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Working Capital Management in Start-ups

An Exploratory Research on Swedish Start-ups

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Abstract

Working Capital Management (WCM) is a management tool used in large companies to optimize the use of cash by minimizing the amount of cash tied up in working capital accounts, in order to reduce the risk of insolvency and to increase profitability. One of the main reasons why start-ups fail is related to liquidity issues. Despite a wide acceptance regarding the importance of WCM for start-ups, there is currently scarce research on WCM in start-ups. Hence, the aim of this study is to explore whether WCM is used in Swedish start-ups, if so, how it differs from WCM in large companies, and how entrepreneurs can use it to improve their cash flow. For this purpose, the theory of WCM describing processes in large companies is used as a framework, and a qualitative multiple case study research through seven semi-structured interviews is conducted. According to the empirical findings, three groups of start-ups were identified: proactive users, intuitional users, and non-users of WCM. The former two are characterized by previous corporate work experience, while the latter merely by single start-up experience. Further analysis revealed that the use of WCM is vital for all start-ups. Non-users were identified to be more likely to face cash flow issues. A key difference identified between the use of WCM in large companies and start-ups is that the former use it for cash optimization purposes, while it can be a matter of survival for the latter.

Keywords: working capital management, start-ups, exploratory research, cash flow

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1. Introduction

Start-ups play an important role for a country's economic development and job creation (Ebben & Johnson, 2006; Winborg & Landström, 2001; Chittenden et al., 1996, Berger & Udell, 1998; Paul & Boden, 2011). Still, according to Small Business Administration (SBA, 2014), almost 50% of all new businesses fail within the first five years. The second major reason for why start-ups fail, and therewith right after “no market need” and right before “poor management team”, is related to liquidity issues where the company runs out of cash (Griffith, 2014; CBinsights, 2014; For Entrepreneurs, 2015) and is not able anymore to pay its obligation as they fall due.

It is widely known that especially start-ups face severe financial constraints. Due to the high uncertainty, opaqueness, information asymmetries, and transaction costs associated with start-ups, most banks reject granting them loans, and venture capitalists demand a high return on investment usually along with great control over the venture through seats on the board of directors (Ebben, 2009; Ebben & Johnson, 2006; Berger & Udell, 1998; DeClercq et al., 2006; Storey & Greene, 2010). As a result, start-ups try to “avoid the need for external financing through [...] improving cash flow, or [use] financial sources internal to the company” (Ebben & Johnson, 2006, p. 851/852). Consequently, many start-ups are initially financed through the entrepreneur's personal savings, the 3 F's (family, friends, fools) (Berger & Udell, 1998), business angels, or through bootstrapping (Winborg & Landström, 2001; Ebben, 2009; Ebben & Johnson, 2006).

Once the business is running, measures to improve the company's internally generated cash flow can be adopted to reduce, or even avoid, the need for external funds. Internally generated funds through an efficient Working Capital Management (WCM) can significantly positively impact a business's cash flow situation, assure the company's long-term success, and maximize the shareholders' funds. Working Capital Management is the management of current assets and current liabilities as well as the inter-relationship between them (Mathur, 2010). Mathur (2010, p.12) refers to working capital funds as a company's “life blood”, saying that companies “can survive without making profit but cannot survive without working capital funds”. The lack of working capital, also referred to as liquidity shortage, troubles many companies and has been identified as one of the major reasons for a company's failure.

In his article “Working Capital Management: A Must for Any Start-up”, Morrow (2012) highlights the importance of WCM for start-ups, particularly during the growth phase. In such phases, increases in sales almost always require an increase in assets – especially in current assets (cash, inventory, and accounts receivable). But not only in growth phases is WCM important for start-ups. Compared to large firms, almost 70% of SMEs’ assets are current assets, and more than 50% of their liabilities are current liabilities (García-Teruel & Martínez-Solano, 2007). Also Pass and Pike (2007, p.1) speak of SMEs having “a higher proportion of capital tied up in current assets and liabilities than large companies.” These proportions emphasize the importance particularly for SMEs to manage their working capital accounts efficiently. Although these figures relate to SMEs, it is safe to assume that these figures are similar, or even higher for start-ups, as start-ups might be even less likely to have huge amounts of fixed assets (such as a production plant, expensive machinery, large office buildings, etc.), as they do not have the funds for such assets. Start-ups face many obstacles in obtaining financing in the first place, and if they do have funds, they are more likely to invest them in the development of their product, and subsequently, in inventory to start selling than in production plants.

Despite the above-mentioned importance of WCM for start-ups, there is scarce research on WCM in start-ups. There is, however, a lot of research about WCM in a large business and SME as well as small business context, but few studies address the issue of how it is used in start-ups, if at all.

At large businesses, WCM is used as an optimization tool to make the most profitable use of liquid funds while maintaining a minimum level of liquidity to cover possible unexpected short-term expenditures. In case of liquidity shortages, it is rather uncomplicated to receive a short-term bank loan. For start-ups, the management of working capital accounts and liquidity is not only a matter of optimization, but it rather is of utmost importance and can be “a matter of life or death” (McMahon & Stanger, 1995, p.24), as it is much more difficult for start-ups to obtain a short-term bank loan, or to receive money from equity investors at attractive rates. Furthermore, WCM tries to find a balance between paying suppliers as slowly as possible without damaging the firm’s credit rating; as well as between collecting money from customers as quickly as possible without damaging the relationship to its customers, which would result in lost future sales (Graham & Smith, 2011; Gitman & Zutter, 2012). It would be interesting to

examine whether start-ups have such a balance where they delay their payments, and collect their receivables as quickly as possible without jeopardizing their relationships to suppliers and customers. Since start-ups are not just a miniature or scaled-down versions of large firms and, therefore, face different management needs due to limited resources in terms of both finance and management skills (Berger & Udell, 1998; Ekanem, 2010; Tauringana & Afrifa, 2013), it cannot be deduced that WCM is equally applied in start-ups as it is in large companies. Consequently, this research paper aims at filling this gap by providing insights on

- (1) how WCM is applied at start-ups, if at all;
- (2) how it differs from WCM theory and therewith from WCM in large companies;
- (3) how entrepreneurs can use WCM to improve their cash flow.

By fulfilling the purpose, the paper contributes to WCM research in a start-up context and provides practitioners with recommendations on how to more efficiently manage their working capital.

This is done through an exploratory and qualitative multiple case study research. Seven semi-structured interviews with founders of early-stage Swedish start-ups were conducted, and analyzed through qualitative content analysis. The focus of this research is on inventory-bearing start-ups, as they have a greater need to manage their capital efficiently to ensure sufficient liquidity. Service companies, for instance, do not face an issue of incurring cash outflow (to purchase inventory) before receiving cash inflows from customers, because they provide services, which do not require an upfront cash outflow.

The research findings are limited in terms of generalizability due to the research's exploratory and qualitative design, as the research's aim is to provide insights into a so far rather untouched topic. Moreover, this research focuses on selection criteria such as age, inventory-bearing characteristic, and actual sales activities, not on a specific industry, as the study aims at exploring and providing insights on how WCM is applied in start-ups in general, if at all, without being limited to a specific industry. Furthermore, Orobia et al. (2013) found that WCM practices are primarily driven by attitude and motivation of the individual – the entrepreneur, so a focus on the entrepreneur instead of a specific industry was chosen. The insights from this research serve as a basis for future research with more industry-specific and quantitative designs to increase future research's industry-specific generalizability.

The paper will continue with a literature review on WCM-related aspects in a small business and SME context (Chapter 2), due to scarce research on this topic in a start-up context. Chapter 3 and 4 present the theoretical framework as well as the research's methodology, respectively. In Chapter 5, the findings will be analyzed and discussed with WCM theory literature and previous research in this field. Subsequent to the conclusion in Chapter 6, implications for future research, for practitioners and for entrepreneurship education are provided in Chapter 7.

2. Literature Review

This chapter deals with previous research on WCM and WCM-related aspects in a small business¹ and SME² context, since limited research has been done on WCM in start-ups so far. But since start-ups exhibit characteristics that are quite similar to those of small businesses and SMEs (e.g. in terms of size regarding number of employees and revenue, as well as asset and liability structure), the findings of previous small business/SME-related WCM studies already give good insights into the topic.

In the first section of this chapter, previous research on the importance of WCM for SMEs and small businesses will be reviewed with a focus on liquidity management and the cash conversion cycle (CCC), which is “the most popular way of measuring working capital” (Ukaegbu, 2013, p.2), as explained in more detail in Chapter 3.4. Subsequently, previous research on the different WCM key elements (receivables, payables, and inventory management) will be reviewed as well as WCM’s attribute of being an integrated business function.

Importance of WCM for SMEs and small businesses

WCM is to a large extent about matching cash in- and outflows. This is related to a company’s liquidity management, which is by definition “the planning and controlling of cash flow by owner-managers in order to meet their day-to-day commitments” (Ekanem, 2010, p.123). The importance of WCM becomes apparent when considering Ekanem (2010, p.124), Drever (2005), and Deloof (2003) who all agree on liquidity management being “[t]he most problematic aspect of small firm financial management”. McMahon and Stanger (1995, p.24) even say that “[l]iquidity is a matter of life or death” for small firms. This is in line with Sardakis et al. (2007) who found that an efficient and effective liquidity management is critical for small firms’ survival. While large firms usually try to achieve optimal decisions, small firms rather adopt a “‘good enough’ approach” (Ekanem, 2010, p.135). When dealing with liquidity issues, owner-managers make use of their (industry) experience and knowledge; therefore, continuous learning is of major importance for small firm owner-managers.

¹ Orobia et al. (2013) and Ekanem (2010) define small businesses as companies with less than 50 employees, while Berger & Udell (1998) define small businesses according to the U.S. SBA definition including companies with less than 500 employees.

² Both García-Teruel and Martínez-Solano (2007) and Paul and Boden (2011) define SMEs as companies with fewer than 250 employees.

Furthermore, WCM's importance becomes obvious when looking at its effect on firm profitability. Previous studies researched the effects of WCM as measured with the cash conversion cycle (CCC) on SME profitability. The CCC specifies the period between cash outflow (payment of purchases) and cash inflow (receipt of cash from customers after sale), and therefore "indicates the time interval for which additional short-term financing might be needed to support sales" (Barine, 2012, p.222). García-Teruel and Martínez-Solano (2007) found that a company's CCC and its profitability is negatively correlated, meaning that the shorter the CCC, the more profitable the firm. Therefore, by shortening the CCC, firm profitability can be improved. Besides, García-Teruel and Martínez-Solano (2007) found that the CCC affects firm profitability and not vice versa, a statement that Deloof (2003) was not sure to make. Deloof (2003, p.584) said, "it cannot be ruled out that the negative relation between WCM and profitability is to some extent a consequence of profitability affecting WCM and not *vice versa*."

Receivables management

Companies can improve their profitability and cash flow by "reducing [...] the number of days for which their accounts [receivable] are outstanding" (García-Teruel & Martínez-Solano, 2007, p.164; Tauringana & Afrifa, 2013) and therefore, try to collect the money from their customers as quickly as possible. However, recent studies have shown that small firms face severe difficulties in quickly collecting from their customers. Many bigger companies delay their payments to smaller firms considerably beyond the agreed upon due date. The late payment of trade debts is "often associated with the relative power positions of suppliers and customers" (Paul & Boden, 2011, p.733) where large companies "enforce their terms with smaller companies, who in turn enforce their terms with those smaller yet" (Rafuse, 1996, p. 59). Due to small firm's limited buying power, they "feel powerless to do anything about their debtors' late payments" (Ekanem, 2010, p.124). Large businesses are the worst offenders in terms of late payments (Peel et al., 2000) whereas smaller firms are experiencing greatest delays (Pike & Cheng, 2001). The small firms have little reparation in this situation, as strenuous collection efforts could reduce the sales volumes in the future. Moreover, in the period of uncertainty and distress, small companies are pressurized into offering even more generous credit terms in order to win business (Paul & Boden, 2011).

Furthermore, Paul and Boden (2011, p.741) found that many SMEs "have quite poor trade credit management practices, despite their acknowledgement of the seriousness of

the issue”. It is interesting to see that small firms know of the importance of having a well-organized credit management, but still fail to implement one effectively. Therefore, Paul and Boden (2011, p.740) highlight the urgency for small firms to have a “clearly articulated [and] communicated” credit policy.

Payables management

Payables management relates to a company’s negotiation of payment terms with suppliers. Most suppliers offer their customers trade credit. Making use of supplier trade credits is “extremely important” for small businesses (Berger and Udell, 1998, p.635) to finance their assets. Although being quite expensive in terms of interest rate³, the right amount of supplier credit can help young firms to find the optimal balance between transaction costs, liquidity, and cash management. For small businesses, a supplier credit is more easily accessible than a bank loan, because suppliers have more and better information about the small business and its industry than banks, which reduces the information asymmetry between the two parties. Banks, on the other hand, charge high transaction costs in order to overcome this information asymmetry and opaqueness. As a result, the bank’s potentially lower interest rate will be balanced out by its higher transaction costs. Moreover, the bank loan process takes a lot longer than taking the supplier credit, and finally, banks might refuse to grant start-ups loans in the first place, thereby making the supplier credit the only available source of funding (Berger & Udell, 1998). Equity funding is in this regard no alternative, since equity investments are usually not made for such short periods of only a couple of weeks. Berger and Udell (1998) conclude the supplier credit discussion by saying that as start-ups mature, their dependence on supplier trade credit diminishes, probably due to sufficient cash from increasing sales, which is supported by Walker and Petty (1978, p.67) saying that “large businesses appear to have greater liquidity than small companies”. Finally, also Khoury et al. (1999) found that large companies are more likely to take suppliers’ cash discounts for early payments instead of making use of the entire supplier credit term.

³ Example: Assuming suppliers typically need to be paid within 30 days but offer a discount of 2% for payment being made within 10 days, the implicit interest rate of this supplier trade credit is 2% for 20 days, which would represent an interest rate of 37.2% p.a.

Inventory management

According to García-Teruel and Martínez-Solano (2007) and Lambert et al. (1990), companies can improve their profitability and cash flow by reducing their stock to minimize the amount of money tied up in inventory. This approach advocates for smaller, more frequent orders. However, smaller, more frequent orders are less cost effective due to their associated higher relative logistics/transaction costs. According to Lambert et al. (1990, p.39) the “decision to eliminate or reduce small orders involves a trade-off between the potential cost savings and the revenue and customer goodwill forgone.”

WCM as an integrated business function

WCM as an integrated business function (see Chapter 3.3) has an underlying bias toward maintaining good relationships throughout the supply chain. Small businesses have limited leverage and negotiating power when interacting with external parties, and, therefore, strong relationships with customers and suppliers are important. Similarly, Aaronson et al. (2004) found that established relationships with suppliers are strongly correlated with trade credit availability and usage.

Start-ups “rarely have the resources they need, which often forces them to reach beyond their boundaries to access these resources” and external relationships are of critical importance in the emergence process (Marion et al, 2015, p.167). According to Fuller and Lewis (2002, p.317), the direction of a small business is caused by the interrelationship between the business and its external environment and “[t]his interaction is manifest in the firm’s actual everyday business relationships”. Owner-managers have different approaches to relating to key stakeholders and through these strategies, by actively engaging with external parties, they shape the direction of the firm (Fuller and Lewis, 2002).

Maintaining good relationships is beneficial for a small business bottom line. Shan et al (1994, p. 388) indicated that “[a] startup’s number of cooperative relationships has a positive effect on its innovative output”. Furthermore, Lorenzoni and Lipparini (1999, p.317) concluded that the importance of strategic alliances and inter-firm relationships continues to rise considerably and “partnerships with external actors have become a central strategy for many organizations in a wide range of industrial contexts”.

Summarizing, the literature review highlights the importance of WCM for SMEs and small businesses due to its impact on their liquidity and profitability. The more companies are able to reduce the period between cash outflows and inflows (their CCC), the faster they are at converting products into cash, and the better it is for their profitability and liquidity. Furthermore, the literature review shows that collecting receivables from customers as quickly as possible, turning over inventory as quickly as possible, and paying suppliers as late as possible as well as building strong relationships throughout the supply chain is crucial for SMEs and small businesses to effectively manage their cash. In addition, certain challenges have been identified that small businesses face with regard to WCM. For example, the fact that bigger, more powerful market players force their payment terms onto smaller, less powerful firms, or that small businesses are more reliant on supplier credit, as they have scarce alternatives in finding short-term financing elsewhere. Finally, with regard to inventory management, small businesses face the challenges of finding the optimal balance between reducing the amount of cash tied up in inventory and most cost-effective order quantities.

3. Theoretical Framework

Working Capital Management (WCM) is widely used in large companies as an optimization tool; therefore, this theoretical framework describes the characteristics and processes of WCM in large companies. According to Mathur (2010, p.14), WCM theory deals with “the interaction between current assets and current liabilities”. It is important to note that the term “management” implies a proactive organizing and coordinating of activities to achieve defined objectives (Koontz & O’Donnel, 2010). While all companies have working capital accounts, they do not necessarily manage them proactively. Thus, Working Capital *Management* deals with the *proactive management* of the working capital accounts in order to optimize their use.

In the subsequent sections, WCM’s objectives and its key elements are identified (Chapter 3.1), followed by a description of the key elements (Chapter 3.2). Next, the importance of considering WCM as an integrated business function will be elaborated upon (Chapter 3.3). This chapter ends with a presentation of financial measurements used to quantitatively determine a company’s WCM efficiency.

3.1. WCM: Identification of Objectives and Key Elements

WCM is part of a business’s short-term financial management and aims at reducing a firm’s financing costs as well as at minimizing the amounts of funds tied up in working capital accounts in order to guarantee sufficient cash to sustain day-to-day operations (Gitman & Zutter, 2012). Orobio et al. (2013, p.139) define WCM as “the planning and control of inventory, receivables, payables and cash, in order to eliminate the risk of illiquidity and maximize profitability”. According to Ukaegbu (2013, p.2), the aim of WCM is “to ensure that the firm is able to meet its operating expenses and also remain in a position to pay short-term obligations as and when they fall due”. Consequently, the objectives of WCM can be summarized as follows:

- to ensure that sufficient but not more cash than required is invested (tied up) in working capital accounts (particularly receivables, inventories, and payables),
- to balance liquidity and profitability, as they counteract each other⁴,
- to minimize the risk of not being able to pay the invoices when they come due.

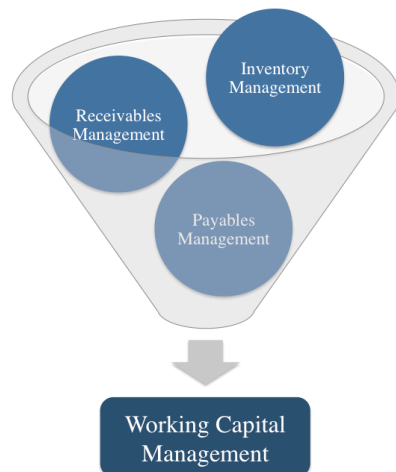
⁴ Increasing liquidity means having more cash on hand, which, in turn, does not earn any return, while invested cash, e.g. in the stock market yields a return. Therefore, it is important to find the optimal balance where there are sufficient levels of liquidity to avoid the risk of illiquidity, while, at the same time, making the most profitable use of funds to increase shareholder value. See studies by Smith and Begemann (1997), Uremandu et al. (2012) and Ejelly (2004) on the negative correlation between profitability and liquidity.

Graham and Smart (2011, p.492) as well as Gitman and Zutter (2012, p.608) have set up the following four major points WCM is concerned with:

1. *“Turn over inventory as quickly as possible without stockouts that result in lost sales.*
2. *Collect accounts receivable as quickly as possible without losing sales from high-pressure collection techniques.*
3. *Manage mail, processing, and clearing time to reduce them when collecting from customers and to increase them when paying suppliers.*
4. *Pay accounts payable as slowly as possible without damaging the firm’s credit rating.”*

The key elements of WCM can consequently be classified as **Inventory Management**, **Receivables Management**, and **Payables Management** (see Figure 1). The third point emphasizes the importance of IT-supported processes to optimize the handling of invoices from suppliers and to customers.

Figure 1: Key WCM Elements



3.2. WCM: Description of Key Elements

The receivables management consists of the implementation of credit policies with attractive customer payment terms, as well as the identification of appropriate collection measures that do not result in lost sales and customers through high-pressure collection techniques. Attractive payment terms from a customer perspective may, for instance, include *trade credits* (as customers prefer to delay payments as much as possible) or

discounts for early payments (to save money). In contrast, from a seller's perspective, discounts are "a popular way to speed up collections without putting pressure on customers [as] [t]he cash discount provides an incentive for customers to pay sooner." (Gitman & Zutter, 2012, p.620) However, there is a trade-off between receiving the money earlier and decreasing the per-unit profit by offering a discount. Therefore, offering a discount should always involve a cost-benefit analysis by evaluating whether the advantages of receiving payments earlier (e.g. on day 10) offset the drawback of giving customers discounts (e.g. of 1.5%). Finally, according to Gitman & Zutter (2012), each company's credit terms should conform to its specific industry standards in order to remain in a competitive position.

The same applies for the payables management. If offered a discount, companies need to decide whether payments shall be done earlier in order to make use of the discount, or to make use of the supplier's credit period and pay on the due date. Since large companies usually have easy access to short-term bank loans, they will calculate whether it is less expensive to take the full supplier credit; or to take the discount and take a short-term bank loan for the rest of the supplier credit period⁵ (Gitman & Zutter, 2012). However, when no discount for early payments is offered, the buyer aims at delaying payments as long as possible and "accounts [payable] should be paid on the last day possible" (Gitman & Zutter, 2012, p.642).

Just like the receivables and payables management, there are different approaches to inventory management. For example, just-in-time (JIT) inventory management allows reducing stock and therefore storage costs as well as money tied up in inventory, but at the same time JIT is exposed to high risk of losing sales due to stock-outs in case of a disruption in the supply chain, prohibiting timely delivery of essential parts (Germain et al., 1996). Another means to manage inventory is "make-to-order" where you only produce what has been ordered, therefore, the product will go directly from production to the customer, again reducing the amount of money tied up in inventory (Arreola-Risa & DeCroix, 1998). A third option is "make-to-stock", which is about having sufficient inventory at all times to avoid stock-outs and to make use of the relatively lower

⁵ In an example of a payment term of 2/10 net 60, the implicit interest rate of this supplier credit is 2% for 50 (60 minus 10) days, which would represent an interest rate of 14.9% per annum. If a bank offers a short-term loan for these 50 days at an annual interest rate of e.g. 11% including any bank fees, it would be cheaper to pay the supplier on day 10 to get a 2% discount and, in case needed, get a short-term bank loan at a lower interest rate for the remaining 50 days.

transaction (logistics) costs for larger volumes, as there is a trade-off between storage costs and transaction costs (Romeijn et al., 2007; Lambert et al., 1990).

3.3. WCM: An Integrated Business Function

It is important to consider WCM as an integrated business function, as it links a company's operations across different departments (e.g. sales, purchasing, and finance) to optimize overall cash utilization (Wolleb, 2013; Ernst & Young, 2014). For instance, Receivables Management includes the identification of a credit policy with appropriate credit terms in order to attract customers, as well as the identification of appropriate collection measures that do not lead to customers switching to competitors. Therefore, the Receivables Management is closely linked to Marketing and Sales as well as Customer Relationship Management. Additionally, the Payables Management is, among others, about determining supplier credit policies, and is, hence, closely linked to Purchasing and Supplier Management (Barine, 2012). Inventory Management is strongly intertwined with Purchasing, Supplier Management, as well as Sales, because of its objective to ensure a continuous supply of stock to guarantee a timely product delivery to the customer whenever the sales department makes a sale. Figure 2 shows some of the most important integrated business functions of Working Capital Management.

Figure 2: Integrated WCM Model

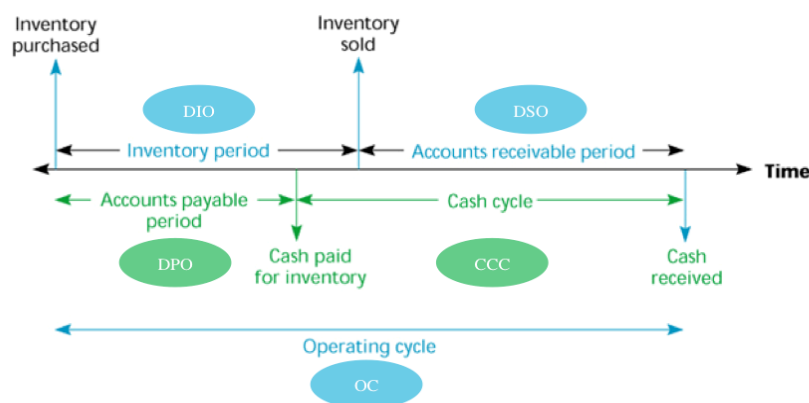


Overall, WCM is an important aspect of Supply Chain Finance⁶ (Kristofik et al., 2012) where the integration of different business functions is a major characteristic and of vital importance. Without the integrated approach, WCM is just another finance function very similar to a company's Cash Management with particular focus on Liquidity Management.

3.4. WCM: Efficiency Measurements

A company's WCM efficiency is measured in Days Inventory Outstanding (DIO⁷), Days Payables Outstanding (DPO⁸), Days Sales Outstanding (DSO⁹), the Cash Conversion Cycle (CCC¹⁰), and the Operating Cycle (OC¹¹). Figure 3 illustrates the parts forming these measurements.

Figure 3: WCM Efficiency Measurements



Large companies use these WCM measurements (DIO, DSO, DPO, CCC, and OC) to quantitatively measure their WCM's efficiency and compare their measure to the industry standards and benchmarks. Since the aim of this research is to identify how WCM is used in start-ups, if at all, the main focus is on the aforementioned more qualitative aspects of WCM (the structure and set-up of the key elements and the consideration of WCM as an integrated business function). In case the research finds that WCM is applicable to the start-up context, future research should focus on the more

⁶ Supply Chain Finance “is about looking at how to optimise working capital of a company, not only from an internal point of view, but also from an external point of view (from the point of view of other parties within the chain). This optimisation can be achieved by collaboration in managing accounts payable, accounts receivable, cash and risk.” (Kristofik et al., 2012, p.132)

⁷ $DIO = (\text{Inventory} / \text{Cost of goods sold}) * 365$

⁸ $DPO = (\text{Accounts payable} / \text{Cost of goods sold}) * 365$

⁹ $DSO = (\text{Accounts receivable} / \text{Sales}) * 365$

¹⁰ $CCC = DSO + DIO - DPO$

¹¹ $OC = DSO + DIO$

quantitative side of WCM in start-ups to allow efficiency comparisons. Within the scope of this paper, knowing the CCC is sufficient. In that sense, it is important to know that a shorter CCC is favorable to a longer CCC, because it means that the company is faster at converting its products into cash (Ukaegbu, 2013; García-Teruel & Martínez-Solano, 2007).

Summarizing the theoretical framework discussion, WCM's main objective is to reduce the amount of cash tied up in working capital accounts to minimize insolvency risk and to increase profitability. The main working capital accounts form the WCM key elements – Receivables, Payables, and Inventory Management. In order to reduce the amount of cash tied up in working capital accounts, (1) receivables should be collected as quickly as possible, (2) inventory should be turned over as quickly as possible, and (3) payables should be paid as late as possible. Different ways of how this can be achieved have been described. For example, by offering customers discounts for early payments (receivables management), by adopting “make-to-order” (inventory management), or by taking the entire supplier credit period (payables management). In addition, the importance of considering WCM as an integrated business function was discussed, placing attention on customer as well as supplier relationships that permeate different business functions, such as Customer Relationship Management, Sales, Purchasing, and Supplier Management as well as Finance. Finally, the reader was introduced to the quantitative WCM efficiency measurements, with a particular focus on the Cash Conversion Cycle (CCC).

4. Methodology

This chapter begins with research philosophy considerations, as the philosophy affects the entire research design, and is, thus, of major importance. The research design is described subsequently. Next, the selection of cases is presented as well as the methodological limitations of the research, followed by a description of the primary data collection technique and procedure. The chapter ends with a presentation of the method of analysis.

4.1. Research Philosophy, Ontology, and Epistemology

Doing research always means developing knowledge in a specific field. This knowledge development – the research – is subject to the researcher's paradigm¹², his/her assumptions about as well as his/her view on the world, which not only underpin the entire research design but also how the research's results and findings are analyzed and interpreted (Saunders et al., 2009). Consequently, elaborating on the researchers' research philosophy is crucial, as it affects the entire research design.

This research adopts a pragmatic research philosophy. Pragmatism “question[s] the dichotomy of positivism and constructivism [interpretivism] and call[s] for a convergence of quantitative and qualitative methods” (Feilzer, 2010, p.8) advocating that the world has some objective and some subjective elements or layers, as well as some that constitute a mixture of the two. The authors of this paper agree with this conception. Especially WCM exhibits both positivistic aspects (objective and quantitative WCM efficiency measurements) as well as interpretivist aspects (more subjective and qualitative relationship-based characteristics in that WCM is an integrated business function as mentioned before). According to Saunders et al. (2009), pragmatism argues that the research method – qualitative vs. quantitative – should be chosen based on which method is the most appropriate one to best answer the underlying research questions. In some cases, it might even be beneficial to mix the two methods. While this research rather focuses on the interpretivist aspects of WCM (the WCM key elements and the consideration of it being an integrated business function), the authors still strongly hold a world view where simplification and generalization sometimes are

¹² A paradigm is “a world view that defines, for its holder, the nature of the world, the individual's place in it and the range of possible relationships to that world and its parts” (Denzin & Lincoln, 1998, p.200).

appropriate and helpful e.g. for benchmarking purposes (by calculating a company's CCC, DIO, DSO, etc.), therewith supporting a research philosophy of pragmatism.

4.2. Research Design

This research is of exploratory and descriptive nature adopting a qualitative approach, as the underlying objective of this research is to explore and consequently describe how WCM is used in start-ups, if at all, and how it differs from WCM in large companies. It tries to generate knowledge and an understanding in order to identify how entrepreneurs can effectively use WCM to improve their cash flow. The descriptive nature is in line with Eisenhardt and Graebner (2007, p.28), saying that “qualitative research is highly descriptive, emphasizes the social construction of reality, and focuses on revealing how extant theory operates in particular examples.”

The data will be collected through multiple case studies, as they are well suited for comparison and description purposes in order to gain new insights. According to Saunders et al. (2009), case studies are well suited for exploratory research, therefore, suitable for this research. In addition, multiple case studies were chosen instead of investigating just one case, because “adding three more cases to a single-case study is modest in terms of numbers, but offers four times the analytic power.” (Eisenhardt & Graebner, 2007, p.27)

The research instrument chosen are semi-structured interviews, because interviews are among the most widely used methods for case study research (Eisenhardt, 1989; Yin, 1994). Additionally, semi-structured interviews compared to fully structured interviews provide the opportunity to uncover new ideas or aspects the researcher had not thought of before, and to ask follow-up questions, thereby making them well suited for exploratory research (Saunders et al., 2009).

An abductive research approach allows a switching forth and back between existing theory (in this case WCM as applied in large companies) and the collected data to generate knowledge and to enhance an understanding of the underlying topic. While many research methods books focus on the deductive and inductive approach (cf. Saunders et al., 2009; Bryman & Bell, 2011), the abductive approach introduced by Charles Sanders Peirce (American Philosopher, 1839-1914) is widely recognized today as well. According to Reichertz (2010, p.4), “[abduction] is a logical inference (and

thereby reasonable and scientific), however it extends into the realm of profound insight (and therefore generates new knowledge).” It differentiates from the other two approaches in that it results in an increase in knowledge and insights by collecting data and assembling or discovering new meanings on the basis of the interpretation of the collected data (Reichertz, 2010). Since this research aims at identifying how WCM is applied in start-ups, if at all, and how entrepreneurs can use it to improve their cash flow, this research will ultimately lead to new insights in this field and, therefore, be abductive in line with the above-mentioned definition. Furthermore, the abductive approach is well in accordance with a pragmatic research philosophy.

Finally, due to a research period of three months, this research is cross-sectional, as the data collection for this research took place at one point in time and was not repeated.

4.3. Selection of Cases

The selection of an appropriate population and subsequently of cases is crucial for enhancing a research’s credibility. Clearly defining and setting criteria for the population helps to identify the research’s limitations with regard to generalizability of the research findings (Eisenhardt, 1989). In order to identify potential relevant interview partners for this research, purposive sampling combined with convenience sampling was used.

Purposive, or judgmental, sampling is about selecting cases which will be most useful in helping answer the research question. It is often used in case study research where there are “very small samples” (Saunders et al., 2009, p.237). In the case of this research, the cases were selected based on the start-ups’ age of up to five years, therefore founded not earlier than 2010. The five years was set, as it was identified by SBA (2014) to be the critical survival period. Another criterion was that the cases must be inventory-bearing businesses, as inventory management is one of the three key elements of WCM. Moreover, WCM is less relevant for non-inventory bearing businesses, as they do not face the difficulty of incurring cash outflows by purchasing stock before experiencing a cash inflow by selling their products/inventory. This was also supported by the findings of the pilot study conducted to confirm the research’s relevance and underlying research question. Finally, only companies that are actually selling products are included in the research, because WCM is an operation tool concerned with matching cash in- and cash outflows, which non-operating companies are unlikely to have.

Convenience, or haphazard, sampling, on the other hand, “involves selecting haphazardly those cases that are easiest to obtain for your sample” (Saunders et al., 2009, p.241). In the case of this research, convenience sampling was related to the location of the cases. For convenience purposes primarily, but not exclusively, companies in Lund, specifically located at the Ideon Science Park, were contacted. Usually, convenience sampling is associated with a very low representativeness of the sample, but in combination with purposive sampling, the representativeness is enhanced. Moreover, the location of the businesses is unlikely to have an impact on the entrepreneur’s WCM knowledge and application; thereby, it does not influence the representativeness of the sample.

4.4. Methodological Limitations

This research has some limitations that should be considered. First of all, due to its exploratory and qualitative research design, data collection through highly standardized procedures with large samples was not applicable. As a result, the small sample size of seven interviews limits the generalizability of the research findings. In addition, due to its highly exploratory nature and its focus on case selection criteria such as the start-up’s age, inventory-bearing, and actual sales activities, this research was not limited to one specific industry. Consequently, this research rather provides a broad indication of how WCM is applied in start-ups in general without considering industry distinctions, as the aim was to explore and provide insights rather than to test theory. As a result, by providing new insights, this research can function as a basis for future research to be designed more precisely to specific industries, and can, hence, help to design future research on more quantitative terms, thereby allowing the data collection from a larger sample, and increasing generalizability for future studies.

The use of multiple case studies is controversial in research. While Dyer & Wilkins (1991) claim that single-case studies are superior to multiple case studies in that they create better high-quality theory, Eisenhardt (1991, p.622) argues that “the appropriate number of cases depends upon how much is known and how much new information is likely to be learned from incremental cases.” From this perspective, it seems reasonable to use multiple cases for this research, because of its aim not to generate new theory, but

rather to provide insights and an understanding of how existing theory is applied in a new context.

Another aspect is that all interviewees were men. This was not purposefully but rather by chance. While the gender/sex might not have an influence on the research findings, it cannot be entirely excluded either and should, therefore, be considered.

4.5. Primary Data Collection Technique & Procedure

This research's primary data were collected through seven 30-minute face-to-face semi-structured interviews with founders of start-ups. As WCM has a direct impact on the company's day-to-day operations, it was important to speak to those people of the company who have a solid understanding of their business's operations and of the reasons why they do what they do in the way they do it. Consequently, talking to the founders who are most of the time also the decision-makers seemed logical. The total number of interviews of seven appeared sufficient, as the responses did not seem to deliver further insights. This is in accordance with Eisenhardt (1991, p.622) who said that "the appropriate number of cases depends upon how much is known and how much new information is likely to be learned from incremental cases." In addition, she argues, "while there is no ideal number of cases to include in the sample, a number between 4 and 10 usually works well. With fewer than 4 cases it is often difficult to generate theory [...] with more than 10 cases it quickly becomes difficult to cope with the complexity and volume of the data". (Eisenhardt, 1989, p.545)

Regarding the process, potential interviewees were contacted either via e-mail, or face-to-face during events at Ideon Science Park, where they were given a short description of the research as well as of the researchers' background as Entrepreneurship master's students. The interview guide's questions (see Appendix A) were carefully designed and pilot tested with two companies in order to ensure an overall equal understanding of the questions. After the pilot test, the interview questions were adjusted. Furthermore, all interviews were recorded and transcribed, which allowed a re-listening and re-reading of the interviewees' answers and helped to stay close to the data during the analysis process. The transcription of interviews is particularly important during an abductive approach where a switching forth and back between theory and collected data is common.

Main Interview Questions

Orobia et al. (2013) argue that it is important to take an action-oriented approach to start-up research due to the influence of the entrepreneur's characteristics and attributes on the start-up's operations. Agreeing with Orobia et al. (2013), this study researches the interviewees' actual actions taken with regard to WCM. As a consequence, the interview questions essentially relate to how the start-ups' receivables, payables, and inventory management looks like. The interview is composed of the following aspects:

1. **General Questions:** Information about the company and the interviewee (industry; founding year; number of employees; interviewee's educational and personal background; interviewee's experience in financial management) *to be able to analyze and interpret the data according to the entrepreneur's personal and educational background as well as the start-up's size and age*
2. **General WCM Questions:** Understanding of WCM (knowledge and main goal of WCM; if applicable, source of knowledge about WCM; perceived importance of WCM for new ventures) *to identify whether interviewee knows theory/concept of WCM, if yes, to what extent his understanding matches the definition in the literature*
3. **Receivables Management** (customers; process; payment terms; customer payment behavior; challenges) *to understand how the receivables management is executed and relatable to theory in line with the interviewee's knowledge of WCM, or how it is executed and relatable to theory despite the interviewee's ignorance of WCM*
4. **Payables Management** (suppliers; process; supplier terms; start-up's payment behavior; challenges) *see "Receivables Management" explanation*
5. **Inventory Management** (process; order behavior; challenges) *see "Receivables Management" explanation*

4.6. Data Analysis

This section describes the unit of analysis as well as the method of the data analysis.

Unit of Analysis

Ekanem (2010, p.124) argues that "the over-reliance on the financial practices of large firms" is the major reason why previous research has had such limited impact on small firms' performance. In order to solve this problem, recommendations to start-ups should be rooted in their actual behavior. Start-ups are characterized by the fact that the owner-

manager is the manager/decision-maker of every department (Ekanem, 2010; Tauringana & Afrifa, 2013), therefore, the character as well as the personal experience and attributes of the owner-manager have a major impact on how the start-up's operations are structured, and should, thus, be the focus of research in this field. As a consequence, this research focuses on the founders'/entrepreneurs' characteristics and experience rather than on a specific industry when analyzing to what extent WCM is used in start-ups, if at all.

Method of Analysis

The interview transcripts were analyzed through qualitative content analysis. The data was analyzed by finding similarities as well as differences in the interviewees' answers to find patterns of what attributes influence entrepreneurs' use of WCM.

Following Miles and Huberman's (1994) framework, the analysis consisted of three steps: data reduction, data display, and conclusions drawing and verification. In the data reduction step, the mass of qualitative data was condensed and organized to eliminate irrelevant data. This was done through *open coding* after a first read-through of the interview transcripts (Bryman & Bell, 2011; Saunders et al., 2009; Miles & Huberman, 1994). Secondly, in order to gain a better overview, the data was displayed in a table (see Appendix B), whose establishment was a continuous process throughout the analysis. Afterward, a second read-through allowed the categorizations of answers and *axial coding* was used to discover relationships between different categories (Bryman & Bell, 2011; Saunders et al., 2009; Miles & Huberman, 1994). The Table 1 on the following page shows the identified categories. Finally, *selective coding* was applied to analytically draw conclusions and verifications. The researchers looked for both contradictory as well as confirmatory data in order to overcome the confirmation bias, which is the researcher's tendency to find data that support his/her own ideas about the study (Miles & Huberman, 1994).

Table 1: Analysis Categories

Previous experience	WCM understanding	WCM acquisition	WCM important in (stage)
Start-up	Know it/ have heard of it	Corporate	Early stage (from the beginning)
Corporate	Don't know it/ haven't heard of it	Start-up	Later stage (when sales start)
Start-up & corporate		Independent	

Receivables management	Payables management	Inventory management
Upfront payment	Pay on due date	Make-to-order
Trade credit (mostly 30 days)	Supplier credit (ranging from 30 to 60 days)	Reorder when certain stock level reached
Trade credit with discount for early payments	No discount for early payments	Reorder point: no structure
Defaulting customers	Delay payments unintentionally (forgotten)	Focus on forecasting demand
Factoring	Delay payments intentionally (when cash flow issues or project ongoing)	
Importance of relationship with customers	Importance of relationship with supplier	

4.7. Selected Cases

Table 2 provides an overview of our selected cases.

Table 1: Selected Cases

Company	Founding year	Industry	No. of employees / founders	Educational background	Previous experience	In text
A	2014	Furniture	15/3	International Business	Start-up	Furniture
B	2014	Prototype manufacture	0/2	Electrical Engineering	Corporate & Start-up	Prototype
C	2013	Marketing & distribution of sports goods	0/1	Business Administration	Corporate & Start-up	Marketing
D	2012	Baby products	1/1	Organizational Leadership	Corporate	Baby1
E	2011	Gaming accessories	1/1	Industrial Engineering	Start-up	Gaming
F	2013	Baby products	0/3	International Sales & Marketing	Corporate & Start-up	Baby2
G	2013	Electronics	8/4	Industrial Design & Engineering	Corporate	Electronics

5. Data Analysis & Discussion

In this chapter, the data will be analyzed following the structure of the interview guide by taking a look at the sample start-ups' receivables, payables, and inventory management, first separately, and then from a holistic integrated perspective. This seemed reasonable as the interview guide was based on WCM theory, which allows a logical data analysis and subsequent comparison to and discussion with WCM theory and existing literature. Doing this, the research fulfills its purpose of identifying how WCM is used in start-ups, if at all. If used, the research also elaborates on how it differs from WCM theory, and therewith from the application in large companies. Finally, the purpose of this research is to give recommendations on how entrepreneurs can use WCM to improve their cash flow, which will be presented in Chapter 7.2 *Managerial Implications*.

In the following, the reader will shortly be introduced to the research's main findings of identified groups of start-ups with regard to their WCM practices and previous knowledge about WCM. The subsequent section then elaborates on how WCM is applied in start-ups using WCM. Finally, the chapter ends with a description of how the different WCM key elements look like in start-ups not using WCM.

5.1. The Identified Groups

The interview findings allow arranging the interviewees into one of the three groups:

- (1) Those entrepreneurs who know or have heard of WCM and use it (**proactive users**);
- (2) Those who don't know or haven't heard of it but still use it (**intuitional users**);
- (3) Those who don't know it and don't use it either (**non-users**).

As can be seen, none of those who know or have heard of WCM do *not* use it; hence, everyone who knows or has at least heard of WCM tries to actively integrate it into their business's set-up and operations.

Table 3 on the following page illustrates the identified groups. The parentheses indicate the interviewees' pervious work experience.

Table 2: Matrix of Identified Groups

	Know WCM / have heard of it	Don't know WCM / haven't heard of it
Use of WCM	PROACTIVE USERS	INTUITIONAL USERS
	Company B – PROTOTYPE (corporate)	Company D – BABY1 (corporate)
	Company C – MARKETING (corporate & multiple start-up)	Company F – BABY2 (corporate & single start-up)
No WCM	Company G – ELECTRONICS (corporate)	NON-USERS
	-----	Company A – FURNITURE (single start-up)
		Company E – GAMING (single start-up)

Characteristics of Groups – Similarities and Differences

In order to find similarities and differences between the three above-mentioned groups, the following characteristics of the interviewees are examined:

- (1) Prior work experience
- (2) WCM application
- (3) Industry

Regarding prior work experience, the respondents within the first two groups (proactive and intuitional users of WCM) have several years of corporate experience, some even have multiple or single start-up experience in addition to their corporate experience. In contrast, the non-users are characterized by merely single start-up experience. Regarding the first two groups, while they seem quite homogeneous across their boundaries, they do not seem homogeneous within their respective group. For example, we find both “corporate” and “corporate and start-up” experience in the proactive as well as in the intuitional group, hence, there are no obvious characteristics regarding the interviewees’ prior work experience that would allow us to make a distinct assignment of previous work experience characteristics to one of the two groups in addition to their prior knowledge of WCM.

The same applies for how the proactive and intuitional users apply WCM and structure their receivables, payables, and inventory management. Some proactive WCM users require upfront payments from their customers, while others offer trade credit. Both ways can be recognized with the intuitional users as well, thereby prohibiting a distinct

assignment of how the different WCM elements are organized to one of the two groups. Moreover, regarding WCM application, the proactive and intuitional users differ from the non-users in that the start-ups of the latter group do not actively manage their working capital accounts to optimize their cash usage.

Regarding the industry, it seems as if the industry does not have a direct impact on how WCM is set up in a start-up. For example, both companies of the intuitional group are part of the baby products industry, and both sell to distributors. Still, one requires upfront payment from its distributor before shipping the products, while the other offers trade credit to its distributor. So even within a specific industry, negotiation skills and/or finding the right business partners (suppliers/distributors) can open up to more room to negotiate e.g. favorable payment terms.

Interestingly, there was no conformity found of how those interviewees who knew WCM acquired their knowledge; some learned about it during their previous corporate experience, while others said they learned about it during their previous start-up experience, or even independently by reading up on the topic or by talking to other entrepreneurs.

Summarizing, the industry does not seem to have an impact on how WCM is applied in start-ups¹³, and the WCM application does not seem to differ between those who previously knew WCM and those who did not but still use it. Since all interviewees who use WCM have corporate experience (unlike the non-users, who both merely had prior start-up experience), corporate experience seems to be the driving factor in how effectively entrepreneurs are at using WCM, be it proactively or intuitionally. However, the interviewees did not exclusively mention their corporate experience to be the source of their knowledge of WCM.

¹³ It needs to be mentioned, though, that finding industry specific characteristics was not the goal of this research, therefore, this finding should be regarded with caution.

5.2. WCM Application in Start-ups Using WCM

This section is about how those interviewees who knew or had heard of WCM (the proactive users) as well as those who did not know or had not heard of WCM before but still used it (the intuitional users) apply WCM in their start-ups (see groups in Table 3). Due to the lack of obvious differences between the proactive and the intuitional groups (except for their proactive vs. intuitional use of WCM) as discussed before, these two groups will be combined for analysis purposes. In the following, the different WCM elements and the interviewees' approach of considering WCM as an integrated business function are examined. In addition, the findings of how WCM is applied in start-ups is compared to how WCM is applied in large companies by referring to WCM theory, which is based on WCM practices in large companies.

5.2.1. Receivables Management in Start-ups Using WCM

This section discusses how start-ups set up their payment terms with customers as well as how the receivables management in start-ups differs from the receivables management in large companies.

Receivables management in start-ups

As briefly mentioned before, the interviewed start-ups arrange their payment terms with customers in various ways. Some start-ups offer trade credit, usually according to their industry standards, which is in line with Gitman and Zutter (2012) who emphasized the importance of considering industry standards to remain in a competitive position, while other start-ups require full upfront payment. Some ask for partial upfront payment, for instance, for the material to pay their supplier while charging the value-added component of the product's price (labor and profit) after delivery with trade credit (see following quote).

“Let's assume we have a product cost of 100 SEK, and 40 SEK of these 100 SEK are the material costs and 60 SEK make up the value-added, labor and profit. Then we charge this 40 SEK before we order the material. Because once we've pushed the button to our supplier, there is no way of pushing it back again, because we don't have buying power. The customers are willing to pay this, because otherwise we don't do it. That's the normal set-up in this business, because the margins are very, very small. Finally, the rest of the amount is invoiced after delivery. (Company B – PROTOTYPE)”

This quote highlights start-ups' low buying/negotiating power toward large suppliers. Offering partial upfront payment seems to be an appropriate compromise for both the customers and the start-up to establish good relationships, because while customers generally prefer to postpone payments as long as possible (Gitman & Zutter, 2012), start-ups usually need to collect their customers' money as quickly as possible to be able to pay their obligations as they fall due (Ukaegbu, 2013).

Generally, it cannot be said that one collection policy (offering trade credit vs. requiring upfront payment) is superior to another, because even the trade credit is undisruptive when the customer trade credit period exceeds the supplier's payment term. To evaluate the customer payment terms, they need to be considered along with the supplier payment terms as well as with the inventory management, highlighting the importance of considering WCM as an integrated business function, which is also stated by Wolleb (2013) and Ernst & Young (2014). The consideration of WCM as an integrated business function in start-ups is discussed in Chapter 5.2.4.

However, even when considering the receivables management isolated from the payables and inventory management, the interviews show that start-ups try to collect their money from customers as quickly as possible, because even those start-ups that agree on providing their customers with trade credits also offer discounts for early payments (e.g. 2% discount for paying on day 10 instead of day 30) in order to speed up cash inflow. Furthermore, in order to overcome cash flow issues, they even sell their accounts receivables to debt collectors/factoring firms in order to speed up their cash collection and improve their cash flow. The following quotes highlight start-ups' willingness to use factoring in order to receive the money from customers faster.

“We sell these [outstanding accounts receivables] to debt collectors by giving them around 3% of the invoice amount. But the very important part for us is that we get cash.” (Company B – PROTOTYPES)

“We need to find a new way of dealing with these [customers'] defaults. One option is to have discounts, or now we are looking into working with a large international factoring company.” (Company F – BABY2)

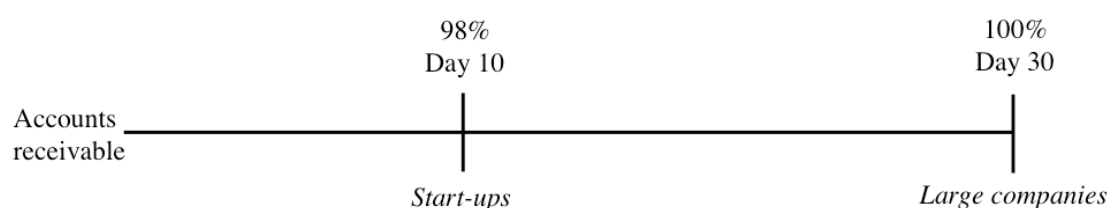
These two quotes clearly show start-ups' need for cash, which justifies their use of factoring firms. Especially the second quote reveals that they do it as a last resort. They first try to offer discounts in order to spare the relationship with their customers, since

factoring is considered a high-pressure collection technique. However, when it comes down to it, although good customer relationships are important for a business, because without customers there is no business, cash is even more important, or as Company B – PROTOTYPE puts it: “*Cash is Number ONE!*”, because without cash the business will go bankrupt. Having good customer relationships in bankruptcy does not help the start-up to survive; hence, it is crucial to find the right balance between receiving cash from customers quickly and avoiding high-pressure collection techniques.

Receivables management in start-ups compared to large companies

Start-ups are highly reliant on cash to sustain their business’s day-to-day operations; therefore, they use discounts to speed up money collections from their customers. In contrast, large companies are more liquid than small companies (Walker & Petty, 1978), which is why they are more likely to grant their customers the entire payment terms. Still, discounts can also be found in large companies. However, offering discounts should be based on a thorough cost-benefit analysis and should only be offered if the benefits of receiving the money earlier outweigh the profit loss incurred through the discount (Gitman and Zutter, 2012). The interviews have shown, though, that start-ups do not conduct such cost-benefit analyses. They do not seem to give discounts to increase their overall profitability but rather to improve their cash flow, which highlights their pronounced need for cash. Figure 4 illustrates the difference between large companies rather granting the entire payment period and start-ups being more likely to offer discounts for early payments.

Figure 4: Differences in Payment Behavior between Large Companies and Start-ups



Furthermore, start-ups face a dichotomy between keeping a good relationship with customers by not using high-pressure collection techniques and their start-up’s survival. Although the interviewees are aware of the importance of good relationships with customers, they still use high-pressure collection techniques (i.e. factoring) to receive their cash from sales faster, because they are reliant on this cash to ensure the firm’s

ability to pay short-term obligations as and when they fall due, which is supported by Ukaegbu (2013).

Summarizing, start-ups are much more reliant on cash than large companies. This is reflected in how they structure their receivables management and set up payment terms with customers (e.g. by offering discounts without a prior cost-benefit analysis). Although they are aware of the importance of building good relationships with customers, their pronounced need for cash to survive may still force them to use high-pressure collection techniques. Having analyzed start-ups' receivables management, the next section will now take a look at their payables management.

5.2.2. Payables Management in Start-ups Using WCM

This section discusses how start-ups set up their payment terms with suppliers as well as how the payables management in start-ups differs from the payables management in large companies.

Payables management in start-ups

While supplier cash discounts is a major aspect of WCM in international literature, it seems to be rather uncommon in Sweden, because none of the interviewees stated to be offered a discount for early payments by their suppliers. Some of the interviewees in this group (proactive and intuitional WCM users), who all have corporate experience, had not even heard of the possibility of receiving a discount for early payments in the first place. This might suggest that it is rather uncommon in Sweden to be offered a discount for early payments from suppliers in general and that it is not related to start-ups in particular. This should be further investigated in future research.

The interviews show that all interviewed start-ups pay their suppliers on the due date. While the interviewees never pay before the due date, it may happen that they delay their payments beyond that day – be it intentionally or unintentionally. Unintentional delay refers to the entrepreneurs simply missing the due date by forgetting, while intentional delay is the deliberate withholding of payments, for instance, when a project is still ongoing and in discussion, or when the entrepreneurs face cash flow issues impeding them from making the payments in time. When intentionally delaying payments beyond the due date, keeping a good relationship with the suppliers through an open communication is of immense importance, as the suppliers might otherwise refuse

to continue cooperating, or charge penalty fees, as they usually have a greater buying power compared to start-ups. The following two quotes refer to this issue.

“It has happened [that we delayed payments to our suppliers], because we didn’t have enough money because our customers didn’t pay on time. It was purposely because of cash flow issues. The supplier understood our situation. We have a very open dialogue with them. Relationship with them is very important.”
(Company F – BABY2)

“Sometimes we delay the payment to the supplier. [... That usually doesn’t damage the relationship.] I mean it’s not only electronic. You have to meet them and buy them dinner or something [laughing] to work on the relationship. Normally, they understand. It’s better for them to get paid 50 days later than to not get paid at all. [...]

We have considered [taking on a bank loan]. But since we are a start-up, the bank requires that the owner is backing up, and we’re not willing to do that.”
(Company B – PROTOTYPE)

The quotes show that a good relationship with suppliers is vital for start-ups, because sometimes the start-ups do not receive the cash from customers in time (see quote from Company F – BABY2), and because start-ups usually do not have the opportunity to get money elsewhere on short notice and/or on favorable terms, since the bank requires entrepreneurs to use their own assets as collateral, as Company B – PROTOTYPE mentions. This was also found by Berger and Udell (1998), as well as Storey and Greene (2010). Consequently, start-ups need to have close relationships with open communication, as both quotes suggest, in order to be able to discuss with their suppliers when payments will be delayed.

Payables management in start-ups compared to large companies

As aforementioned, the interviewed start-ups are not offered discounts for early payments to their suppliers. Therefore, they pay on the due date, which is the last day possible. This is in line with WCM theory, and therewith how it is done in large companies, stating that when not offered a discount for early payments, the buyer aims at paying as late as possible and thereby on the last day possible (Gitman & Zutter, 2012).

Furthermore, while large companies pay as late as possible to the extent where they do not jeopardize their credit rating (Gitman & Zutter, 2012), start-ups are generally less likely to receive bank loans at all; therefore, keeping a good credit rating to receive bank loans is of inferior importance for start-ups. Having good relationships with suppliers is of higher priority, since start-ups “rarely have the resources they need, which often forces them to reach beyond their boundaries to access these resources” (Marion et al., 2015, p.167). Thus, when cash flow issues force them to delay payments, they can do so without damaging their relationship with their suppliers. Without good relationships and an open communication, a delaying of payments could result in unfavorable payment terms or even penalty charges. This is in line with Aaronson et al. (2004) who found a strong positive correlation between the quality of supplier relationships and trade credit availability and usage.

Summarizing, none of the interviewed start-ups is offered a discount for early payments from their suppliers; therefore, they all pay on the due date. Some of the interviewed start-ups even delay payments beyond the due date when the project is in discussions or in case of cash flow issues. Since start-ups have few alternatives to receive funds elsewhere, delaying payments to their suppliers often is the only option they have. In order to avoid penalty charges in case of payment delays, start-ups try to maintain good relationships with their suppliers. Compared to large companies, start-ups are unlikely to receive bank loans in the first place, which is why they are less concerned about keeping a good credit rating, and rather focus more on supplier relationships. Having analyzed start-ups’ payables management, the next section will now look at their inventory management.

5.2.3. Inventory Management in Start-ups Using WCM

This section discusses how start-ups set up their inventory management as well as how the inventory management in start-ups differs from the inventory management in large companies.

Inventory management in start-ups

All interviewees using WCM (except for one) try to keep the inventory as low as possible to achieve a high inventory turnover while attempting to avoid stock-outs resulting in lost sales (cf. Gitman & Zutter, 2012) by employing the “make-to-order”

approach to a lesser or greater extent. (The one not trying to keep the inventory low – Company C – has special agreements with its suppliers, as described below.)

Those who have a customized product only produce and order from their suppliers after an order has come in. For warranty issues, they keep a small stock of around 1 to 3% of each order. Others have a certain minimum level of stock and replenish their stock when an order comes in, hence, keeping the inventory at a low level due to high costs associated with high levels of inventory, as the following quote suggests:

“We see how much we sell and based on that we trigger a new order. [...] We try not to have a lot of inventory. We cannot afford to sit on a lot of inventory.”
(Company G – ELECTRONICS)

Again others have agreements with their suppliers that they only need to pay for the stock once it has been sold (see following quote).

“I don’t pay anything for the stock. I pay it after I’ve sold it. Which means I work around the capital requirements for inventory in that sense. That was because it would have been a problem. Because I need to have a stock of around 5,000 units and they cost about \$5 to \$6 each. So, then I would need to have \$30,000 tied up in inventory. But by doing it like this, I don’t need to.” (Company C – MARKETING)

Such an agreement with the suppliers offers the start-up the opportunity to avoid the financing of the inventory and allows them to keep high levels of inventory. This, in turn, helps the start-up to build stronger relationships with their customers, since the start-up is now not so much reliant on cash anymore to pay its supplier and can offer its customers longer trade credits.

“I think it’s an advantage not to require upfront payment [from customers]. If we can give them a trade credit then we can help our retailers, make it easy for them to be our customers. I think it helps in building a good relationship them.”
(Company C – MARKETING)

This quote reveals that having good relationships and payment terms with suppliers also influences the extent to which the start-up is able to set payment terms with its customers that are in the customer’s favor, and thereby help building strong relationships with them.

Inventory management in start-ups compared to large companies

With regard to inventory management, large companies' practices do not differ from start-ups' practices. In both contexts, the overall aim of inventory management is to make most efficient use of cash to reduce the amount of money tied up in working capital accounts and to avoid stock-outs resulting in lost sales, which is in line with Gitman and Zutter (2012).

Summarizing, start-ups use different inventory management approaches as introduced in the *Theoretical Framework*. The mostly used one is “make-to-order”, as it allows start-ups to reduce the amount of money tied up in inventory (Arreola-Risa & DeCroix, 1998). High levels of inventory were only present in case of special agreements with suppliers that allowed such high levels to be financed by the supplier and not by the cash-constrained start-up. Furthermore, the interviews show that the inventory management approach is dependent on the start-up's entire business model and operation set-up, which highlights the importance of considering all WCM elements from an integrated holistic perspective, as also mentioned by Wolleb (2013) and Ernst & Young (2014). Finally, start-ups' inventory management is quite similar to large companies' inventory management.

5.2.4. Integrated WCM Approach in Start-ups Using WCM

This section discusses how start-ups consider WCM as an integrated business function as well as how the consideration as an integrated business function in start-ups differs from the consideration as an integrated business function in large companies.

WCM as an integrated business function in start-ups

All interviewees using WCM considered it as an integrated business function by considering all WCM elements (receivables, payables, and inventory management) equally, for example, by trying to collect the money from their customers before having to pay their suppliers. This is achieved by purposefully negotiating longer payment terms with their suppliers than with their customers (see quotes below), or by having a structured inventory management, e.g. through “make-to-order”.

“If the customer has for example 30 days to pay the invoice, we need to make sure that our suppliers give us at least 30 or more days to pay their invoices. So

the cash flow management is extremely important here.” (Company B – PROTOTYPE)

“Overall, we have good payment terms: We have more days to pay the suppliers than we have for our customers. This was arranged on purpose.” (Company F – BABY2)

By doing so, the entrepreneurs try to minimize the time period between cash outflow and inflow (the cash conversion cycle – CCC), in order to reduce the time period for which external financing could be needed to support sales (Barine, 2012). This is in accordance with Ukaegbu (2013) who said that a shorter CCC is favorable to a longer CCC, because it means that the company is faster at converting its products into cash. Consequently, start-ups paying attention to WCM considerations are more likely to have a more favorable CCC and are, therefore, less likely to face severe cash flow issues that would lead to bankruptcy. This is supported by García-Teruel and Martínez-Solano (2007) who found that payment terms have a major impact on the CCC, which, in turn, has a significant impact on firm profitability.

WCM as an integrated business function in start-ups compared to large companies

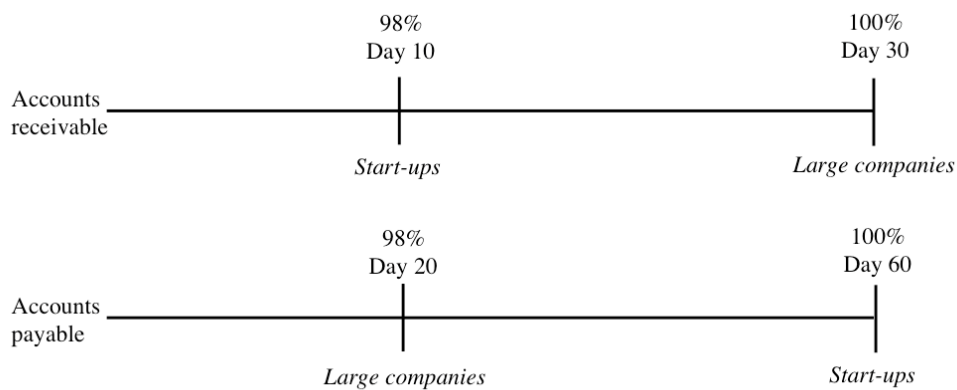
The CCC, and therewith the attempt to match cash inflows and outflows, is of major importance in start-ups. In large companies, the CCC is one of the most prevalent ways to measure working capital (Ukaegbu, 2012); hence, the main objective of WCM – to keep the CCC short – is the same for both large companies and start-ups.

However, compared to start-ups who are reliant on cash for survival, large companies rather use WCM to optimize their liquid funds to find the optimal balance between liquidity and profitability (see *Theoretical Framework*, and Orobia et al., 2013). As a consequence, start-ups are more likely to offer discounts for early payments, just as the interviews have shown, and accept a decreased per-unit profit (Gitman & Zutter, 2012) to be able to use their customers’ money to pay their suppliers. In comparison, large companies are more liquid than small businesses (Walker & Petty, 1978); therefore, they are less dependent on their customers’ money to be able to pay their suppliers. Thus, they are less willing to decrease their per-unit profit through discounts, as they have sufficient cash to wait until the end of the payment term to collect the money from their customers.

Furthermore, large companies with sufficient cash are more likely (1) to be offered a

discount for early payments from suppliers, and (2) to take the discount, as they have the cash to reduce their per-unit cost by paying earlier. Berger and Udell (1998) also found that as start-ups mature, they become less dependent on supplier credit, thereby supporting Khoury et al. (1999) who found that large companies are less dependent on the supplier credit period and, therefore, are more likely to take the discount for early payments. As the interviews show, start-ups, on the other hand, are usually dependent on their customers' money to be able to pay their suppliers, therefore, make use of the entire supplier credit period, even if a discount was offered to them. Figure 5 illustrates these differences in payment behavior between start-ups and large companies by the virtue of their different liquidity positions. Start-ups try to collect the money from their customers as quickly as possible, and postpone their payments to suppliers as long as possible; while large companies are less likely to offer discounts to their customers for early payments, but are more likely to be offered and make use of discounts from suppliers.

Figure 5: Major Differences in Payment Behavior between Large Companies and Start-ups



5.2.5. Summary

The last section of how WCM is applied in start-ups and how it differs from WCM in large companies will briefly be summarized.

The WCM theory highlights certain objectives of WCM, as used in large companies. Table 4 on the following page provides an overview of whether the objectives in large companies match (✓) or mismatch (✗) in start-ups. If they differ, a description of how it looks like in start-ups is offered.

Table 3: Comparison of Large Companies' WCM Objectives and Start-ups' WCM Objectives

Large Companies' Objectives	Match (✓) or Mismatch (✗)	Start-ups' Objectives
➤ Ensure that sufficient but not more cash than required is invested (tied up) in working capital accounts	✓	➤ <i>Same as in large companies' objectives</i>
➤ Balance liquidity and profitability to optimize use of cash	✗	➤ Profitability of inferior importance; survival rather than optimization purpose
➤ Minimize insolvency risk	✓	➤ <i>Same as in large companies' objectives</i>
➤ Collect receivables as quickly as possible without losing sales from high-pressure collection techniques	✗	➤ Collect receivables as quickly as possible, however, start-ups' pronounced need for cash results in them using high-pressure collection techniques (i.e. factoring) to improve their cash flow
➤ Pay payables as slowly as possible without damaging the firm's credit rating	✗	➤ Pay payables as slowly as possible, however, start-ups' credit rating is less important than having good relationships with suppliers
➤ Turn over inventory as quickly as possible without stock-outs that result in lost sales	✓	➤ <i>Same as in large companies' objectives</i>
➤ Consideration of WCM as an integrated business function	✓	➤ <i>Same as in large companies' objectives</i>
➤ Keep CCC as short as possible	✓	➤ <i>Same as in large companies' objectives</i>

As Table 4 suggests, WCM practices in start-ups exhibit several differences compared to WCM practices in large companies. For example, compared to large companies, start-ups are in greater need for cash, which has a major impact on how they structure their Working Capital Management. While large companies try to increase their profitability, start-ups try to sustain their business's day-to-day operations to avoid insolvency. As a result, start-ups try harder than large companies to speed up their money collection from customers (even through high-pressure collection techniques such as factoring) and to pay their suppliers as late as possible (even by intentionally delaying payments beyond the due date in case of cash flow issues).

On the other hand, WCM in start-ups demonstrates certain similarities with WCM in large companies. In both contexts, the aim is to reduce the amount of cash tied up in working capital accounts and to minimize the risk of insolvency. Furthermore, both large companies and start-ups try to keep stock as low as possible and the period between cash outflow (purchases for inventory) and cash inflow (received money from customers) – the CCC – as short as possible in order to reduce the “time interval for which additional short-term financing might be needed to support sales” (Barine, 2012, p.222). Finally, both large companies and start-ups consider WCM as an integrated business function.

This previous sub-chapter looked at how the WCM key elements look like in those start-ups that proactively or intuitively use WCM. The following sub-chapter will now take a close look at how the WCM key elements look like in those start-ups that do not use WCM, meaning which do not proactively manage their working capital accounts to make the most efficient use of their cash.

5.3. WCM Elements in Start-ups Not Using WCM

This section is about how the WCM elements are set up in those start-ups where the interviewees did not know WCM and did not use it either (the non-users) (see Table 3). Those aspects that will be repeated in this section will not be linked to literature or WCM theory again, as it has already been discussed in the previous section. Only new aspects will be discussed with regard to literature.

5.3.1. Receivables Management in Start-ups Not Using WCM

The receivables management in the non-WCM-using start-ups group was rather unstructured. Start-ups in this group do not offer any discounts to their customers for early payments, and in the occasion of defaulting customers, apart from friendly reminders no additional measures are used to speed up collection from customers. Upfront payment was seldom required from customers, while trade credit for the full amount was common. There were also high fluctuations in the amount of days customers received trade credit for. Overall, there were no established accounts receivable practices or policies in place and the payment terms for customers were very customized and individual, as the following quote suggests.

“Every customer is an exception and they have different conditions. You would expect that you can set up a system that fits all customers but often that doesn’t seem to work. There are customers that have certain requirements for their delivery. You have to put more effort in it. You don’t have one invoice template that fits all customers. Each has a little bit different payment terms.” (Company A – FURNITURE)

These irregularities make the whole receivables process difficult and resource-intensive to handle, since the processes are highly manual and cannot be automated. Furthermore, it complicates the forecasting of cash flow, and consequently increases exposure to the risk of illiquidity. This is in contrast to WCM’s aim to eliminate the risk of illiquidity, as identified by Orobia et al. (2013).

Summarizing, non-WCM-using start-ups are at a pronounced disadvantage compared to their WCM-using counterparts with regard to how quickly and effectively they collect cash from customers.

5.3.2. Payables Management in Start-ups Not Using WCM

The payment terms with suppliers of the non-WCM-users are not purposefully negotiated to exceed the ones with customers. It seems as if the interviewed start-ups in this group are even more disadvantaged when it comes to negotiating with larger more powerful parties than the corporate-experienced entrepreneurs of the other two groups (proactive and intuitional WCM users). Suppliers and customers might be more open to negotiations with corporate-experienced entrepreneurs, as they might be more assured of the corporate-experienced entrepreneurs’ trustworthiness of holding up to their part of the agreement, as the supplier can refer to the entrepreneur’s prior employer as a reference. At this point, it is difficult to say whether the main reason for why the less corporate-experienced entrepreneurs are less successful at negotiating favorable terms with suppliers is their lack of negotiating skills, their associated liabilities of newness, or something even beyond their influence. This should be the focus of future research in this field.

While start-ups in this group postponed payments as long as possible, they never intentionally exceeded the due date on purpose, as the following quote shows.

“It has happened once or twice that there was a little fine for a late payment because I forgot. It is never on purpose.” (Company E – GAMING)

As the quote reveals, the non-WCM using start-ups do not purposefully delay payments. This is in contrast to their WCM-using counterparts who do purposefully delay payments in case of cash flow issues. Start-ups in this group (non-users) use the owners’ personal money to pay invoices in the occurrences of cash flow issues, rather than having an open and understanding dialogue with their suppliers to overcome liquidity issues. The following quote highlights this.

“What I do is that I put my private money into the company whenever we experience cash flow problems.” (Company A – FURNITURE)

The importance of relationships, particularly with suppliers, was discussed in the section above. The lack of such relationships can have major negative implications for start-ups, not least because putting in the owners’ private money might become impossible when the payables amounts become exceedingly high, and the owners are no longer able to cover the invoices with their own money to bridge the period between paying the supplier and collecting from customers.

Summarizing, as with regard to receivables management, non-WCM-using start-ups are at a disadvantage when it comes to negotiating favorable payment terms with suppliers. This might be due to these entrepreneurs’ less well-developed negotiating skills, or the suppliers’ unwillingness to grant long payment terms to entrepreneurs about whom they cannot obtain any information from previous employers as a reference to their character and trustworthiness.

5.3.3. Inventory Management in Start-ups Not Using WCM

Inventory management among companies not using WCM was rather unstructured and there were only limited attempts to optimize the level of inventory. Moreover, although the respondents identified forecasting sales and required inventory to be one of the major challenges, no steps were taken to improve their forecasting methods, rather, they relied on intuition, as the following quote shows.

“We try to strike a balance between our fixed costs and our inventory. Currently this balance is based on intuition and not on monetary calculations [...]” (Company A – FURNITURE)

Lacking a structured inventory management can be harmful for inventory-bearing start-ups, because inventory usually is a start-up's biggest asset (García-Teruel & Martínez-Solano, 2007), which was supported by the interviews, as the following quote suggests:

“We have a lot of money tied up in inventory. Our inventory is the biggest asset we have.” (Company A – FURNITURE)

The product characteristics of companies within this group would allow them to use “make-to-order”, because they are manufacturing unique products with few substitutes; however, it was not applied.

Some inventory planning was exercised, as the respondents try to balance the trade-off between large order quantities tying up a significant amount of cash and the cost savings that occur when ordering large volumes in terms of the relative lower per-unit transaction (logistics) costs.

“There is a tradeoff between making a good deal and not having too much money tied up in stock.” (Company E – GAMING)

Both Lambert et al. (1990) and Romeijn et al. (2007) researched this trade-off, saying that while small orders are not cost-effective, they still help to improve liquidity by reducing inventory.

Summarizing, there are also noticeable disadvantages with regard to inventory management for non-WCM-using compared to WCM-using start-ups.

5.3.4. Integrated WCM Approach in Start-ups Not Using WCM

Those interviewees not knowing WCM and not using WCM did not consider its three elements from a holistic, integrated perspective. Although they, too, see the importance of negotiating cash flow-matching payment terms with their customers and suppliers to increase liquidity (see quote below), they do not integrate it in their day-to-day operations. Sometimes the payment terms with customers even exceeded the ones with suppliers. Paul and Boden (2011) made a similar discovery where small firms failed to implement a well-organized credit management, despite their knowing of the importance of having one. As a result, they highlight the urgency for small firms to have a clearly communicated credit policy.

“In order to increase liquidity, would be to have really good agreements with your suppliers and your customers in which you get, e.g. payment from your customers before you need to pay your suppliers. You get an order from your customer to be paid within 30 days, and at the same time you order from your supplier and you negotiate a payment deal of 60 days. So you can pay your supplier from the money you get from your customer.” (Company A – FURNITURE)

This quote shows that the interviewee is aware of the importance of payment terms. However, his actual current payment terms with customers and suppliers look very different. A huge amount of cash (50%) to the suppliers is due upfront, while the other 50% are due within 30 days after delivery. At the same time, customers’ payment terms are 30 days as well. Therefore, if the start-up receives the inventory and does not sell it right away, it will be impossible to match the cash flows. Hence, having the same payment terms with suppliers and customers will usually not be sufficient to cover the required cash gap between cash outflows and inflows. This issue can be avoided through “make-to-order”, but since not all start-ups have a business model allowing “make-to-order”, an effective and structured inventory management can significantly impact a company’s WCM and, therefore, cash flow performance.

Summarizing, non-WCM-using start-ups demonstrate insufficient efforts to match cash outflows with cash inflows, which increases their likelihood of facing cash flow and liquidity issues. As identified in the *Introduction* of this paper, liquidity issues are one of major reasons for why start-ups fail. Hence, failure in effectively matching cash outflow and inflows may diminish start-ups’ chances of survival.

5.3.5. Summary

Non-WCM-using start-ups have several noticeable differences compared to those using it. Since WCM is an integrated business function that links company’s different divisions together in order to optimize overall cash utilization efficiency, it is essential to proactively work with it. Companies not using WCM exhibit insufficient inventory management resulting in high levels of stock presenting huge amounts of cash tied up in inventory. Furthermore, start-ups not using WCM fail to match their payables (cash outflow) with their receivables (cash inflow), which increases the likelihood of severe cash flow issues.

6. Conclusion

One of the main reasons why start-ups fail is related to liquidity issues. An efficient Working Capital Management (WCM) can help companies to improve their internally generated cash flow to avoid bankruptcy. WCM is an optimization tool used in large companies that deals with the proactive management of working capital accounts to reduce the risk of insolvency and to increase profitability. Despite a wide acceptance regarding the importance of WCM for start-ups, there is currently scarce research on WCM in start-ups. Hence, the aim of this study was to explore whether WCM is used in Swedish start-ups, and if so, how it differs from WCM in large companies, and how entrepreneurs can use it to improve their cash flow.

Fulfilling its purpose, this research found that WCM is, indeed, used in Swedish start-ups, however, not in all of them. The respondents could be arranged into three groups: (1) the proactive WCM users, (2) the intuitional WCM users, and (3) the non-users. While the first two groups are characterized by prior corporate or corporate and start-up experience, the non-users were characterized by merely single start-up experience. This leads to the assumption that corporate experience is a decisive factor of whether or not start-ups use WCM, since it is a management tool widely used in large companies.

In those start-ups that are using WCM, the WCM key elements (receivables, payables, and inventory management) are set up as follows:

Regarding their receivables management, start-ups offer their customers trade credit, or require full or partial upfront payment. Those start-ups offering trade credit also offer their customers discounts for early payments as a means to improve cash flow. Furthermore, start-ups' pronounced need for cash leads them to use high-pressure collection techniques (i.e. factoring) to speed up collection from customers.

Regarding their payables management, none of the interviewed start-ups is offered a discount for early payments from their suppliers; therefore, they all pay on the due date. Some of the interviewed start-ups even delay payments beyond the due date when the project is in discussions or in case of cash flow issues. Since start-ups have few alternatives to receive funds elsewhere, delaying payments to their suppliers is often the only option they have. In order to avoid penalty charges in case of payment delays, start-ups try to maintain good relationships with their suppliers.

Regarding their inventory management, start-ups use different inventory management approaches. The one most commonly used is “make-to-order”, as it allows start-ups to reduce the amount of money tied up inventory. High levels of inventory were only present in case of special agreements with suppliers that allowed such high levels to be financed by the supplier and not by the cash-constrained start-up. Furthermore, the inventory management approach is dependent on the start-ups entire business model and operation set-up, which highlights the importance of considering all WCM elements from an integrated holistic perspective.

Finally, those start-ups who were aware of and used WCM, considered it as an integrated business function by purposefully negotiating payment terms with suppliers and customers that helped to match cash inflows and outflows.

In contrast, non-WCM-using start-ups revealed to be at a pronounced disadvantage compared to their WCM-using counterparts with regard to all three WCM key elements. Those who did not use WCM were more likely to face cash flow issues, while the corporate-experienced entrepreneurs paying attention to WCM were more likely to have a shorter CCC and were therefore less likely to have severe cash flow issues that could lead to bankruptcy. The more favorable CCC is related to WCM-using start-ups’ better payment terms/agreements with their suppliers and customers, which might be traced back to their previous experience resulting in better business skills, such as negotiating and management skills. Concluding, WCM is applicable to the start-up context and should indeed be used by start-ups to improve their cash flow.

Regarding the comparison of WCM practices in large companies and start-ups, start-ups exhibit both similarities as well as differences. In both contexts, the aim is to reduce the amount of cash tied up in working capital accounts and to minimize the risk of insolvency by:

- (1) collecting receivables as quickly as possible,
- (2) paying suppliers as slowly as possible, and
- (3) turning over inventory as quickly as possible.

Furthermore, start-ups also consider WCM as an integrated business function, where an effective WCM application can only be achieved by aligning all three WCM elements to one holistic function.

The major difference between large companies and start-ups is the latter's distinct need for cash, which has a major impact on how they structure their Working Capital Management. While large companies use WCM for profitability *optimization* purposes, start-ups use it for *survival* purposes to avoid insolvency. As a result, start-ups try harder than large companies to speed up their money collection from customers (even through high-pressure collection techniques such as factoring) and to pay their suppliers as late as possible (even by intentionally delaying payments beyond the due date in case of cash flow issues).

Recommendations on how entrepreneurs can practically use WCM to improve their cash flow are presented in Chapter 7.2 *Managerial Implications*.

7. Implications

7.1. Implications for Future Research

This paper contributes to existing research by investigating how WCM, a management tool widely known in large companies, is applied in a start-up context. The assumption of corporate experience being a decisive factor of whether or not start-ups use WCM should be the focus of future studies, which should more precisely be designed to examine the entrepreneurs' prior work experience and its influence on their WCM application. This includes an investigation on whether the main reason for why the less corporate-experienced entrepreneurs are less successful at negotiating favorable terms with customers and suppliers is their lack of negotiating skills, their associated liabilities of newness, or something even beyond their influence. This corresponds with Politis (2005) saying that experienced entrepreneurs are able to acquire relevant business skills (among others negotiating skills) from their previous experience. Furthermore, Politis (2005) found that entrepreneurial experience leads to entrepreneurial knowledge, which in turn helps to overcome or to cope with liabilities of newness. Consequently, basing future research on Politis' (2005) entrepreneurial learning framework, or Kolb's (1984) experiential learning cycle can lead to interesting and relevant new insights.

Moreover, in order to be able to provide more industry-specific generalizable findings, future studies should focus on one industry, and follow a quantitative research approach, collecting more standardized data from a large sample to increase the research findings' generalizability.

Finally, more quantitative studies should examine whether there is a significant correlation between start-ups' WCM practices and their survival rate to identify whether WCM truly has an impact on reducing the amount of start-ups failing within their first years.

7.2. Managerial Implications

It can be concluded that there is no *one* right way of how start-ups should use WCM, however, it can be said that each start-up *should* use it and actively manage its working capital accounts. When doing so, it is important to understand WCM as an integrated business function that considers all elements (receivables, payables, and inventory management) from a holistic perspective instead of each one separately. For instance,

having huge amounts of inventory is unproblematic when it is not paid in advance but after receiving the money from customers. In addition, having to pay suppliers upfront is not a problem either when also the money from the customers can be collected upfront. Furthermore, “make-to-order” is an effective measure to reduce the amount of cash tied up in working capital accounts. On the other hand, having to pay suppliers upfront (even if only partially) will most likely put severe strain on the start-up’s cash flow, particularly when the rest of the amount is due within the same number of days as the customers payments.

So, deriving from the interviews, the following recommendations for entrepreneurs can be given:

- (1) Collect receivables as quickly as possible by offering discounts for early payments;
- (2) Pay suppliers as slowly as possible by paying on the last day possible; and
- (3) Turn over inventory as quickly as possible by keeping it low, e.g. through “make-to-order”.

7.3. Implications for Entrepreneurship Education

Politis (2005) concludes her paper by saying that entrepreneurship is learned by experience and discovery, which is a lifelong process. She states that formal training and education are not likely to have a strong direct impact on the development of entrepreneurial knowledge. After all, learning-by-doing seems to be the best learning approach. However, introductory courses to Working Capital Management in entrepreneurship education and consulting institutions (e.g. incubators) could help prospective entrepreneurs to gain a basic understanding of WCM and its importance for firm survival, and may provide them with relevant insights that could help them in their future start-up’s organization and set-up.

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– en Son honneur par Son pouvoir –

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Appendix

Appendix A: Interview Guide

General Questions

1. Name of company:
2. Name of interviewee:
3. In which industry are you operating?
4. When was your business founded?
5. How many employees do you have?
6. What is your educational background?
7. What is your personal background/experience that you consider relevant for successfully managing your current business?
8. Do you have experience regarding the financial management of businesses? If yes, in which areas?

General WCM Questions

1. Do you know the theory/concept of WCM?
 - a. If yes, where did you learn about it?
 - b. If yes, what do you consider to be the main objective of it?
 - c. Do you think WCM is important for new ventures?

Receivables management

1. Who are your customers? (Individuals, companies, small/large, private/public)
2. How does the receivables management look like at your company?
 - a. When are invoices sent out?
 - i. Why then?
 - b. What does the process look like?
 - i. Are invoices sent out automatically, or manually, and why?
 - c. Do you offer trade credit?
 - i. If yes, how many days, and why?
 - d. Do you offer discounts for early payments?
 - i. If yes, what are the terms, and why?

Do your customers default on payments?

 - ii. If yes, what percentage?
 - iii. How do you deal with that?
 - iv. Why like this?
3. What are challenges with regards to receivables management that you have to manage?
 - a. What are possible solutions to these challenges?

Payables management

1. Who are your suppliers?
2. How does the payables management look like at your company?
 - a. When do you receive invoices?
 - b. What does the process look like?
 - i. Are invoices paid automatically, or manually entered, and why?
 - c. Do you get supplier credit?
 - i. If yes, do you make use of supplier credit, and why?
 - d. When do you pay invoices?
 - i. Why then?
 - e. Do you make use of discounts for early payments?
 - i. If yes, what are the payment terms, and why?
 - f. Do you default on payments?
 - i. If yes, how often and why?
3. What are challenges with regards to payables management that you have to manage?
 - a. What are possible solutions to these challenges?

Inventory management

1. How does the inventory management look like at your company?
 - a. When do you order?
 - b. What is the lead time?
 - c. Do you know “just in time” management?
 - i. If yes, do you use it? Why/why not?
 - d. What is your average inventory turnover in days?
 - e. Do you try to minimize your stock?
 - i. If yes, what actions do you take?
 - ii. Why are you taking these particular actions?
2. What are challenges with regards to inventory management that you have to manage?
 - a. What are possible solutions to these challenges?

Appendix B: Data Display

Company	WCM know-ledge	Previous experience ¹	Experience financial management	Receivables Management	Payables Management	Inventory Management
A	✗	Start-up (1)	✗	Majority: B2C, some B2B; After delivery within 30 days, rarely upfront; No early payment discount, considered for the future; Default → friendly reminders	Paid on due date; 50% upfront, rest 30 days; No early payment discount; Delay: only unintentionally when e.g. forgotten, in case of lack of cash use personal savings	Inventory biggest asset due to large product range and high fixed logistics costs; No specific re-order point; Trade-off between making use of large quantity price benefits and not having too much assets tied up in inventory
B	✓ (corporate)	Corporate (different industries) & Start-up (1)	✗	B2B: product cost charged and collected upfront before sending order to supplier; value-added, labor, and profit invoiced after delivery within 30 days; Discount for early payments within 10 days; Default → factoring for 3% of invoice amount	Attempt to have term of at least 30 days to balance with cash inflows from customers; No early payment discount; Delay: intentionally when no cash inflow from customers yet No buying power; relationship important (talk to supplier and explain in case of delay, usually suppliers understand)	“Make-to-order” to reduce inventory; Inventory 1-5% of order for warranty issues
C	✓ (start-up)	Corporate (different industries) & Start-ups (4)	✓ General finance, capital acquisition, bookkeeping	B2B (85%): first order upfront, later 30 days; B2C: upfront; No early payment discount; Default → 50% but no problem because cash outflow after cash inflow	Paid on due date, invoiced only after product has been sold; No early payment discount; Delay: unintentionally or when in discussion with supplier; Close relationship due to 50% ownership of supplier/mother company	Stock required of around \$30,000 worth, but only payable after sale, therefore, higher stock possible and therefore higher focus on relationships with retailers
D	✗	Corporate (same company for 6 years)	✓ Forecasting, budgeting	Majority: B2B, some B2C: Upfront payment; No early payment discount; Default → has not happened so far	Paid on due date, payment term 30 days; No early payment discount; Relationships are key to company success → throughout supply chain (customers, suppliers)	No knowledge of current stock level in warehouse; Attempt to keep inventory as low as possible through “make-to-order”

¹ Number of start-ups before current one.

Company	WCM knowledge	Previous experience	Experience financial management	Receivables Management	Payables Management	Inventory Management
E	X	Start-up (1)	X	B2C and B2B; 30 days; No early payment discount; Default → major issue	Paid on due date, payment terms upfront, 30 days, 60 days after shipping; Relationship not important; No early payment discounts; Delay: unintentionally	Try to minimize stock -> trade-off between making use of large quantity price benefits and not having too much assets tied up in inventory
F	X	Corporate (same company for 5 years) & Start-up (1)	X	B2B: distributors; 30 days; Early payment discount; Default → major issue, 50% of large distributors default; Currently sending repeat notices; considering discounts for early payments, factoring company	45 days, paid on due date; Delay: has happened purposely due to cash flow issues; Supplier understanding, relationship with them very important	Minimum level of stock; Making use of large order price benefits, but paying only for quantity needed (consignment stock); Good relationships with consignment company
G	✓ (independently)	Corporate (same company for 7 years)	X	B2B: retailers, B2C; 15 days Discount for early payments; Default → several	30 days, paid on due date; Delay: has not been necessary yet; No buying power; relationship important	Try to keep inventory low; cannot afford to sit on a lot of inventory; Some stock in warehouse, but also “make-to-order”