WORKING CAPITAL MANAGEMENT

A study about how Swedish companies manage working capital in relation to revenue growth over time

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ABSTRACT

A shift in focus from growing revenues towards managing working capital could be observed in many companies in the recession that followed the financial crisis of 2008. This thesis therefore investigates the relation between working capital management (WCM) and revenue growth by examining 36 Swedish companies within the IT & Telecom, Wholesale, and Manufacturing industries. The results show that there currently is a general gap between the perceived and actual performance regarding WCM and the effects on revenue growth. The studied companies report a belief that no trade-off between WCM and revenue growth exists. However, the actual performance in the studied industries indicates that increases in revenues often are not justifiable in proportion to the increases in net working capital (NWC). The study also shows that responsibility for WCM and implementation of WCM decisions are to a high extent assigned to a centralized organizational level. Recommendations derived from this study are that while companies need a centralized responsibility for WCM decisions, the responsibility also needs to be decentralized for successful implementation. Furthermore, the NWC development in relation to revenue growth needs to be continually monitored.

Keywords: Working Capital, Working Capital Management (WCM), Management Attention, Revenue Growth, Current Assets, Current Liabilities, Cash Conversion Cycle
We would like to thank everyone who contributed to the conduction of this thesis, especially participants in interviews and the respondents of the questionnaire survey.

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<tr>
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<td>Accounts Payable</td>
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<td>DIO</td>
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<td>Gross Domestic Product</td>
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<td>KPI</td>
<td>Key Performance Indicator</td>
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<td>NWC</td>
<td>Net Working Capital</td>
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1. INTRODUCTION

1.1 A CHANGING BUSINESS ENVIRONMENT

The availability of money was high in the years prior to the financial crisis of 2008. Companies did not have to look far for capital to fund expansions and thus, goals to increase sales were common. (Kaiser & Young, 2009; Ivashina & Scharfstein, 2009) The outbreak of the financial crisis affected more or less the entire world economy. Many companies where faced with new difficulties, having to fight for their existence in an environment with highly reduced liquidity. With the supply of money drying up, the importance of streamlining operations and collecting every penny possible increased. The result of the changing business environment thus forced companies’ to turn their attention towards minimizing cost and managing assets. (Puri, Rocholl, & Steffen, 2011)

Working capital management (WCM) refers to the managing of short-term finances. The basic idea is that assets should be allocated so that their optimal potential is realized and thus minimize waste. (Brealey, Myers & Allen, 2013) Directing attention towards WCM has been proven to be popular during recessions and similar patterns in shifting attention has been observed at previous crises e.g. the oil crises of 1970’s. (Scholleova, 2012) The focus on WCM slowly disappeared and remained mainly in smaller-sized companies when the economic climate improved. One explanation for this is that larger-sized companies can, in general, more easily acquire financial support by external means, as they are likely to e.g. have higher credit ratings and have the ability to issue bonds. Because of this, one explanation to the shifts in attention towards WCM is the varying availability of liquidity, which affects the importance of WCM and the impact it has on companies. (Banham, 2013; Sing, 2003; Scholleova, 2012)

According to Gill, Biger and Mathur (2010) the concept of WCM is often discussed in relation to profitability. As one of the goals of WCM is to increase profitability it should make it attractive even over time, in good economic climate as well as in
harsh (Gill et al., 2010). However, according to a recent report by Russ Banham (2013) that investigates the 1000 largest public companies in Europe, the amount of attention directed to WCM tend to decrease when companies gain strength again after a recession. Instead, companies turn their attention towards efforts aiming to generate revenue growth. Furthermore, the recent development since 2012 has been that general increases in revenue have required increasingly larger amounts of Net Working Capital (NWC). This indicates that companies are using their working capital less efficiently and thus, that growing revenue is becoming more expensive. (Banham, 2013)

In 2009, Danske Bank studied a number of Nordic companies’ opinions regarding WCM together with Ernst & Young (2009). Their report aligns with the arguments of Scholleova (2012) who identified a pattern in the shifting attention towards working capital. Scholleova’s (2012) research indicates that working capital is seen as more important during recessions when liquidity is of greater concern for companies. Moreover, the findings by Danske Bank and Ernst & Young (2009) show that during economic prosperity there is also a greater focus on growth. Hence, there might be a trade-off between focusing on WCM and revenue growth according to Danske Bank and Ernst & Young (2009). Furthermore, the report by Banham (2013) indicates that the shift in attention is causing companies to get less “bang for their buck” in their attempts to grow.

1.2 AIM OF THE STUDY

As the recession that followed the financial crises of 2008 might be coming to an end, there are indications that a shift in attention regarding WCM and revenue growth is about to take place. While the impacts of a financial crisis have been used to highlight the issue of shifting attention between WCM and revenue growth, the recent financial crisis will not be of further consideration in this thesis. Instead, the aim of this thesis is to investigate the effects that shifting management attention has on the efficiency of the use of working capital and how companies continually work with WCM. In order investigate the effects of shifting attention, this the study will first examine whether or not a trade-off regarding WCM and revenue growth actually exist.
Secondly, since a trade-off imply an increased “cost of growth” the awareness about the effects of shifting attention away from WCM will be investigated. Thirdly, the study will also investigate how companies choose to manage the working capital in relation to revenue growth. Thus, fully capture the picture of how WCM is perceived and handled by practitioners so that conclusions can be drawn and contribute to the development of WCM practice.
2. THEORY

2.1 LITERATURE REVIEW

WCM is considered an important topic for CFOs and other executives. A large part of the current research on the topic has been done through different annual surveys (e.g. REL 1000) conducted by practitioner outlets. However, the area of WCM has received considerably less attention within recent academic research. (Kieschnick, Laplante & Moussawi, 2013) The recent research has focused on the profitability implications that WCM has on companies. Aravindan & Ramanathan (2013) identified a trade-off between liquidity and profitability. Their research thus aims to create a model for estimating the optimal levels of working capital from a liquidity and profitability perspective. Further, Kieschnick et al. (2013) have studied the relation between WCM and creation of shareholder wealth. Their findings indicate that the working capital components need to be studied individually, in order to determine their effect and their impact on shareholder value. However, Kieschnick et al. (2013) further state that the components also need to be considered jointly because of their interconnected nature. Moreover, Kieschnick et al. (2013) conclude that the existing research on WCM is thin and needs to receive more attention, especially in the relation to value-creation (such as revenue growth).

While the above-mentioned researchers conclude that the area of WCM needs further research, there is some criticism against WCM and the ability to address effective levels as well as the struggle to measure it efficiently (Brealey et al., 2013). Many have tried to work out a pure model but the issue remains disputed. For example, there are those who argue that WCM is solely a way of managing short-term investments and financing. However, opponents argue that in order to fully understand the topic, there are more aspects that have to be taken into consideration (Banham, 2013) Moreover, the WCM-critics argue that it is an expensive form of management and that focusing on other management issues, such as just-in-time, is more efficient and will provide a similar outcome (Brealey et al., 2013). History has also shown that companies rarely apply strong focus on WCM in times of good
economic climate, as they are eager to invest in projects of expansion and thus rather put efforts towards this than towards WCM. (Banham, 2013)

2.2 WORKING CAPITAL AND WCM

Working capital refers to the capital that a company needs in order to run its operations, i.e. the short-term financing of the company. Because of this, the properties of working capital are such that it does not earn interest (e.g. capital tied up in Inventory). Therefore, it is important that companies manage the working capital levels well in order to ensure that it provides the company sufficient amounts of profit (to counter the cost of capital). Working capital is made up of the net sum of current assets minus current liabilities and is often referred to as the net working capital (NWC). (Penman, 2013)

WCM is referring to any actions aimed at managing companies’ working capital levels and thus does not refer to any specific managing-model or framework. In contrast to long-term financial decisions, WCM deals with the issues of short-term financing. For example, deciding the level of credit a company gives their clients as well as how much credit they should demand from their suppliers. These types of short-term financing decisions are important for the sustainability of companies, as it affects liquidity and profitability. (Aravindan & Ramanathan, 2013)

The net balance between current assets and current liabilities is important as the current assets are expected to turn into cash within one year, while current liabilities are commitments that are due to mature within one year. NWC is thereby a measurement of short-term financial stability as it indicates if the company will be able to live up to its short-term commitments. From this nature, working capital is of high interest from a short-term financing perspective and liquidity analysis. However, working capital is also important for companies’ long-term financing because the indication of short-term survival strength and financial-health through short-term liquidity will impact the companies’ ability to attain attractive long-term
financing. A company with poor financial health is likely to have a higher cost of capital than a company with better finances, because of the higher credit risk. (Penman, 2013)

According to Aravindan and Ramanathan (2013), WCM deals with decisions regarding the trade-off between liquidity and profitability. In short, Aravindan and Ramanathan (2013) mean that WCM is the managing and planning of liquidity and profitability. A company with poor WCM may run the risk of locking-up surplus amounts of capital (e.g. excess inventories) and on the other hand a shortage of working capital can damage the flow of operations. (Aravindan & Ramanathan, 2013) For the financial manager, WCM will put focus on three main current assets: inventories, accounts receivable (AR) and cash (and cash equivalents), while the main current liability is accounts payable (AP). Managing current assets is of importance for many companies as it often accounts for the major part of the company’s total assets. (Brealey et al., 2013; Kieschnick et al., 2013) However, the details of how these assets should be handled to achieve optimal levels of working capital is dependent on a number of factors such as the nature of business as well as seasonal variations that might affect product demand. (Aravindan & Ramanathan, 2013) Additionally, the cost of capital in terms of the opportunity cost needs to be considered when referring to optimal levels of working capital. (Brealey et al., 2013)

One of the leading institutes on working capital research, REL (a Hackett Group company), tracks the development of working capital through an annual survey. The results of the 2013 report indicates that, as an effect of an increased focus on working capital due to the previous recession, the management is becoming increasingly more efficient. (REL, 2013)

“Despite the improvement trend, about €762 billion remains tied up in excess working capital, representing a 12% increase over the past three years. This amount is equal to 6% of the European Union’s entire gross domestic product (GDP).” (REL, 2013)

While there is room for improvement in the area of WCM there are suggestions that the current trend is not sustainable. History has previously shown that attention tends to shift towards other issues as the economic climate improves (REL, 2013).
However, the need to manage working capital is, and will be, of importance for most companies as it is connected to survival and sustainable growth. The importance of WCM is argued to increases as the difficulty and cost to ensure short-term capital raises. Thus, the argument that the need might be higher for smaller companies, as they are likely to face greater difficulty to ensure external capital. (Padachi, 2006) Furthermore, it follows that the importance increases with the interest rates. When interest rates are low, the cost of excess capital being tied up is lower. (REL, 2013)

As there are several factors that contribute to the total working capital, it is also important to address the issue of capital allocation among the different categories. It is suggested that the result of keeping high inventories will have a different effect than keeping large amounts of cash, both on the financial health of the company as well as on what action is needed from management. Furthermore, it is important to understand the impacts of different WCM decisions both from the individual perspective as well as in a larger context. (Padachi, 2006; Kieschnick et al., 2013) As no component of the working capital is isolated from the other, decisions and actions regarding one component need to be coordinated with the other parts that make up the total working capital. (REL, 2013)

2.2.1 INVENTORY, AR & AP

Inventories could be made out of both raw materials, work in process as well as finished goods, depending on the nature of business as well as the business strategy. Regardless of how inventory is kept, the need arises from the risk of unexpected increases in demand as well as the increased cost of smaller production runs (economies of scale). By having inventory, companies can thus reduce the risk of not being able to deliver goods at a set time as well as cutting costs by allowing larger production runs. (Brealey et al., 2013) On the other hand there’s also a cost of keeping to much inventory as capital is tied up in assets that does not earn interest. The inventory could also need insurance as well as storage space, both adding costs for the company. Managing inventory levels thus means handling the trade-off between the abovementioned costs. (Brealey et al., 2013) One method to use is the just-in-time principle, which helps companies calculate the right level of inventory in order to answer to the demand so that as little capital as possible is inactive (Hutchins, 1999).
As goods are being delivered to customers there is a need of handling invoices in order to ensure payment. AR is made out by trade credit (for B2B) and consumer credit (for B2C), which are created due to time differences in sales and payment. AR will therefore be dependent on the terms of sale and credit policy that the company applies to their customers. Factors that might impact credit management are for example the credit rating of the customer as well as the importance of a specific customer. (Brealey et al., 2013) By keeping track of the level of AR, a company can measure the efficiency by which it turns sales into cash. If a company’s AR is increasing faster than their sales are growing it indicates that the company is selling their products without actually getting paid for them. It also means that more excess capital is being tied up, at the price of the opportunity cost. (REL, 2013)

It has been argued that it is common that companies disregard from the AR side of WCM, because the “ball is in the payees’ court” (Johnson, 2013). According to Johnson (2013) this is a misperception: "It's not the client paying you, it's you initiating the collection". There are several ways to ensure that the customer pays on time. For example, one important aspect is to ensure efficient handling of invoicing. (Johnson, 2013)

While inventory and AR are current assets, AP is a current liability and a common form of short-term financing. By delaying payments, companies’ can use the money for a longer period of time thus, lowering the need for other financing. AP is a trade-credit and thus an effect of the credit-terms companies agree upon with their suppliers. (Cuñat, 2007) Furthermore, it is a significant source of financing for investments in AR and inventory and thus efficient managing is crucial for the short-term financing of companies. (Smith, 2013)

2.3 CASH CONVERSION CYCLE

There is a close connection between the components of working capital and the cash conversion cycle (CCC) since the cycle measures the amount of days it takes to receive payment from investments in resources. The CCC can thus be used as a tool to measure the net changes in levels of inventory, AP and AR in order to keep desirable levels. (Shin & Soenen, 1998; Nobanee, 2009) The CCC model is not connected to investments in general, but directly to a company’s refining process of supplies. (Gill et al., 2010)
The traditional view of the CCC is that by following the model it is possible to increase a company’s profitability, since the working capital is being handled in a more effective way (Nobanee, 2009). However, there are also direct downsides to using the CCC. If the cycle is driven too tight, there is a trade-off as it could create problems for some departments in the company, such as sales and customer relations. It may not be possible to deliver the same customer satisfaction when placing a higher focus on reducing the CCC. (Shin & Soenen, 1998) Thus, connecting a shorter CCC to higher profitability is not as simple as it might seem and conclusions should not be made too quickly (Grosse-Ruyken, Wagner & Jönke, 2011).

The CCC calculates the amount of days it takes to receive payments from investments. It can further be broken down into three individual components, which make up the cycle (See Figure 2). These are: days inventory outstanding (DIO), days sales outstanding (DSO) and days payable outstanding (DPO). By analyzing the cycle, companies can identify inefficiencies in the use of capital and thus take appropriate action. (Nobanee et al., 2011)

Days Inventory Outstanding \((DIO) = \frac{Inventory}{(Cost \ of \ Goods \ Sold/365)}\)

Days Sales Outstanding \((DSO) = \frac{Receivables}{(Sales/365)}\)

Days Payable Outstanding \((DPO) = \frac{Payables}{(Cost \ of \ Goods \ Sold/365)}\)

In a study by Shin & Soenen (1998) the authors analyzed the two American giants Kmart and Wal-Mart and looked into the companies’ financials to understand their capital structures. What they found was that the two companies had almost the same structure concerning sales, assets, equity and debt. However, the difference in profitability was clear. It turned out that the CCC for the two companies differed by 34 % (61 days for Kmart and 40 for Wal-Mart). The difference made Wal-Mart more profitable than Kmart, by 198.3 million dollar per year (Shin & Soenen, 1998; Nobanee et al., 2011). The difference was mainly due to higher costs, related to a larger amount of capital being tied up in Kmart’s operations.
Farris II & Hutchinson (2002) bring up the importance of benchmarking and measuring the ability of generating cash against companies within the same industry. Managers can compare data and by that develop strategies fit for their own operations by observing competitors. Liquidity is linked to company value and by a shorter CCC it is possible to drive it up since less capital is being tied up in working capital (Farris II & Hutchinson, 2002).

2.4 CASH FLOW

The terminology of cash flow has for a long time been used to attract investors to projects and operations in need of capital (Fight, 2005). The fact that a project is estimated to generate cash is one of our time’s most efficient arguments for possible investments (Hofmann, 2005). The cash flow is directly affected by changes in the inventory, AR and AP and thus influenced by WCM decisions (Kaplan & Zingales, 1997).

The net cash flow is the summarized incomes from operating, financing and investing activities (See Figure 3). Operating activities are the daily actions that are supposed to generate the most income to a company while income from finance and investments could be seen as the use of spare capital. However, the use of finance and investment activities can also be seen as strategic actions in order to drive development. (Gilchrist & Himmelberg, 1995)

Gilchrist and Himmelberg (1995) argue that cash flow is an important factor for companies both on a macro- and microeconomic level. When the environment is unfavorable for companies, like during e.g. financial crises and recessions, it is extra important to manage cash with precaution. By handling cash properly and following
a strict diet when it comes to spending cash, companies have a better chance of survival. (Gilchrist & Himmelberg, 1995)

2.5 REVENUE GROWTH

Revenue is the gross income generated by a company’s operations and can thus be used as an indicator if a company is expanding, stagnating or even decreasing in volume. As mentioned earlier, it has been popular over the years to compare working capital with profitability. However, as revenue is not influenced by accounting decisions to the same extent as profits are, which for various reasons could be window dressed, it could be argued that revenue is more suitable as a proxy for measuring company growth and expansion. (Keiningham, Cooil, Andreassen & Aksoy, 2007; Nooteboom & Thurik, 1985)

In order to grow a company, its management needs to decide on taking on new projects and investments. Most investments will in addition to the project or initial investment also require investments in working capital (Brealey et al., 2013). The different financing options for new investment will depend on capital structure policies, that is, how much equity versus debt the company should hold. Decisions regarding the financing are likely to impact the WCM as the cash balance will be affected i.e. the company can decide to use cash to invest in a long-term asset. Theory thereby suggest that poor WCM would cripple companies’ ability to grow as it puts restrictions on capital by increasing the total capital requirements to run the company. (Brealey et al., 2013) By streamlining the working capital and reducing the excess capital tied up, companies could instead use the capital to fund new growth projects. (Gundavelli, 2006)
2.6 WORKING CAPITAL AND CORPORATE PERFORMANCE

Baños-Caballero, Garcia-Teruel and Martinez-Solano (2013) argue that large capital allocation to the components of working capital will constrain companies’ capability of investing for long-term financial growth. This is due to the fact that short-term assets and liabilities receive more focus. Hence, there is a trade-off between capital allocations to working capital and focusing on other value-creating investments. (Baños-Caballero et al., 2013) There is also a general acceptance that working capital affects firm value. However, opinions vary in which direction. By raising levels of working capital e.g. by agreeing to longer credit terms, companies are able to increase sales and direct more attention towards satisfying customers. However, as the level of working capital increases, so does the credit risk. Furthermore, the marginal benefit will decrease because of the cost of capital. The balancing of these types of benefits and costs is dependent on the specific situation of each company. It is managers’ assignment to continuously follow up operations in order to follow the optimal level of investments in working capital. (Baños-Caballero et al., 2013)

2.7 MANAGEMENT ATTENTION

As mentioned previously, there has been a shift in management attention from working capital towards growing revenues (Banham, 2013). Ocasio (2011) suggests that management attention is limiting and selective. This means that different areas of interest that receive attention from management are limited and will vary continuously. Furthermore, Ocasio (2011) suggests that direction of management attention will shape the organization in many ways, such as overall corporate strategy and subsequently what decisions are made and what organizational goals that are pursued. Management attention and organizational decision-making is highly connected since it is the top management that decides how to run a company and what goals that should be pursued. According to Ocasio (2011) top management tend to look forward. This means that after a recession, development and growth is likely to be back on the agenda. Moreover, the agenda of decision-makers are also connected to type of industry and the company’s culture and social structure. (Ocasio, 2011) Hence, management attention is crucial to company development and according to Ocasio (2011) the single most important factor when it comes to organizational improvement.
2.8 WCM AND REVENUE GROWTH UNITED

In regards of working capital and revenue growth, the nature of current assets and current liabilities are such that they are likely to increase as the revenues grow. As sales grow, increases of inventory, AR and AP are likely to, in effect, grow as well. (e.g. Baños-Caballero et al., 2013; Brealey et al., 2013; Cuñat, 2007; REL, 2013)

The WCM task is therefore to ensure that every increase in working capital results in the optimal output. As for growing revenue, this means that efficient WCM will strive to ensure that every increase in working capital can be motivated by the generated revenue increase. (Douglas, 2012)

As stated by Ocasio (2011) management attention is limiting. Thus, in order to sustainably address both the working capital issues as well as the revenue growth issues, goals that create alignment and coherency need to be set up. One way of creating coherency among growth and working capital goals is by putting attention to goals that ensure both sides are being cared for. (Douglas, 2012) E.g. by connecting rewards for sales people to the actual payment of goods or services, attention is paid both to the growth as well as to minimizing the APs. Furthermore, working capital is closely connected to many aspects of the daily operations. This stresses the importance of a holistic, cross-functional approach that aligns all the different aspects and creates incentives to coordinate actions between the different departments, necessary for successful WCM (e.g. by coordinating actions between production and sales, the risk of building up too much inventory will decrease) (Gundavelli, 2006). History has shown that by focusing on goals that lack alignment between revenue growth and working capital the result is a loss of attention over time. By incorporating the WCM goals with the revenue growth strategy this loss of attention is less likely to occur as they are, in effect, automatically connected to the growth goals. (Douglas, 2012) Furthermore, theory suggests that the components of working capital are interdependent and thus need to be considered in relation to one another (Kieschnick, et al., 2013).
3. METHOD

3.1 RESEARCH DESIGN

This thesis intended to both discover and explain the effects that shifting management attention has on the efficiency of working capital and how companies continually work with WCM. There was a starting point from theoretical sources in order to understand what kind of empirical findings that were needed to answer the aim of the study. Hence, the research was both deductive and inductive. The combination is known as abductive and combines the two different approaches in order to conduct a flexible study of a chosen topic (Ward, Vertue & Haig, 1999). A negative aspect of using an abductive approach was that it could be hard to stay objective during the process since theories used might influence the direction of the thesis. However, the abductive approach was nonetheless fitting this study since it was meant to combine theories with empirical findings in order to further investigate how organizations behave in a certain matter of interest (Patel & Davidson, 2011).

According to Patel and Davidson (2011), it is possible to change focus and view the problem from different angles during the process, which made it suitable to combine interviews and theories to maximize the outcome. Hence, the aim of this study was not to claim a definite truth or create new theories but to study and gain knowledge about a current situation, by explaining it through theory and observations. This approach also improved the researchers’ ability to work innovatively and systematically at the same time, which was important in order to make good investigations (Eriksson & Wiedersheim-Paul, 2006).

What it all came down to was the choice of conducting a qualitative or quantitative research method in order to find the opportune way of fulfilling the aim of the study. As stated above, this study was suited to collect information in various ways in order to increase the quality of the outcome, given the research topic. Hence, a purely quantitative approach was not optimal to this thesis’ way of conducting research, nor was a purely qualitative approach.
3. Method

3.1.1 MIXED METHOD APPROACH

There is an ongoing debate about how researchers should, and are able to, study chosen topics. According to Creswell (2003) it is often not sufficient to just simply apply a quantitative or qualitative methodology to a research project in order to get a thorough understanding. Creswell (2003) states that studies nowadays tend to be more or less towards one of these two approaches but is most often in between. The fact that studies nowadays are more in between is also backed up by Saunders, Lewis and Thornhill (2009), as they state that the two approaches do not occur isolated. The abductive approach suited the topic since theories already existed and this study was intended to investigate possible correlations with reality by looking into how they were used (Creswell, 2003). Therefore it was preferable to keep a flexible attitude towards data collection.

The initial stage of the data collection was to identify industries suitable to study. Investigated industries were selected through sampling based on quantitative secondary data. Data was collected from a database and it was possible to identify industries that were relevant for this study, based on certain parameters that will be further discussed in section 3.2.1. At the same stage of the research there were two interviews held with people that possessed knowledge regarding the practice of WCM. This was done to create an accurate overview of the current issues related to the topic, by combining both theory and practice. After combining the selected industries with information from the interviews, a questionnaire survey was sent out to companies within the selected industries. After the questionnaire survey was completed, secondary data was collected from the responding companies’ quarterly reports covering the period Q1 2006 to Q4 2013, as further explained in section 3.2.4. The procedure that was used is called a concurrent procedure, which means that quantitative and qualitative data was collected simultaneously (Creswell, 2003). By this, it was possible to elaborate with different forms of information during the procedure, thus quantitative and qualitative findings helped develop each other. Overall, a mixed method brought a procedure with pragmatic assumptions and a mix of semi-structured and closed questions together from various sources of data.
3.1.2 TRIANGULATION

Triangulation is the way of analyzing a problem with data from different types of sources in order to understand findings and observing them from multiple angles (Adams, Khan, Raeside & White, 2007). According to Adams et al. (2007), the strategy of using triangulation has been popular within the area of business and management since it allows researches to verify findings and see alternative explanations to questions and was thus applicable to this study. Thus, by triangulating the collected data, flexibility of the entire research was further enhanced (Saunders et al, 2009).

3.2 DATA COLLECTION

As stated above, data was collected in several ways. These were: an initial industry sampling from quantitative secondary data in annual reports, qualitative interviews, a quantitative questionnaire, and quantitative secondary data from the questionnaire-respondents’ quarterly reports. This approach was chosen since it was possible to collect data from different sources and through triangulation extract interesting information that could have otherwise been overlooked. Information collected from the initial industry sample was together with insights gained for the interviews, used to construct a framework for the design of the questionnaire survey. The questionnaire provided the data for an in-depth analysis of its respondents. The outcome was further analyzed in combination with responding companies’ quarterly reports from Q1 2006 to Q4 2013.

3.2.1 INDUSTRY SAMPLE

This study was intended to look deeper in to industries that fit in to a framework of specific requirements in order to bring relevant information to analyze. To find and extract data necessary to create the sample, the authors used the database Business Retriever. The database was used to collected data from annual reports at three points in time, 2006 - prior to the financial crisis, 2009 – shortly after the outbreak of the financial crisis, and 2012 – a while after the outbreak of the financial crisis. 2012 was chosen over 2013 since the annual data for 2013 to a large extent was incomplete in the database, at the time when the authors were conducting that phase of the research.
The framework resulted in a sample of industries that were chosen for further consideration. In order to qualify for the sample, specific requirements were set up to increase the relevance of the studied industries. As NWC is made up partially by current assets, the current assets to total assets ratio were calculated. According to Brealey et al. (2013) this ratio could be used to identify industries in which current assets should be of particularly large importance to manage. Furthermore, in order to ensure the availability of data, companies were required to be listed at the OMX Stockholm Stock Exchange.

The industries were identified through two stages. Industries were first sorted out depending on the companies’ ratio of current assets to total assets with a cut-off at 50% minimum, in accordance with the recommendation by Brealey et al. (2013). Companies with a ratio below 50% were excluded. In the second stage, the three industries were identified by a count of the number of companies remaining. The three industries that had the highest amount of companies with a current asset to total assets ratio above 50% were chosen. As an effect, the sample consisted of the three industries: IT & Telecom, Wholesale, and Manufacturing.

The sampling process resulted in some possible biases. Firstly, industries that have large amount of current assets while also carrying a large amount of fixed assets might have been excluded from the sample. As these industries have large amount of current assets, the importance of WCM should therefore also be of high concern. Secondly, industries with a tight working capital policy might be excluded from the sample, as this could have driven the ratio below the 50% threshold.

### 3.2.2 INTERVIEWS

Interviews held during this research were conducted with the main purpose to create a strong foundation of keywords used in practice of WCM. This applied input would enable a stricter questionnaire survey and be better targeted towards practitioners. Hence, the interviews were used in order to identify what questions the sampled companies would need to answer in order to provide information relevant to the aim of the study. With the strategy of combining the theory with the information from the interviews it was possible to increase the response rate, as close-ended surveys are completed more rapidly and to a higher extent than open-ended surveys (Adams et al., 2007).
Semi-structured interviews with given topics were preferred since the authors’ interest was to capture as much relevant information as possible regarding the theoretical concepts connected to WCM and to see the research topic from a wide scope. (Saunders et al., 2009) The interviews aimed to widen the theoretical scope by adding relevant insight from a practitioner’s standpoint, which increases the relevance of the study. Hence, possible interviewees that could bring such value to the research were identified through their professional background.

The first interview was held with the Head of Corporate Analytics at Danske Bank who participated in the Danske Bank and Ernst & Young report (2009). By conducting this interview, the authors were able to collect information about managing working capital as well as attaining real-life examples about challenges that companies encounter in their WCM. Tips and tricks were also discussed so that errors could be avoided when proceeding with the process of collecting information from the questionnaire and the quarterly reports. Except a face-to-face meeting to conduct interviews, the second interview was conducted through email with a Finance Director at Thermo Fisher Scientific. This was a person who had practical knowledge regarding working capital from the company’s daily operations. Thus, it was possible to get a deeper understanding about how practitioners interpret the WCM and its cornerstones in real-life situations. This increased the accuracy of the questionnaire survey further. The approach of interviewing through email was suitable when trying to reach out to respondents with, for any reason, limited accessibility (Meho, 2006). Furthermore, it was cheap and questions could be answered anywhere when time was given. However, it was important to keep in mind that additional information that could have been covered in a discussion, when people can explain themselves and share thoughts, might have been overlooked (Meho, 2006). An additional advantage connected to this type of interview was that the respondent could collect information during the process in order to give more accurate and precise answers. (Meho, 2006)

In order to extract the necessary information from the interviews, theories related to WCM, such as the CCC, the components of working capital and management attention were used in developing the structure and questions for the interviews (See Appendix 1). This resulted in an added practical input that was needed in order to determine the most relevant aspects that are involved in the WCM as well as to
highlight the connections between the different aspects. As an example, theory implies that there are differences in WCM depending on the industry being studied. Questions related to this could therefore help to determine how and why industry might be a factor affecting WCM and thus help to improve the questions in the questionnaire survey. Further, relevant information following the thesis’ aim was collected and is presented in the empirical findings, such as the interviewees thoughts about the possibility of combining attention towards both WCM and revenue growth simultaneously.

According to Adams et al. (2007), misunderstanding is the most common error connected to interviews. In order to avoid confusion it was important that interviewees were properly prepared to go trough with the interview (Adams et al., 2007). Thus, the interviewees were first given a description of the thesis and also an explanation regarding the value of interviewing the particular person. Other errors that could occur during the interviews were e.g. failing memory of interviewees and pleasing answers with the sole purpose of answering what the researchers might want to hear. These were errors that the researchers were aware of and took into consideration when the findings were analyzed. In order to collect as accurate information as possible it was important to understand the context and get an overview of the respondents’ answers. Furthermore, it’s important to take into consideration the background of the interviewees as well as to consider possible motives that might exist to portray specific information in certain ways. (Adams et al., 2007)

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**3.2.3 QUESTIONNAIRE SURVEY**

Using surveys to collect data is the most used method in the area of business and management (Adams, et al., 2007). In order to reach sufficient amounts of questionnaire-respondents and information, a web-based questionnaire survey was chosen for this study. Researchers should strive for as high response rate as possible, this is generally known. However, the most important factor is how representative of the population the respondents are and if there are particular parts of the population missing, causing misguiding results (Adams, et al., 2007).

A general negative aspect about questionnaire surveys is the risk of low response rates and Adams et al. (2007) argues that researches are often forced to accept a
response rate of about twenty percent. The method is often used but because of the large amounts of requests to participate in surveys that companies receive, they are often reluctant to partake. However, previous research has shown that companies tend to be more accessible for students since managers often can relate to students’ situation. Thus, the questionnaire was sent out to highly positioned managers (such as CFOs and financial directors) of companies within the sample (See Appendix 2), as these people are more likely to have an academic background. Other factors that might have a positive effect on response rates are e.g. how questions are being formed and if the purpose is clear and understandable. This will help questionnaire-respondents to see their value in participating. Response rates also tend to be higher when questions are short and precise. (Adams et al., 2007) The interviews were helpful in this matter and allowed the layout to be designed and properly directed towards practitioners. Adams et al. (2007) give three general guidelines for conducting a successful questionnaire survey. These three are:

1. “Questions asked need to be very simple and concise.”

2. “Do not over estimate the knowledge and ability of the respondent.”

3. “Ensure everyone interprets the questions the same way.”

The questionnaire design was based on the theory combined with the information from the interviews. This allowed the questionnaire to be focused on relevant issues linked to WCM and management attention, both from an academic as well as professional perspective. The questions were mainly targeting the managers’ perception of performance in different measures, the organizational structure of WCM, shifts in attention as well as if there was any perceived downside of focusing too much on WCM or revenue growth. For example, questions about what KPIs are used to measure working capital performance as well as growth performance were asked (See Appendix 2). Reminders were sent out on a weekly schedule during a month’s time in order to increase the amount of participants. This resulted in information about the respondents’ WCM awareness, the managing and use of working capital as well as shifts in attention, and the structure of responsibility.
3. Method

3.2.4 QUARTERLY REPORTS

Secondary data was also collected from the questionnaire-respondents’ quarterly reports in order to fully capture the picture regarding the actual WCM performance. The data was collected directly from more than 1,100 quarterly reports. Hence, it was possible to connect respondent’s answers to their industries’ actual average performance. Industry performance was analyzed by combining data displayed in questionnaire-respondents’ quarterly reports between the periods Q1 2006 and Q4 2013. By choosing a longitudinal time frame the issue of obsolete data was avoided, as the sample was used to observe past changes in working capital (Saunders et al., 2009). Figures that were collected from the quarterly reports were regarding revenue, cost of goods sold, assets and liabilities. Thus, it was possible to calculate the CCC and make comparisons on industry average. Conclusions about distinctions and similarities could thereby be drawn. It was also possible to follow the variation in NWC and revenue on industry average. By combining the specific figures from quarterly reports with the questionnaire-respondents’ answers it was possible to analyze how well a company actually performed when put in relation to an industry index regarding working capital, revenue and CCC. Furthermore, it was possible to analyze how well the perceived performance aligned with the actual performance. In order to enable a comparison of the changes in the measured aspects the data was processed into indices with the base at Q1 2006. The reason for collecting quarterly data instead of annual data was to enable the identification of changes due to seasonal variations in the analysis. Hence, the reliability of the research was increased since more data points could be compared (Saunders et al., 2009).

A bias related to this thesis’ procedure of handling data from quarterly reports is the volatility in figures after the base year. Because the data was treated as averages, individual differences in performance might exist. Companies that expanded heavily after the base year might affect the index to a greater extent due to the larger deviations from the base year figures. Single extreme figures, without apparent reason, were excluded by instead using an average from the preceding and succeeding quarters. However, the removal was done to minimize the individual distortive effects of companies and thus better capture the average industry development. To summarize the method, and thus the research design of this thesis,
the collected data was analyzed through triangulation and conclusions are presented in the final part.
4. EMPIRICAL FINDINGS

4.1 THE INTERVIEWS

WCM is important for every company, as the Head of Corporate Analytics phrased it, “if a consultant book sales but never receive payment, the accounts receivable will grow. This is of course not a sustainable way to run a business”. Nevertheless, industry is an important variable when making comparisons of the working capital between companies because differences in operations will create different requirements for working capital. The Head of Corporate Analytics means that WCM is in essence the management of inventory, AR and AP levels to ensure that excess capital is not being tied up. Furthermore, the Head of Corporate Analytics mean that these are the easiest accounts to influence from a company perspective. This statement was partially supported by the Finance Director who found inventory and AR to be the two most easily influenced from the company side. According to the Head of Corporate Analytics, there are different ways of calculating working capital KPIs. However, according to both interviewees the most common KPIs used for WCM are DIO, DSO and DPO, which are all part of the CCC calculation. The Head of Corporate Analytics further argue that, an efficient WCM will monitor the levels of the components and know their relation as well as the effects that different actions will have on the net working capital. Thus, it is important that the causalities between the components are acknowledged and considered when managing the working capital. “The working capital is made up of several interconnected components. A well functioning WCM will make sure that knowledge about the relationships of the components and how they affect the total working capital is established through the entire organization” (the Head of Corporate Analytics). Furthermore, the Head of Corporate Analytics argue that companies that do not have a centrally assigned responsibility regarding the total working capital often are less efficient in their WCM. Thus, it is suggested that the organizational structure and distribution of responsibility is important for the efficiency of WCM.
According to both the Head of Corporate Analytics and the Finance Director, the structure of WCM needs to be designed so that alignment between the different departments can exist. According to the Finance Director this is one of the main challenges with WCM. To align and motivate teams on department level to work towards a united working capital goal can prove difficult because of possible conflicts between short-term and long-term goals. The Head of Corporate Analytics stressed the importance of alignment between departments. “If the sales team runs a campaign on a specific goods or service, it is important that they coordinate this with the rest of the organization in order to avoid e.g. misallocations in inventory” (the Head of Corporate Analytics).

Both interviewees argue that it is possible to combine a focus on WCM and revenue growth without considerable trade-offs. Furthermore, they mean that this is something companies should work with continuously. WCM is a matter of efficiency that needs to be attended in order to use recourses optimally and to achieve sustainable growth.

Regarding the argued increase and shift in focus connected to WCM, the opinions of the Finance Director and the Head of Corporate Analytics divert. According to the Finance Director there has not been any noticeable shift in focus either towards or away from WCM. They have been working with a combined focus and consider WCM and revenue growth to be compatible. The Head of Corporate Analytics however argue that there has been a noticeable shift, where WCM has started to receive more attention because credit has become scarcer, forcing the companies towards internal efficiency.
4.2 QUESTIONNAIRE SURVEY

4.2.1 THE SAMPLE

The questionnaire survey had a response-rate of 36%, which could be argued to be high due to its web-based nature. As mentioned in the method, researchers in this field, using similar methods, have been defending lower response-rates (Adams et al., 2007). Contact was made with 99 companies, 11 replied directly with a rejection due to limitations in e.g. time. 36 companies decided to participate and submitted their replies. Among the 36 companies there were 19 from small-, 9 from mid- and 8 from large cap (See Figure 5A). 8 companies were related to the industry of IT & Telecom, 12 to retail and 16 to Manufacturing (See Figure 5B). The sample had a similar distribution regarding size and industry as the actual respondents, indicating that there are no obvious biases in the respondents compared to the non-respondents regarding the size and industry parameters.

<table>
<thead>
<tr>
<th>Company Size</th>
<th>Industry Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>Data, IT &amp; Telecom</td>
</tr>
<tr>
<td>Mid</td>
<td>Wholesale</td>
</tr>
<tr>
<td>Small</td>
<td>Manufacturing</td>
</tr>
</tbody>
</table>

FIGURE 5A

The most common respondent was the Chief Financial Officers (CFO) at the companies, which also was the position initially targeted to answer the questionnaire survey due to their insights in both managerial, operational and financial aspects. In the cases where CFO’s did not participate there were e.g. controllers, accountants and finance directors who did instead. Thus, also positions connected to managerial, operational and financial aspects. A bias related to questionnaire-respondents was that the probability of participating might have been affected by the respondent’s interest and knowledge regarding the topic. Potential questionnaire-respondents that did not posses the same interest or did not see any relevance might have been missed out. (The survey is presented in Appendix 2.)
4.2.2 WCM AND GROWTH

The results of the questionnaire survey showed that most of the companies that responded tended to actively manage working capital on a daily basis. 64% of the questionnaire-respondents answered that their specific company was to a high extent managing working capital regularly. Answers were similar between the industries (See Figure 6A). Regarding the question about how working capital was used as a tool for performance measurement in internal reports, 53% answered that it was used to a high extent and an additional 31% answered that it was used to some extent. There were also some differences between the industries. The extent of use was reported to be similar among the IT & Telecom and Wholesale companies while the use in Manufacturing was substantially higher (See Figure 6B).

What could be noticed in the answers regarding how companies were handling working capital was that there appeared to be a high focus on reaching an optimal level. The Manufacturing industry showed the highest level of regular activity towards reaching such desired level while the two other industries showed slightly less activity (See Figure 7A). In relation to each other, Manufacturing showed a 15% and 18% higher activity towards optimization than Wholesale and IT & Telecom respectively. Thus, working capital levels were in general seen as acceptable at the same time as there was room for improvements. The respondents were also confident about how working capital is being managed and believed that daily operations are in line with the task of optimizing the levels of working capital. It is noticeable that the
industry that is showing the highest activity towards reaching an optimal level of working capital is not the same that shows the highest current optimization (See Figure 7B).

Regarding companies’ perception about the relation between WCM and growth, the questionnaire results show that most questionnaire-respondents were confident that it is possible to combine a high focus on the two issues (See Figure 8). No substantial difference between the industries could be noticed, as all respondents declared a high belief in that such a combination is possible with an average rating of 6.13 out of the maximum 7 for the industries combined. When it comes to measuring growth, revenue was in general more commonly used than profit (56% to 42%) and it could be noticed in which issues companies put effort when trying to generate growth. No major differences were noticed between the industries in how their strategic focus for achieving growth (See Figure 9).
Strategies connected to generating growth were proven to sustain over time since 54% of the companies declared that no shift in focus had been noticed recently. However, 23% had noticed a recent shift in strategic focus towards revenue growth, and 11% towards WCM. The question regarding whether or not the questionnaire-respondents had noticed any actual increase in working capital, 68% stated that no such increase had been noticed (see Figure 10).

4.2.3 WORKING CAPITAL, KPIS AND CCC

As previously stated, increasing levels of working capital could be a natural effect of growing revenue. The questionnaire-respondents were asked how well justified an
increase in working capital was by the growth of revenues. Regarding working capital and revenue growth, independent of industry, the questionnaire-respondents on average answered that a 10% increase in revenue justified of 6.0% increase in working capital. There is however some difference depending on industry, where IT & Telecom responded that 10% revenue growth justified an increase of 5.3% in NWC. For Wholesale, the same ratio was 6.3% and for Manufacturing 6.4%.

In regards to what KPIs are used to measure working capital, the responses illustrated in Figure 11 show the majority of companies in the Manufacturing and Wholesale industries use KPIs related to inventory, AR and AP turnover rates and actual levels. The single most common measure for these companies is inventory. In contrast, inventory is not even among the top three most common measures for companies in the IT & Telecom industry. Instead, for this industry the three most common measures are AR, AP and the current ratio (current assets/current liabilities). Except the KPIs presented in Figure 11, questionnaire-respondents also mentioned the use of exact working capital levels and working capital as percent of sales. As the respondents were allowed to choose several KPIs the results of combining the industries show that the most frequently used KPI for measuring working capital is AR, with a total of 29 respondents reporting a use (inventory 27 respondents, AP 25 respondents).

![The KPIs commonly used](image-url)
While all companies perform some kind of measuring of working capital, the extent to which the measures are used for employee evaluation vary. In general, employee evaluation on working capital KPIs is more frequent in the Manufacturing industry compared to the other two industries, as it is being used 44% to 54% more frequently. (See Figure 12A)

Companies in the Manufacturing industry consider their current CCC to be closer to optimal than companies in the IT & Telecom, and Wholesale industries’, rating it 4,5 out of 7 compared to 3,6 and 3,1. Still, none of the industry averages indicate that the CCCs are optimized or close to optimized (See Figure 12B). Furthermore, as previously discussed there is a difference in the extent to which the CCC is used as a KPI for WCM. The measure is more common in the Manufacturing industry compared to both the other two industries, being used by more than 50% of the Manufacturing companies.

### Evaluation on KPIs

<table>
<thead>
<tr>
<th>Data, IT &amp; Telecom</th>
<th>Wholesale</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,75</td>
<td>3,50</td>
<td>5,38</td>
</tr>
</tbody>
</table>

### Current CCC Optimized

<table>
<thead>
<tr>
<th>Data, IT &amp; Telecom</th>
<th>Wholesale</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,63</td>
<td>3,08</td>
<td>4,50</td>
</tr>
</tbody>
</table>

4.2.4 **RESPONSIBILITY FOR WCM FOCUS AND IMPLEMENTATION**

The responsibility of deciding how much focus that should be put on WCM are in most companies assigned to the top management (55%), alternatively top management in combination with the board of directors (17%) or the finance department (19%). There were also 3% of the companies that assigned the responsibility to the top management in combination with purchasing, sales and production managers. These companies all operate in the Manufacturing industry.
Regarding how the responsibility of turning working-capital-decisions into action is distributed throughout the companies, in 34% of the companies the responsibility lies with the top management and 34% with the finance department. In the remaining 32% of companies the responsibility is distributed to the treasury department or the combination purchasing, sales and production departments.

4.3 QUARTERLY DATA FINDINGS

4.3.1 CCC PER INDUSTRY

The CCC is bound to be different depending on the nature of the industry. From the secondary data collected and displayed in Figure 13, the average CCCs for the three industries are plotted out and it is possible to notice rather large variations. While there has been some variance in the CCCs, on average, a decrease can be seen for all of the three industries. A general statement regarding all three industries is that they all have reduced their CCC over the studied period. The industry of IT & Telecom has reduced its CCC with 54% (-101 to -221 days) whilst Manufacturing and Wholesale have reduced their CCC by 44% (43 to 24 days) respectively 32% (19 to 13 days).

The Manufacturing industry has had the longest cycle, meaning that it on average takes longer for the companies to turn their raw materials back into cash and they have to carry the financing of a larger part of their operations compared to the other
two industries. The Wholesale industry had the second longest cycle, similar to the Manufacturing industry. A significantly shorter CCC is found in the IT & Telecom industry where the average CCC has been negative for the entire period. This means that the companies’ suppliers carry the costs of inventory and materials. In general, an industry specific feature of IT & Telecom is low (or even absent) levels of physical inventory.

4.3.2 IT & TELECOM

As can be seen in Figure 14, the IT & Telecom industry has shown a steady growth of revenue by a total of 105% from the base year. At the same time as revenues doubled, the NWC remained relatively unchanged growing only 17%. Thus, the industry has managed to grow revenues without growing the NWC at the same rate.

Another fact about the data presented in Figure 14 is that every peak in revenue from the base year is displayed in the fourth quarter, thus the most revenue is to be expected at the end of every year. The first quarter is generally the worst when looking at revenue and the level of NWC has proved to be irregular over the studied period.

![Figure 14: IT & Telecom](image)

4.3.3 WHOLESALE

General levels of revenue for the Wholesale industry have been steadily increasing since 2006 and peaked during Q4 2013 with an increase of 96% in relation to the
base year. The industry is also, similarly to the industry of IT & Telecom, showing a regular increase in revenue every fourth quarter.

The industry’s general levels of NWC have, however, showed an irregular development over the years starting with a decrease during Q4 2006 to negative 25%. Since the first noticed decrease in NWC, the industry has showed increasing levels of NWC, with an ascending trend from Q2 2009, until Q1 2012. Since Q1 2012 the industry has generally reported decreasing levels of NWC and in Q4 2013 it was showing the lowest general levels in four years. (See Figure 15)

![Figure 15: Wholesale NWC and Revenue](image)

**FIGURE 15: WHOLESALE**

### 4.3.4 MANUFACTURING

The Manufacturing industry has showed an overall increase in revenue since 2006 with 76%. The increase dropped between the years of 2009 and 2010 but has since then shown increasing revenue, like the other two industries with the most revenue generated at the end of every year.

The level of NWC has been following a similar development over the years but during the period Q3 2010 to Q2 2012 the indices went apart when revenues increased in a faster pace than NWC. Changes in NWC and Revenue are more or less following the same trend over the studied period as NWC has increased with 74% over the studied period. (See Figure 16)
FIGURE 16: MANUFACTURING
5. DISCUSSION

5.1 THE UMBRELLA PERSPECTIVE

According to the Head of Corporate Analytics companies need an overview-perspective of the interconnected components in order to enable efficient WCM. The questionnaire survey-results also indicate that the distribution of responsibility for WCM decisions was put on the top-management alone or in combination with the board of directors (See Section 4.2.4). This is the type of position that would typically have such overview perspective, but it also means that the ability to coordinate actions is limited to the top-management. One of the challenges created from this centralized responsibility is how to align and motivate teams on department level to work towards united working capital goals (the Financial Director). Thus, the Head of Corporate Analytics means that companies need to distribute the power to implement the WCM decisions on a department level. The questionnaire survey indicates that this is only to some extent reflected in the actual distribution of implementation power, where 32% of the companies reported that the responsibility was distributed to department level. Further, in 34% of the companies the responsibility was assigned to the finance department. This is however to a large extent still a centralized corporate function. (See Section 4.2.4)

According to Ocasio (2011) management attention is limiting, as managers has to choose the areas to give attention at the expense of other aspects. Kieschnick et al. (2013) further argues that the working capital components in addition to individual consideration also need to be considered jointly because of their interconnected nature. Theory also suggests that a holistic, cross-functional approach that aligns all the different aspects as well as creating incentives to coordinate actions between the different departments is necessary for successful WCM (Gundavelli, 2006). The result presented in Figure 11 give indications that the components are rather analyzed separately as the extent of use is not equal between the different components. Even if AR is the most common measure of working capital, it is clear that the use of different KPIs varies among the companies, as can be seen in Figure 11. This
indicates that there are several ways to measure the working capital and no generally accepted way to do so.

Working capital is necessary to operate a business and is likely to increase as the company grows. As previously stated, WCM is therefore about striving to optimize the output of every increase in working capital. (Douglas, 2012) The questionnaire showed that the majority of the companies focus on revenue in their growth strategies (Figure 9). As working capital was not specified in the growth strategies the results indicate that there would be a change in attention towards revenue when companies strive for growth. However, the incurred costs that the growth might have must be justified by the increases in revenue. If the increased costs of the new revenue streams are higher than the revenue itself, it is not a sustainable or efficient way to grow (Brealey et al., 2013; Banham, 2013). Hence, the cash flow is to be taken into consideration, as it is a signal for companies about how potential opportunities for development and growth changes over time in close relation to the working capital. If companies do not address the issue of justifying increases in working capital with increases in revenue and vice versa, there is an indication that a trade-off might occur (the Head of Corporate Analytics).

5.2 ACTIVITY & ATTENTION

Danske Bank and EY (2009) argues that a company’s actual management and comprehension of working capital can be understood by observing the appearance in reports. As can be noticed in Figure 6A, there was a rather high commitment towards daily work with working capital across the industries. In Figure 6B it is further noticed that working capital is also commonly used as a measurement of company performance. The results are indicating that working capital is a central part in communicating how both the company and individuals are performing and could also be used as a benchmark. According to Danske Bank and EY (2009) this is a signal of well functioning WCM. Furthermore, the extensive use as a performance measure can be argued to increase companies’ ability to see the advantages of a shorter CCC. Increased use of working capital as a benchmark could also be beneficial as it serves as a regular reminder of the actual WCM performance.

Ocasio (2011) argues that management attention determines the direction a company is heading in. As can be noticed in Figure 7A, there is an ongoing work towards
reaching desired levels of working capital. The results for the questionnaire show that the Manufacturing industry has the highest focus on doing so, on average rating the extent of focus 15% and 18% higher than Wholesale and IT & Telecom respectively. However, according to Figure 7B Manufacturing is not the industry that is showing the highest level of satisfaction when it comes to current levels of working capital. This could indicate that the Manufacturing industry, in general, has a greater knowledge about what is needed when trying to reach an optimal level. However, it could also be the case that working capital is in general being seen as more central than in the other two industries.

Combining attention is by Danske Bank and EY (2009) argued to carry the risk of a trade-off. As can be noticed in Figure 8 there was however a high belief that attention towards both WCM and revenue growth can successfully be combined. All industries rated the possibility of combined attention without significant downsides high, with an average of 6.13 out of 7. Both interviewees that argued that it is possible to combine a focus on WCM and revenue growth, without considerable trade-offs, which also support this. However, combined attention puts extra pressure on aligning the interest of different departments to work towards the same goals (the Finance Director). The results from the quarterly reports, presented in Figures 14, 15 and 16, are varying. The IT & Telecom industry has proven to grow revenues with smaller increases in NWC (revenue increase: 105%, NWC increase: 17%). The Wholesale industry however shows larger increases of NWC than in revenue, indicating a downside to the increased revenue (revenue increase: 96%, NWC increase: 181%). One possible explanation is that, the market has not supported the expected sales, causing the working capital to grow without corresponding increases in revenue. The Manufacturing industry however, showed an almost equal increase in NWC and revenue (revenue increase: 76%, NWC increase: 74%).

5.3 CHANGES IN NWC AND INDUSTRY PERFORMANCE

To analyze how correct the questionnaire-respondents are regarding their WCM performance, a comparison between the perceived changes in NWC and actual figures was conducted. By studying Figure 10 it is possible to understand how most companies perceive recent changes in NWC. According to Figure 10, less than 30% declare a noticed increase in working capital and most perceived changes are related
to the IT & Telecom industry. In reality, IT & Telecom shows a steady level of working capital while the industry in general shows a positive trend in revenue growth (See Figure 14). While 40% had noticed an increase in NWC during the past five years there was not a similar development shown in Figure 14. The same inconsistency can be noticed when comparing figures for the Wholesale industry where only 17% answered that an increase in NWC was noticed during the past five years (See Figure 10). In fact the industry showed a massive, general, increase in NWC between 2009 and 2012 even though the levels seem to return to normal lately (See Figure 15). The phenomenon can to some extent also be related to the Manufacturing industry. While 33% noticed an increase in NWC there has been a clear general increase during the last year (See Figure 10; Figure 16). However, it should be stated that the changes are related to industry indices and thus some individual companies are likely to have perceived a different development than others over the same period of time.

The fact that companies’ nature of business affects their perception about working capital is also backed up by the Head of Corporate Analytics, e.g. young and growing companies tend to direct attention differently than other companies. Aravindan and Ramanathan (2013) agree and also point out liquidity as another factor that is dependent on company-specific features (Aravindan & Ramanathan, 2013). The Head of Corporate Analytics argue that it is up to every single company to manage their business in accordance with its specific situation.

5.4 PERFORMANCE INDICATORS AND ACTUAL PERFORMANCE

According to the questionnaire-respondents, the most common KPIs related to working capital are firstly AR but also inventory and AP as close second and third (See Figure 11). These are the individual components that make up the larger part of the working capital and are also the ones most frequently mentioned in theory (Brealey et al., 2013; Kieschnick et al., 2013; Nobanee et al, 2011). The CCC was also mentioned as a common KPI, which measures the aggregated turnover rates of the above-mentioned components (See Figure 11).

While the interviewees consider some components of the working capital to be more easily affected, it is important to remember that companies have the power to influence all parts of the working capital (Johnson, 2013). The extent to which they
can influence will however also depend on factors outside their control such as industry and suppliers. These aspects needs to be considered when used as a benchmark. Furthermore, the importance of inventory, AR and AP also seem to shift depending on industry as the industries differed in the extent to which they used measures related to the different working capital components (See Figure 11).

An interesting observation that can be made is that IT & Telecom, and Wholesale companies did not evaluate their employee performance on working capital KPIs to the same extent as Manufacturing (See Figure 12A). However, IT & Telecom performed the best in terms of generating revenue with minimal increases in the NWC (See Figure 14). While the Manufacturing industry, that used KPIs for employee evaluation to the highest extent, had a close to one-to-one ratio (See Figure 16). Wholesale, that used KPIs to a similar extent as IT & Telecom, had a close to one-to-two ratio in terms of revenue to NWC development (See Figure 15). One possible reason to the differences between the industries might be the working capital and revenue levels of the base year as well as different nature of business. The industries are vastly different in the way that they operate, IT & Telecom is a relatively young industry that has experienced a rapid growth and development during the past years. Manufacturing on the other hand has been around for longer. Thus, the levels of working capital might have been more optimal at the base year, making it harder to grow without increasing the NWC. This is supported by the fact that the Manufacturing industry, on average, considered the CCC to be closer to optimal compared to the other industries (See Figure 12B). However, by studying the industries separately it is interesting to note the difference in responses on the revenue to NWC justification ratio compared to the industries actual performance. Questionnaire-respondents from the IT & Telecom industry on average declared that 10% revenue growth justified a 5,3% increase in NWC. Companies within the industry have however out-performed the estimate by actually showing a revenue-to-NWC growth rate of 1,6 %. However, the two other industries showed a different development. Questionnaire-respondents from the Wholesale industry on average declared that 10% revenue growth justified a 6,3% increase in NWC. The actual performance within the industry missed the estimate by showing a revenue-to-NWC growth rate of 19%. Questionnaire-respondents from the Manufacturing industry on average declared that 10% revenue growth justified a 6,4% increase in NWC.
Companies within this industry were the closest to the estimate by showing a revenue-to-NWC growth rate of 9.7%.

As shown in Figure 13 the IT & Telecom industry has a significantly shorter CCC, averaging to a negative period. All industries have shown a shortening of the CCC over the studied period but IT & Telecom has shortened it the most with 54% whilst Wholesale and Manufacturing has shortened it with 32 respectively 44% (See Figure 13). Having a negative CCC means that the companies within the industry in general receive payment for products and services before producing them and therefore does not have to finance the inventory and AR themselves. A potential reason for the negative CCC in the IT & Telecom industry is that the industry on average does not hold large amounts of inventory. On the other hand, one possible downside of running a too short CCC is that it might affect sales negatively (Shin & Soenen, 1998). However, looking at the revenue increase in the IT & Telecom industry this does not seem to have been a problem as revenues have grown with about 100% at the same time as the CCC has decreased from -101 to -221 days during the studied period (See Figure 13; Figure 14).
6. CONCLUSIONS

6.1 AN ALIGNED AND CROSS-FUNCTIONAL WCM

The results from the empirical findings indicate that there is a risk for a trade-off regarding WCM and revenue growth. The companies report a belief that no trade-off exists but the actual performance indicate varying results regarding whether or not revenues are grown in a justifiable proportion to increases in NWC. If companies’ operations become inefficient, capital that could be used to fund future growth is not put to its optimal use. Since management attention is limited, a sustainable growth-strategy that focuses on revenue should thus benefit from incorporation of WCM goals that are tied to the revenue goals.

Theory suggests that the role of the top-management in WCM should have the characteristics of overviewing and coordinating actions between the departments that implement the directives as well as to ensure the cross-functional alignment between the different components of working capital. This structure is to some extent supported by the empirical findings on how WCM responsibilities are assigned in the companies (Section 4.2.4). The findings thus suggest that companies have a good overview regarding the working capital but the implementation of the WCM decisions could be improved. However, the results for the quarterly reports are inconclusive regarding if the distribution of responsibility has an actual impact on the company’s performance.

6.2 AN INDUSTRY UNLIKE THE OTHERS

The Manufacturing industry is showing a different approach and usage regarding working capital KPIs when comparing the three industries. There is a more practical usage connected to everyday operations as the industry show a higher usage of KPIs related to working capital. The industry’s revenue to NWC justification rate is showing a higher rate than what is desired, but the actual and desired levels are closer than what is the case in the other two industries. This finding shows that
companies within this industry have a more realistic perception regarding the actual working capital performance, in relation to the other two industries. The Manufacturing industry is thus the industry, of the three studied, in which it is more common with accurate perceptions of WCM and working capital.

6.3 THE BITTER TRUTH

There were several interesting outcomes found when combining answers about how studied companies perceived WCM and NWC, with actual performance. The nature of business should be taken into consideration when discussing working capital and WCM. However, when comparing the perceived WCM activities and actual performance, the perceptions did seldom match general fluctuations in working capital and revenue growth. Misunderstandings regarding revenue justifications were more often related to the two industries of IT & Telecom and Wholesale but did also occur in the Manufacturing industry. (See Figure 10; Figure 14; Figure 15; Figure 16) An example of the two industries (IT & Telecom and Wholesale) greater unawareness regarding WCM and NWC is the revenue-to-NWC justification rate (See Section 5.4). These two industries were far from desired levels and work toward optimization was not prioritized according to what questionnaire-respondents have declared (See Figure 7A; Figure 7B). Hence, findings indicate that studied companies in general do not show enough consideration about the effects of shifting attention between WCM and revenue growth. However, the general trend for the studied companies is that the CCC, on average, has been shortened over the studied period. This indicates that companies are becoming more efficient with their working capital. The justification ratio, on the other hand, suggests the opposite for the Wholesale and Manufacturing industries. Increases in revenue are causing larger increases in working capital and thus suggesting that the working capital is not being used optimally.

6.4 CONTRIBUTIONS, LIMITATIONS & FUTURE RESEARCH

This thesis contributes to the understanding of the relationship between WCM and revenue growth by investigating the relation in three Swedish industries. In these industries, there is currently a general gap between perceived and actual performance regarding WCM and its effects on revenue growth. The studied companies tend to
misjudge their own WCM performance and are not aware of the possibilities of managing working capital in order to grow revenues more effectively. Furthermore, the thesis explains why shifts in focus regarding these aspects are not necessary and that there are general differences in importance of WCM between industries.

The possibility of formulating general statements and reflections regarding other industries is restricted due to the fact that the study is enclosed to a specific sample containing only three industries. However, the results are supporting general arguments about the current situation within the Swedish market and point out common errors that could be better handled. This study has thus brought light on errors and misinterpretations about management of working capital but there are still more areas to consider in order to enhance knowledge and develop an accurate picture about how to successfully manage it.

Working capital is industry specific, thus general conclusions about other industries cannot be made without further research. As the working capital is dependent on many factors that might impact companies’ abilities to achieve certain levels of working capital, e.g. size, it is important to analyze these aspects for each company individually in order to draw conclusions on an individual company level. As indices were created in this thesis, a recommendation for future research is to investigate a single industry in-depth. Thus, industry-specific influences can be detected in order to further develop the understanding of WCM.

As there appears to be certain misconceptions regarding the actual WCM performance among the studied companies, another recommendation for future research is an in-depth case study regarding the perception of WCM. Overall, most previous academic studies have focused on quantitative findings. In order to determine the factors that affect working capital performance, a qualitative approach aiming to understand the causalities behind the quantitative results might be of interest. Thus, the understanding of working capital can be enhanced at the same time as the development of WCM proceeds.

To conclude, theory suggests that efficient WCM needs to have an overview perspective as well as distributed implementation power. Thus, one suggestion after analyzing the findings is to assign a coordinating role regarding WCM, such as a Working Capital Officer. By incorporating a role of a Working Capital Officer in the
top-management, the responsibility would be clearly defined and thus attention to WCM as well as an increased focus on aligning and coordinating the different departments would be ensured.
REFERENCES

ARTICLES


BOOKS


APPENDICES

APPENDIX 1 (INTERVIEW QUESTIONS)

What distinguishes a well functioning WCM?

Regarding WCM, what aspect or questions do you perceive get the most attention and what is usually focused upon?

What industries do you believe are most affected by changes in working capital?

Do you consider Swedish companies to be well aware of the effects and benefits of active WCM?

What aspects and components of working capital do you consider to be of greatest importance?

Have you reflected over how companies have changed their WCM over time? (in connection to financial crisis’s etc.)

Have you noticed any shift in focus on WCM over time? Are there situations where it is more suitable to increase focus on WCM, less suitable? Do you consider it to be possible to combine a focus on WCM and revenue growth?

What is your perception on how WCM is incorporated in a larger perspective, as part of the “larger picture”?

Have you noticed any difference in which KPIs are used to measure working capital and WCM performance? Are there any KPIs you believe to be better or worse than others?

Do you consider WCM to be more important for some industries than others? Which?
APPENDIX 2 (QUESTIONNAIRE SURVEY)

1. To what extent does your company actively manage working capital?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

2. To what extent is working capital used as a performance measurement in your company’s internal reports?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

3. To what extent are employees evaluated on working capital KPIs?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

4. To what extent is your company currently working to optimize the level of working capital?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

5. To what extent do you consider your company’s current level of working capital to be optimized?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

6. What key ratios (KPIs) does your company use to measure working capital? (choose all that apply)
   a. Inventory    b. Receivables
   c. Payables     d. Cash Conversion Cycle
   e. Current ratio d. Other (please specify)

7. To what extent do you consider your company's current Cash Conversion Cycle (CCC) to be at an optimal level?
   
   \[ CCC = DIO + DSO - DPO \]
   Far from Optimal  --  -  Neither/Nor  +  ++  Optimal  Don’t know

8. What is your current primary strategic focus concerning the measurement of growth?
   a. Revenue  b. Profit  c. Other (please specify)

9. To what extent do you believe it is possible to combine a high focus on working capital and long-term growth?
   Not At All  --  -  Neither/Nor  +  ++  Very High  Don’t know

10. Have you recently noticed any difference in focus towards working capital management (WCM) or long-term growth?
    a. Yes, towards WCM  b. Yes, towards growth
c. No, no shift in focus  
d. Don’t know  
e. Yes, other (please specify)

11. Have you recently noticed an increase in working capital?

a. Yes  
b. No  
c. Don’t know

12. To what extent do you consider increases in working capital to be justified by growth?

*For growing revenue by 10% working capital is allowed to grow by approximately how many percent? _____ %*

13. Which position within your company is responsible for deciding how much focus that should be put on working capital management (WCM)?

a. Owners  
b. Board of Directors  
c. Top Management  
d. Finance  
e. Treasury  
f. Purchasing  
g. Sales/Marketing  
h. Production & Logistics  
i. None  
j. Other (please specify)

14. Which position within your company is responsible for working capital management (WCM) decisions and follow-ups?

a. Owners  
b. Board of Directors  
c. Top Management  
d. Finance  
e. Treasury  
f. Purchasing  
g. Sales/Marketing  
h. Production & Logistics  
i. None  
j. Other (please specify)

15. What is your position within your company? ________________

16. What is your company's main industry?

a. IT & Telecom  
b. Wholesale  
c. Manufacturing  
d. Other (please specify)