies. The case company that does have funds available should therefore very carefully consider the effects and implications of deliberate late payment (Firth 1986, p. 153).

Silmuinen et al. (2012) studied also in their thesis that in general if the company is able to reduce its capital assets, its flexibility of operations improves. Capital freed from fixed assets can improve the structure of balance sheet and its ratios, which has an impact on reduction of the risk level from the investors' point of view. Covenants are conditions in a loan contract which protect the lender by stating what the borrower may or may not do. Positive covenants are loan conditions which determine what the debtor must do. For example, the borrower company must deliver management accounts within certain period after the month ends, they must deliver audited annual accounts within a given timeframe, or they must maintain agreed levels of accounting figures and ratios such as the level of equity or the working capital ratios. Main use of covenants is that a breach of the covenant terms can enable the lender to demand repayment of the loan, even though its term is not yet due. The ability to demand such repayment is valuable to lenders, allowing them to recover their money before problems escalate (Bender 2009, p. 198).

## **5.10. Credit Management**

Case Company credit management process is to monitor receivables and collect overdue receivables. Invoicing process accommodates the need for checking the credit ratings for new customers, and monitoring ratings is also one part on credit management. Deciding whether to give credit to the customer depends among other things on the credit rating. Case Company has an own



defined credit policy which determines operation modes in credit sales. There is always a credit risk in credit trade, which has to be evaluated and minimized before doing agreements of the sales. Risk realizes when customer does not pay, or the guarantee does not cover the amount of credit. Unsettled payments are called credit loss, which naturally decreases units' or company's results.

Trade credit includes costs that increase when payment is delayed. In practice, the company which gives credit has to finance the agreed trade credit, and pay interests formed from financing. Case Company is financed by the group, and Group has determined that the internal interest for subsidiaries. As mentioned the main purpose of the credit policy is to limit credit risks and minimize credit losses. DSO (days sales outstanding) measures the average number of days that company takes to collect its receivables after the sale has been made. Effecting the collection of receivables decreases the working capital tied-up in operations, and improves finally company's profitability. Business includes also other risks, like financing risks and supplier risks, but these are not studied in-depth.

Credit control takes care of customers' creditworthiness determination and changes in credit validity. They also report overdue receivables to businesses, and collect receivables together with business operations and collecting partners.

### **5.11. Credit rating**

Credit rating is usually checked when the person in charge from the project asks to establish a new customer in the ERP system. Business operations make a request to open a new customer by providing the basic information of the new client, such as the name of the company, business ID, address, phone number and the name of contact person (Credit policy 2012).

Case Company uses Suomen Asiakastieto Ltd. and Bisnode Finland Ltd. Databases for credit ratings.

In "Company information" the risk rating is selected and then you can see the company's basic information, business development change in turnover and personnel; important point is where you see "risk indicator" as it tells the credit

worthiness of the customer. There are factors which are used to determine risk level of the company. Below you can see the risk classes:

- RL 1 Very low risk
- RL 2 Low risk
- RL 3 Moderate risk
- RL 4 High risk
- RL 5 Very high risk

Only the sales person is responsible for the consequences if the customer does not pay and if the rating has not been checked. Demanding cash or advance payment may lead to losing the customer, and vice versa giving credit for low rated customer company may anyway lose the whole amount of the agreed sales if the customer does not have enough liquidity.

Rating Alfa is checked from all new customers and also for former customers. Rating Alfa gives more detailed information about customer: financial statement analysis, rating history, and information from payments. For example it gives information about average payment delays in days. One can also obtain the names of the persons in charge, shareholders, and business mortgages.

Rating Alfas are classified as the following:

- AAA Excellent
- AA+ Good+
- AA Good
- A+ Satisfactory+
- A Satisfactory
- B Passable
- C Poor

Ratings by Bisnode Finland Ltd. differ little from rating provided by Suomen Asiakastieto Ltd.

- AAA Highest credit rating
- AA Good credit rating
- A Passable
- AN New company, less than 2 years
- B Unsatisfactory
- C Risky

## **5.12. Collecting**

Accounts receivable management is an important element of financial management. The average collecting period and aging schedule are two widely used gauges of accounts receivables collection performance. A common goal of accounts receivables management is to ensure debts are collected within specified credit terms. Another common goal is the identification of delinquent accounts to reduce the total trade credit which is written off as a bad debt. The two commonly used accounts receivable collection efficiency indicators are the aging schedule and average collection period. (Leitch 2011 p. 1.)

Head of credit control and sales invoicing told in the interview how overdue receivables are reported. Weekly basis receivables are loaded to aging report in the ranges of 30, 60, 90 and more than 90 days delays. All payments that are delayed more than three days are collected under 60 days most important and biggest customers are considered more carefully whom to send the collecting letter (Interview, 2012).

First reminder is sent after three days delay, second is sent after a week. Usually credit control sends a letter but sometimes collecting is done by phone, for example important customers are called and verified that they have received the invoice, and reminded that due date is gone some days ago. All invoices that have been delayed for more than 14 days are transferred to collecting agency. Case Company cooperates with Duetto Group.

One question raised during the interview was about payment schedules and clarification on who makes a decision of allowing a payment schedule. According to Interviewee, for collecting overdue receivables the company makes a payment schedule with the customer, and the extension of the payment time and installments are defined with customer to ensure getting the payment settled. All extensions are interest bearing with an interest rate of 8.5 percent. Payment schedules are allowed to be arranged by credit control only. (Interview, 2012.)

Interviewee emphasized the importance of efficient reclamation handling: Reclamations are usually sent to the sales personnel so it is vital for the

collecting department to be informed immediately about reclamations. If they are not informed they may send reminder letters to customer which does not constitute good customer service. For Case Company is important to serve customers well, and if reclamation is relevant, payments are not required before the reclamation is solved (Interview, 2012).

As mentioned in invoicing chapter, in order to improve working capital it is important to invoice only one installment at one invoice, so if the customer complains about one part, they usually left the whole invoice without paying. Crediting the claimed invoice has to be dated at the same date as the actual invoice, and the redrafted invoice is also dated to the original date, so the customer does not have the advantage for longer payment time. And in an ideal situation Case Company will even receive the payment at original due date.

## **6. Discussions and findings**

The main objective of this study was find ways to improve working capital management in the target company. Research question was: how processes should be enhanced to improve working capital management. I studied working capital by processes and evaluated them to find more optimized ways to influence positively on working capital. In theory part working capital was studied thoroughly to give a comprehensive overview of the subject. Evaluating the current situation enabled finding points to refine and develop alternative mode of actions for future. The research method included one interview which I personally conducted, and one interview that was done with our cooperative consulting company which has the main responsibility of the whole working capital project. I also attended a meeting with the local business office where the practice level actions about working capital were dealt with. This research method allowed and prepared me to evaluate the working capital in the case company. I mainly focused on cash and credit management processes where the biggest possibilities to improve working capital are found. As inventories and liquidity are important aspects for this subject these were studied and analyzed mainly in the theory part.

My own study and findings suffered little bit about the results of the consulting company, it was hard to differentiate own findings from the recommendations of consulting company. My own findings are covered mainly in the invoicing and credit management chapters. Later in this thesis I have emphasized my own recommendations and findings.

### **6.1. Cash conversion cycle suggested improvements**

As I have already mentioned above in my study I concentrated to cash conversion cycle since the accounts receivables make up for the majority of the case company's working capital. One main finding of this study was that paying attention to this cash conversion cycle has a huge impact on working capital, and the actions to shorten the conversion cycle are easy to implement. Sales function is the most important player in this project, one of the starting points was to inform them how with small actions they influence on improving working capital. Agreeing shorter payment terms, invoicing regularly and enquiring credit rating gives good approach to whole working capital process. Invoicing more often and agreeing shorter payment terms are important actions for this subject. Minimizing inventory frees capital for other use, centralizing and unifying procurement process gives the opportunity to follow and agree similar terms for several sales.

In this study, cash conversion cycle was studied comprehensively, where payment terms plays a very important role. Researching the impact of payment terms was remarkable, and if the company shortens its terms in sales it will make a great difference to the whole cycle, and will release tied-up capital. Then in principle, long payment terms cause higher costs to the company, so it is very important to try to influence them. If long payment terms ties up a lot of capital, the greater amounts of them are possible to release. At first in the case company, suggested changes for payment terms were aimed at one or two time customers, individual customers and to housing associations. This customer group formulates about 20 percent of the case company's customer base, and before optimizing working capital project their payment term were around 20 days, now the starting point for contracting is less than 20 days. For group A, which is 80 percent of the total customer base, negotiations of payment terms

are starting from less than 20 days, but still usually average payment term for biggest contracts are more than 20 days.

Interest rates for customers was changed from 8 percent to 16 percent, for individual customer the rate is still 8 percent. In negotiation of contracts are now agreed the day which is used for counting the due date. It is now the date when the work is accomplished, not the date when the invoice is drafted.

In this project have been suggested alternative working practices and methods for different processes. Important role in invoicing process plays the businesses who accomplish the works in projects. In my opinion they should not leave making the request for invoicing to the end of the project or month. Instead of invoicing once a month, they should prepare invoice request in every phase as soon they are finished, so the conversion of money would be fluent and stable. Changes that have been made is that in the one invoice is only one installment, before customer left the whole invoice unpaid when they reclaimed only about one part of the invoice, this was recommended by consulting company together with our working capital project organization.

My conclusion of payment terms, it can be said that if a company's receives receivables faster, it reduces the need for financing. Releasing tied-up capital gives the company a possibility to invest in new investments or start new projects, and if the order book is good, company is more attractive for investors.

## **6.2. Importance of credit management**

Efficient credit management and collecting is vital for repatriating receivables faster, getting receivables unties capital for operative use. Measurement of Day Sales Outstanding (DSO) is good for evaluating the real length of receiving payment from customer. Credit control plays an important role in checking customers' credit ratings in ensuring or decreasing the risk for losing the capital. I want to emphasize that communication between business and credit control has to be good because business has the contact to customer for example about reclamations. Handling and repairing reclamations should be done fast so it does not decelerate getting the payment so much.

All sales are credit trades excluding few exceptions. Group drafted new credit policy to ensure everyone involved in sales are aware of the importance of minimizing risks of credit losses.

From the process perspective, credit rating checking is now organized so that ratings should be always checked before agreeing of the sales. The sales person is in responsibility of giving credit or not, and checking the ratings is eminent for successful sales. Importance of communication between businesses and credit control are emphasized in the new credit policy.

By optimizing working capital the project team made changes to the credit control process and drafted a table of overdue receivables which is to be used for business comments. Using this table, reclamation handling is now more efficient, because credit control does not collect the overdue payments which are commented in the new table. So unnecessary work is reduced, and this enhances good customer service as the risk of sending irrelevant reclamations is minimized.

### **6.3. Working capital management changes for future**

Before this project there was a lack of knowledge on how the working capital is involved in the business, but now when interest groups are being informed about the influence of their actions changes are ready to initiate. Working capital should be controlled very actively so the company could have an efficient flow of in the process of working capital management. The case company started the working capital project and gathered information about accounts receivables and account payables, and as a result they could compare how fast their cash is cycling, and what the ratios between cash inflows and outflows are. I have discovered that that Case Company pays its invoices faster than the company's customer pays to it, and consequently the operations are financed most of the time. The situation should be the opposite and the project should be conducted with their own capital from receivables. So the cash flow should be planned very carefully, and after the working capital project cash flow are planned more upfront in order to receive cash ending the project to be complemented with positive cash flow.

Role of working capital management is significant for the company's success. The world's economic situation is unstable and financing is more expensive, which forces companies to find capital from its own operations. Freeing capital increases company's possibilities in investing to new targets or continue operating without outside funding. Improvement propositions researched in this thesis are small and easy actions to implement in theory, but in practice harder to get personnel to change their habits and modes of actions.

After this project the management will use a different measurement to follow up on how working capital is developing which will now be done by measuring and monitoring the effect of actions through profit and loss statement (P & L) and transaction data analysis on a monthly basis. It means that the company will be following account receivables, account payables and inventories every month.

Roles and responsibilities are clarified in this project: the project management is in responsible for following up on these key figures, and the procurement department is in charge of dealing goods terms with subcontractors. The Head of Case Company is ultimately responsible for the management of the whole Group.

There would be even more results if Case Company followed infrastructure construction sector. In infrastructure construction sector some receivables has been sold to Pohjola Bank, although this concerns only the state and municipal owned customers. This model could be implemented also with Case Company in the future. Selling invoices ensures fast receiving of payments; Pohjola Bank requires some terms to buying invoices: customer should have a good credit rating and liquidity. State and municipal owned companies are reliable payers, and the risk for credit loss is low. Selling invoices of other customer is also possible but there is higher risk for credit loss, so the fee for selling receivables would be higher.

The company gets the payment on the next day after sending invoice, so this has a great impact on days sales outstanding ratio, and in infrastructure sector this would also render a several days interest benefit. And when the money is received right away it can be used for example on funding other operations.



Improving working capital demands effort and commitment of all persons and desire to really enhance the business. The working capital project in case company ends in December 2013. Thus the ultimate results are not described in this study, but during my research some improvement was already observed and business people were very eager and surprised that the suggested actions were so simple and easy to implement.

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