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The components of cash, as well as net working capital, change on a periodic basis because of the variation in investment, financing, and profitability from one year to the next. One of the most important pieces of knowledge that a business can have is an understanding of where cash is coming from and where it is being spent. This goal can be achieved by monitoring and measuring the cash flow consequences of the short-term operating activities of the firm and their impact on cash and working capital.

**Statement of Cash Flows**

A useful financial tool for understanding, analyzing, and assessing the short-term financial management of a business is the statement of cash flows, which is an accounting report that lists the sources and uses of cash.

**The Operating Cycle and Cash Conversion**

One of the primary goals of short-term financial management and policy is to ensure there is sufficient liquidity to fund the firm’s short-term operating activities. Cash inflow and outflow patterns are often unsynchronized and uncertain. For instance, cash flows can be unsynchronized because payments for raw materials usually happen prior to receiving cash collections from the corresponding sale. Cash flows are uncertain because collections, sales, operating costs, and working capital needs are not known and certain from day to day.

A measurement used in liquidity management is referred to as the operating cycle (OC). It is the length of time between the arrival of inventory stock and the date when cash is collected from receivables. The length of the operating cycle is equal to the sum of the lengths of the inventory and accounts receivable periods.

\[
\text{Operating Cycle} = \text{inventory days} + \text{days sales outstanding}
\]

The inventory period is the length of time required to order, produce, and sell a product.

\[
\text{Inventory Period} = \text{time required to get raw materials} + \text{time to convert materials to finished goods} + \text{time to sell finished goods}
\]

The accounts receivable period is the length of time required to collect cash receipts.

\[
\text{Accounts receivable period} = \text{time required to collect cash receipts}
\]

Another important managerial tool for tracking short-term liquidity is known as the cash conversion cycle (CCC). It is a measure of the length of time cash is tied up in the operating cycle and the amount of trade credit a company receives from its suppliers. It begins when cash is paid for materials and ends when cash is collected from receivables. In other words, if $1 is spent today to pay for material, how much time does it take to process, sell, and collect the money generated from that sale? The answer begins by
calculating the cash conversion cycle, which is the length of time the company is out of the money until it collects its receivable, or the time between cash disbursement and cash collection. It can be thought of as the operating cycle less the accounts payable period. It may be calculated as follows:

\[
\text{Cash Conversion Cycle} = \text{Operating Cycle} - \text{Accounts payable period}
\]

The accounts payable period is the length of time required to pay for raw material goods received.

\[
\text{Accounts payable period} = \text{time required to disburse funds for payment of goods or services}
\]

Another way of looking at the CCC is the following:

\[
\text{Cash conversion cycle} = \text{days sales outstanding} + \text{inventory days} - \text{days payable outstanding}
\]

Where:

- Days sales outstanding (DSO) = customer term for goods sold
- Inventory days = days of holding inventory on-hand
- Days payable outstanding (DPO) = term to pay vendors/suppliers

In practice, days in inventory, days in receivables, and days in payables measure the inventory period, the accounts receivable period, and the accounts payable period, respectively. Figure 6-1 illustrates how the operating cycle and the cash conversion cycle can be measured. A business buys inventory 45 days in advance with a 30-day payable outstanding and a 60-day sales outstanding. It has a 75-day cash conversion cycle.

**Figure 6-1**

Cash Conversion Cycle

- Inventory days: 45 days
- DSO: 60 days
- DPO: 30 days
- Cash Going Out
- Cash Going In
The cash conversion cycle determines a company’s working capital profile, which can vary throughout the year. For example, a consumer products company may order 180 days in advance for holiday gift merchandise while its regular ordering period is only 45 days. New business or a new product line may also change a company’s working capital profile.

**Figure 6-2** displays the pertinent information needed to calculate the CCC for ABC Company.

<table>
<thead>
<tr>
<th>ABC Company CCC information</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Accounts Receivable</td>
<td>$6,848</td>
</tr>
<tr>
<td>Average Inventory</td>
<td>6,107</td>
</tr>
<tr>
<td>Average Accounts Payable</td>
<td>17,344</td>
</tr>
<tr>
<td>Net Sales</td>
<td>77,405</td>
</tr>
<tr>
<td>Cost of Sales</td>
<td>38,876</td>
</tr>
</tbody>
</table>

These numbers would translate into a cash conversion cycle of:

\[
\text{Days sales outstanding} + \frac{\text{Average Inventory}}{\text{Net COGS/365}} - \frac{\text{Average Accounts Payable}}{\text{Net COGS/365}} = \text{CCC}
\]

\[
\frac{\$6,848}{77,405/365} + \frac{\$6,107}{38,876/365} - \frac{\$17,344}{38,876/365} = \text{CCC}
\]

\[
32.29 + 57.33 - 162.84 = (73.22)
\]
In this particular case, ABC Company has pushed its vendors so far that its cash conversion cycle is actually negative. Where the company has a negative CCC, it will be very difficult to squeeze extra liquidity out of working capital, as the company has most likely taken advantage of its trade creditors as far as they will allow.

Management, particularly the finance team, should continuously assess the company’s working capital profile, particularly when there are changes to its business operations. A key point to remember is that the longer the cash conversion cycle, the longer the company will be “out of the money” and the higher the strain on the company’s liquidity.

**Managing Working Capital**

The major components of working capital are cash, accounts receivable, inventory, and accounts payable.

**Managing Receivables**

Managing and monitoring the collection of receivables is an important task, especially because collections provide timely access to liquid resources. One company’s receivables are another company’s payables. While an aggressive cash management system requires active management of payables, it also requires active collection policies. Often, the quickest and best source of cash for many companies is their accounts receivable. An intelligent analysis of customer payment histories and collections processes can significantly and quickly improve a company’s cash position.

Understanding accounts receivable requires that one understands the sales number. As peculiar as it sounds, the sales amount is not necessarily the amount collected from the customer. There are two variables:

**Timing.** Timing is typically set by stated customer terms. The stated term can differ from when a customer actually pays, and their reasons can vary from “that’s how the customer always pays” to “they are disputing the invoice.” A company’s receivable/credit manager should be aware of the actual terms under which the company’s customers pay, and they should promptly address any customer disputes with the appropriate internal parties to resolve any contested matters as soon as possible, particularly in financially stressful times.

**Amount.** Multiple reasons exist as to why the invoiced amount can differ from the collected amount. Explanations can range from discounts, rebates, returns, or offsets. An offset is when a customer is also a vendor and offsets the amount owed them against the amount it owes.

**Understanding the Sales Billing Cycle.** In an industry where percentage of completion accounting is involved (such as an engineering or construction company), understanding the differences between sales and accounts receivable, which represents the amount billed, is critical. For example, suppose a company has a five-month-long project for which it recognizes sales evenly over the five months, meaning that it completes 20 percent of the job each month. The contract allows for three billing cycles, a 20 percent deposit in
month one, a 20 percent payment in month three, and the remainder (60 percent) 30 days after finishing the job in month five. Hence, the company will recognize monthly sales that will not translate into an actual accounts receivable until billed. This will be recorded on the balance sheet as either Costs in Excess of Billings or Billings in Excess of Costs. When evaluating sales and preparing cash budgets, it is important to understand that revenues and collections can be spread much further than in normal business operations.

**Understanding Sales Seasonality.** Certain industries, such as consumer products, will have seasonal sales and collections. A period with higher sales followed by higher collections will not necessarily translate into perpetual sales growth.

Companies can accelerate cash collection through various methods, including:

- Offering larger discounts can result in quicker collections
- Deeply discounted settlements can result in delayed payments coming in
- A company can sell its receivables through a factoring lender and currently collect a percentage of the receivables

In pursuing these cash acceleration strategies, management should remember that any receivables sold/collected today will not be there to collect in the future. Acceleration offers a temporary solution to cash flow difficulties.

The following are some frequently used methods to improve collection performance:

- Create a rigorous credit review process. While extending credit may be an industry practice, companies must develop a comprehensive credit review process for prospective customers in order to identify non-creditworthy customers. By identifying high-risk customers up front, a company can avoid future collections problems. Before granting credit, the company should review the customer’s financial statements, check at least three vendor references for payment history and authorized level of credit, contact bank references, and consult customer references. Additionally, national agencies, such as Dun & Bradstreet, can provide credit history and identify outstanding claims against a company. These formal checks should be supplemented by informally monitoring rumors about the company’s financial performance. Prepayment should be required for those customers who fail to meet adequate credit requirements.

- Actively monitor accounts receivable aging reports. An aging report that monitors the payment status of each account can help managers track and prioritize overdue accounts.

A final note should be made with regard to the accuracy of the accounts receivable ledger. Frequently, companies do not fully reconcile the customer accounts, and there can be disputed entries in the ledger. The company may also lag in posting cash receipts to the ledger. A full review of the accounts receivable should be done prior to using the information in any analysis.
Managing Inventories

Understand the Carrying Cost of Inventory. Inventory is often the largest component of working capital. Management sometimes forgets that the more inventory a company purchases, the higher the carrying cost. Inventory carrying cost can range from acquisition cost (such as customs’ fees and freight) to storage cost to opportunity cost (i.e., loss from not deploying capital into another resource). If a company uses its revolving line of credit to purchase inventory, there will be an associated interest cost for carrying such inventory.

Management needs to be cognizant of inventory build and whether it is necessary to support seasonal sales or an urge to receive vendor discounts without knowing whether it will be sold in the future. Purchasing inventory causes a decline in current liquidity.

Inventory Type. Inventory can be divided into three major types: raw material, work-in-process, and finished goods. From a liquidity standpoint, the focus is how quickly can inventory be turned into cash. Raw material and finished goods can generally be turned into cash quickly, if needed. Work-in-progress is the most difficult because it requires further processing.

Consider the following:

- There are different types of raw materials. For example, a chicken grower has feed materials that consist of raw feed. Raw corn and soybean meals are commodity-based products that can be quickly sold. After mixing corn and soybean into chicken feed, however, the material may be difficult to sell on the market.

- Work-in-progress needs to be processed to unlock value. For example, work-in-progress inventory for a custom homebuilder is half-finished houses. Additional efforts are required to finish the inventory in order to sell at maximum value.

- Certain finished goods can be difficult to sell, such as custom items. One example is an auto supplier making an exhaust part for a specific performance car. The supplier can suffer from working capital issues if the automaker files for bankruptcy and the supplier is left with custom-made exhaust parts that cannot easily be sold to another car manufacturer.

The Accuracy of the Company’s Inventory Numbers. Most inventory systems are maintained through an enterprise resource planning system. Usually, inventory is counted at year-end or other cycle times to make sure the inventory quantities in the enterprise resource planning system continue to match the actual count. Sometimes system-based inventory figures can differ by significant amounts compared to the physical inventory count. This can happen for many reasons, including shrinkage problems, inaccurate scrap estimates, theft, or inaccurate postings into the system. Management needs to be aware of cycle count, the date the last physical count was taken, historical shrinkage rates, and how the inventory fluctuates over time. Physical observations, such as a lot of inventory sitting on the factory floor—with no specific control system or tags—can indicate potential inventory problems. Because inventory is a key collateral supporting a revolving credit facility, an inventory system error may result in a surprise drop in borrowing capability, not to mention destroying credibility with the lenders.
A goal of a finely tuned cash management system is to minimize on-hand inventories of raw materials, work-in-process, and finished goods. Excess inventory can pose cash problems for companies by tying up cash that might otherwise be invested in more productive projects. Of course, balancing inventory levels requires significant coordination of sales, purchasing, and production, as well as an advanced understanding of production processes and sales cycles.

Methods for reducing inventory buildups include:

- **Off-load buffer inventory levels.** By encouraging customers to carry buffer inventory, a company can reduce inventory levels it carries in its own facility. This practice reduces working capital needs and lowers costs associated with storage, obsolescence, and perishability. To encourage customers’ adoption of this policy, a company may pass along a fraction of the cost savings to its customers. Companies are able to compel customers to accept this arrangement when the company offers the customer a service or value that is hard to secure elsewhere.

- **Adjust production shifts in peak and non-peak seasons.** Rather than increase inventory levels to meet cyclical demands, a company can increase short-term capacity by adding staff and/or production shifts during peak season. Though this strategy increases staffing and operating costs, it shortens the period during which the company must finance inventory levels. This approach works best in low-skilled operations for which little training is required and supply of workers is abundant. Alternatively, during non-peak seasons or cash crunches, the company may try to reduce the average work week, which would allow it to retain its workforce throughout the year.

- **Add a sales and inventory tracking system.** By forecasting and reviewing orders and shipments regularly, managers can identify variances quickly and adjust purchasing and production accordingly. Armed with this system, a manager can quickly spot potential overstock of inventory and cut back on purchasing and production. While sales and inventory forecasting is important for all businesses, companies selling products with a high variable cost component are likely to benefit most.

- **Discount excess inventory.** During periods of excess inventory, a company can offer discounts to customers to reduce inventory levels. While discounting may accelerate the conversion of inventory to cash, it will also reduce gross margins. Many managers consider this fire sale strategy a draconian measure, but companies with highly perishable products or technology-based products with rapid obsolescence cycles often use it.

- **Perform regular inventory audits.** Inventory audits are necessary to verify that reported inventory levels on financial statements match actual inventory on hand. Semi-annual audits can reveal discrepancies caused by inaccurate reporting, theft, damage, or perishability.
Managing Payables
Managing accounts payable boils down to two primary questions: How much does a company owe its vendors, and can the company pay them?

How Much a Company Owes Its Vendors. The accounts payable aging should total the amount owed to vendors, which should be verified for several reasons.

When cash is tight, checks will be written, but held—usually in someone’s desk drawer, which presents two issues. First, it paints an inaccurate picture of the accounts payable aging, as the system shows the vendor has been paid, lowering accounts payable, while in reality it has not been paid. Second, because it has not been mailed, when inquiring about the cash on hand, the amount is often added back to the checking account balance. Therefore, by looking at the open accounts payable it looks to have been paid, but yet the accounting staff is adding it back into cash since it has not been in fact paid, which means it is accounted for nowhere in the system and unless the right questions are asked, it is not known that these checks still have to clear the bank.

Another common accounts payable problem is when the accounts payable reconciliation process is out-of-date or inaccurate. It is best to verify that all invoices have been entered into the system and the amounts owed the vendors are accurately listed before using accounts payable records.

How a Company Pays Its Vendors. In a normal situation, paying a vendor is often an automatic process, where the company does a check run to print all checks to pay invoices due up to a certain date.

In a financially stressed situation when cash is not readily available, managing accounts payable can become a fluid process. Because the company cannot afford to process an automatic check run based on due dates, vendor payments become a manual endeavor where every week or day, management must decide which vendors to pay. In this situation, the following factors should be considered:

- How much the company owes the vendor
- The current payment terms and how far outside the terms the business currently is
- Whether the vendor is critical to the business in the near future
- The availability of any substitute vendors for the same product or service
- Normal source of payment—wire, electronic transfer, automatic ACH, or check

A practice that can lead to short-term results is a payment plan whereby at least the vendors are getting some payment. However, eventually the company is attempting to make the plan payments for past due invoices and keeping current on recent invoices, which puts further strain on a bad situation.

Paying for supplies via cash on delivery (COD) is a costly way to finance payables and can be an inefficient use of cash. Often, suppliers will extend standard industry credit to new customers to gain new business. Depending on the cash position of the firm, companies
may try to extend—or stretch—their payable terms to reduce the period of time during which they must finance receivables. Alternatively, the company may try to prepay payables to take advantage of available discounts. The following techniques are often practiced to optimize payables performance:

**Pay First Deliveries COD.** Without an established credit rating, this technique develops goodwill with suppliers. By agreeing to pay the first bills from a new supplier COD, a company may be able to leverage this goodwill at a later time to receive more favorable payment terms.

**Initially, Pay Bills on Time.** The first objective is to establish a good credit rating. The most common way for a company to receive favorable payment terms is to establish trust by paying bills on time. After establishing an attractive credit history with a given supplier, that supplier is often willing to extend terms as a service to retain a reliable customer’s business.

**Maintain Perfect Credit with Several Suppliers.** Even with modest or unproven credit history, a company can secure favorable credit terms by referencing select supplier relationships. By maintaining at least three favorable credit references, companies can receive beneficial terms when applying for credit with new vendors.

**Test Suppliers’ Terms.** By testing suppliers’ payment terms, companies can identify the limits of each supplier’s credit. Many suppliers have collection processes which do not spotlight accounts until they become 20 days past-due. Thus, customers can often fly beneath the past-due radar by paying within 20 days of the stated due date. Companies should test suppliers’ payment terms to understand the maximum time in which they can pay their bills without disrupting healthy vendor relationships.

**Prioritize Vendors.** Not all suppliers are equal. Some may be more important to a company’s business than others. For example, some suppliers may double as customers or may be the only source of supplies. As a result, payment to these suppliers should be prioritized and paid within agreed terms. During significant cash crises, some managers find it helpful to prioritize vendors based upon the strategic importance of the service to the business. For instance, a manufacturing company might prioritize as follows: [1] employees; [2] telephone; [3] utilities; [4] transportation; [5] raw materials; [6] bank; [7] all others.

**Manage Supplier Base.** A business should actively manage its suppliers. In highly fragmented supplier industries, a business might consider consolidating its suppliers in order to leverage its buying position and obtain more favorable payment terms. However, in highly consolidated supplier industries for which there are few substitutes, consolidating purchases can expose managers to unfavorable terms. In these industries, it may be more helpful to diversify the supplier base as much as possible.

**Purchase on Consignment.** By purchasing on consignment, companies can reduce exposure to inventory obsolescence, as well as automatically match payables with receivables. Consignment tends to be practiced only in select industries and therefore may not be an option for all businesses.
**Pay Early When Possible.** Suppliers will often offer significant discounts for prepayment or early payment. Terms such as 2 Percent Net 10 refer to a discount of 2 percent for prepayment in 10 days. For normal 30-day terms, this discount equals 36.5 percent per annum \([2 \text{ percent} \times (365 \text{ days}/20 \text{ days})]\). When companies have excess cash on hand, or when short-term financing terms are more favorable, it often makes sense for a business to take advantage of these terms when offered.

**Sign All Checks.** Many managers say there is no more important responsibility than personally signing all checks, as through this process they stay in touch with purchasing volumes, identify potential fraud, and identify any significant changes that might affect their cash position.

**Suspend Management Salaries.** At times of crisis management, a company can reduce or suspend senior management salaries and expense reimbursements while it awaits collection of accounts.

**Pay Part of Invoice.** A company might pay half an invoice within agreed terms and delay payment on the balance. By actively communicating with suppliers about expected payment dates, suppliers may be willing to accommodate partial payments.

**Don’t Commit to Payment Unless It Is Known It Can Be Made.** It is critical that credibility with vendors is maintained when cash is tight.

Understanding and monitoring a company’s cash cycle is imperative to ensuring the company is operating efficiently. The longer the cash conversion cycle, the longer the company will be out of the money and the higher the strain put on the company’s liquidity will be.

As stated previously, multiple efforts exist on managing working capital. Undertaking these efforts boils down to another primary difference in a turnaround situation, which is that liquidity management needs to become the whole organization’s effort instead of just the finance teams. The management team, including sales and operations, needs to be aware of the current liquidity situation and help define the path going forward. Any cash conservation strategy requires everybody’s participation, such as the sales team assisting in collecting disputed accounts receivable, or operations and engineering prioritizing production schedules for projects with a shorter cash cycle.