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MANAGEMENT SERIES

**Management
of
Working Capital**

AICPA

American Institute of Certified Public Accountants

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MANAGEMENT SERIES

**Management
of
Working Capital**

Edited by Christopher R. Malburg, CPA

Issued by the Management of an
Accounting Practice Committee

American Institute of Certified Public Accountants

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Foreword

This booklet is one of a series on management concepts and skills issued by the Management of an Accounting Practice Committee of the American Institute of Certified Public Accountants. Written for CPA firms' clients, these booklets are easy to read and have a practical emphasis throughout. They provide today's managers with a short course in management techniques that are used to operate successful businesses.

For further reference, a list of relevant books and articles is included in appendix B.

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Chapter 1

Essentials

OVERVIEW AND COMPUTATION OF WORKING CAPITAL

Most managers try to reduce working capital to the minimum required to profitably run their company. Excess working capital is a wasted resource that is both expensive to maintain and difficult to manage.

Working capital is simply the excess of current assets over current liabilities. Working capital can be computed using the following equation:

Current Assets:

- Cash
- Accounts receivable
- Inventory

Less:

Current Liabilities:

- Accounts payable
- Accrued liabilities

Equals:

Working Capital

Depending on the purpose, working capital may sometimes be expanded to include the current portion of long-term debt as well as working capital loans due within one year.

Working capital tied up in receivables could better be invested back into the company. If no ready use for excess working capital can be found, the funds can be invested in short-term securities to earn interest. This at least lessens the cost of carrying working capital.

The same principle applies to funds tied up in excess or obsolete inventory. Companies should keep inventory to a practical minimum while still

allowing steady manufacturing (for raw materials inventory) and sales operations (for finished-goods inventory).

Businesses can refuse credit to customers, but by doing so they may lose their competitive edge. Refusing credit reduces receivables—and thereby the investment in working capital—but harms sales revenue. Similarly, companies can run their inventory down but may be unable to fulfill customers' orders. Therefore, balance—having the minimum working capital consistent with the level of business—is necessary for the company to prosper.

Management

Working capital management requires the following:

- *Forecasting.* Working capital levels must be forecast to determine adequacy and the impact that changes have on performance.
- *Targets.* Working capital targets are needed to help clarify objectives and evaluate progress toward goals.
- *Incentives.* Performance incentives reward success and improve its likelihood.
- *Monitoring progress.* Management must periodically evaluate its progress toward its working capital goals and make midcourse corrections when necessary.
- *Flexibility.* As business conditions change, working capital forecasts and targets must shift to ensure appropriate levels of investment.

Return on Capital Employed

The immediate impact of changes in the amount of working capital can be measured in terms of interest income or expense. The more working capital required, the lower will be the interest income from discretionary investments or the higher will be the cost of short-term borrowing. Over the long term, however, the real measurement of working capital is the rate of return on capital employed (ROCE). ROCE can be computed as follows:

$$\text{ROCE} = \frac{\text{Profit before interest and taxes}}{\text{Fixed assets} + \text{Working capital}}$$

Return on capital represents the company's earning power at a given level of capital investment. Value is added to the business when return on capital exceeds the company's cost of funds. If the return cannot exceed the cost of funds, the money would be better invested elsewhere. Value added by management depends on the amount by which ROCE exceeds the cost of funds.

Growing businesses require greater amounts of working capital. Firms that attract the funds for expansion but cannot maintain an acceptable return on capital may actually decline in relative value. Shareholders or lenders may be left with a very large but very unprofitable company and no way of recouping their investment.

The real cost of working capital is the cost of funds *plus* a profit spread between return on capital employed and the borrowing rate. This provides what is known as a "hurdle rate," that is, the minimum return capital must have to justify its investment. Investments whose yield falls between the hurdle rate and the cost of borrowing do not provide the minimum profit to justify management's attention.

Elements in the Computation

Working capital includes all items necessary for the company to maintain its operations less debts that must be repaid during the year. Working capital therefore includes most current assets and current liabilities. Accounts receivable are included in the computation of working capital because they draw no interest income. Receivables represent the capital required to run the

business. Interest-bearing investments, on the other hand, are omitted from working capital, since they are by nature discretionary.

Likewise, loans are generally not included in the computation of working capital unless they are directly linked to a current asset such as consignment stock funding or debt factoring.

However, debt such as working capital loans, revolving lines of credit, and inventory financing must be repaid within one year. Many managers include these debt obligations in the computation of working capital, since they require cash repayment. This provides a better indication of both the amount of available working capital and the amount the company uses.

FORECASTS

Forecasting figures prominently in managing a business. Profit forecasts are usually calculated first. These enable balance sheet projections and cash flow forecasts to be generated. From balance sheet and cash flow projections, working capital requirements are forecast. Forecasting establishes targets and timetables for management to execute its plan.

Here are some ideas that may help you formulate estimates of working capital.

Level of Detail

When generating a business forecast, the level of detail required should be established before analytical work and data gathering begin. The level of detail of the forecast should be consistent with the precision required by the user. For example, suppose interest rates are one of the major variables in a forecast. Now, management has no more than 80 percent confidence in its interest rate forecast. Therefore, it makes little sense to incur the expense required to nail down the other major assumptions at an error rate closer than 20 percent. This holds true as long as the impact on your analysis of any of these variables remains equal.

Other factors affecting the precision of a forecast include—

- Historical volatility of the business.
- Accuracy of prior forecasts.

- Requirements of the forecast users.
- Types of decisions that will be made from the forecast.
- Time horizon that the forecast will cover.

In addition, identify the key assumptions that drive the forecast and structure the model around them as shown in the next section.

Assumptions

Determine both the major and minor assumptions to be used in the forecast. Major assumptions in a profit forecast include, for example, sales levels and cost of goods sold. Minor assumptions would be utilities costs as a percentage of manufacturing costs.

Here's a point to remember that will make changing the forecast easier, especially if you are using a computer to do the computations. Make as many of the assumptions as possible mathematically dependent on a single major assumption (such as sales, cost of goods sold, or manufacturing costs). Then, when the major assumptions change (as they always will before the forecast is finalized), the other dependent assumptions automatically change.

This can be easily done by stating the secondary assumptions as a *percentage* of the few primary assumptions. When you change a primary assumption, the secondaries automatically change proportionately.

The more assumptions you have, the more cumbersome may be the forecast, but the more detail exists for making changes and fine-tuning the model.

Constantly review the assumptions when analyzing the forecast results. Do they make sense? Are they realistic? How sensitive is the overall result to each assumption? For assumptions in which a minor change has major bottom-line consequences, a higher degree of precision may be required.

Be sure that a complete list of assumptions accompanies all releases of the forecast. For assumptions computed using lengthy analytical procedures or whose sources are not always clear, be certain to retain detailed work papers documenting the logic behind each assumption.

Validation of the Forecast Model

“Validation” simply means that the forecast will compute the proper results given correct input assumptions. Validating a forecast is like having to calibrate a compass. If you want to end up at a specific point and your compass is skewed from the start, you will miss your target. Validation has become a necessary step in the forecasting process.

The stages of the validation process include—

- Assessing the logic used to arrive at all assumptions.
- Simulating success of the forecast to determine if these objectives do indeed fulfill the requirements of the overall business plan.
- Entering historical data into the forecast and reconciling the computed results with the actual results. Valid forecast models will reproduce the actuals.

Validate the plan at three points:

1. During compilation of the forecast assumptions
2. Once the forecast has been completed and prior to final acceptance
3. Continuously during the forecast life to allow for errors and changes in key assumptions and logic

Test the overall reasonableness of the forecast against how accurate earlier forecasts have been.

Profit Forecasts

Prepare the profit forecast before the balance sheet forecast. Profit forecasts are normally built in two stages: (1) sales and cost-of-sales forecasts and (2) overhead projections.

The accuracy of the cash flow projection and working capital forecasts is closely linked to the forecast of sales and cost of sales. Therefore, errors made in the profit forecast cause fall-out through the rest of the planning process.

Compile sales forecasts on a product-by-product basis. Begin with sales volume estimates and projected selling prices for each component of the product line. Then calculate the cost of goods sold as a percentage of sales. Use historical

percentages as a base, then factor in known changes that have been made that affect sales costs. Changes in gross profit margins, product mix, changes in the prices of key raw materials, and labor costs have an impact on the cost of goods sold.

Overtime may be a significant cost and should be included if relevant. Often, business planners will include a contingency cost for overtime to provide some margin of error in the assumptions.

Balance Sheet Forecasts

Once the profit forecast has been prepared, the balance sheet forecast should be done. Start with actual ending balances in the balance sheet accounts from the prior period. Simply “roll” the balance sheet forward using changes resulting from the profit forecast. Additional balance sheet assumptions include the following:

- Capital expenditure plans
- Investment maturity schedules
- Financing maturity schedules
- Accounts receivable collections assumptions
- Accounts payable payment assumptions

Statement of Changes in Financial Position

The statement of changes in financial position should be forecast next, using results derived from both the profit plan and the balance sheet forecast. This statement illustrates where the funds are coming from and where they are going. It also provides the source from which the balance sheet should obtain its ending cash number for each forecast period. When the three statements (that is, profit forecast, balance sheet, and statement of changes in financial position) are thus arithmetically integrated and when the balance sheet balances, the likelihood that the forecast contains mathematical errors is small.

Timing

Prepare your working capital forecast on a monthly basis, using the same time horizon as that used for the balance sheet forecast. This approach allows for the identification of significant peaks and valleys in cash balances. Where

cash balances dip toward the minimum allowable in any given month, pay close attention. It may be that during that thirty-day period cash actually turns negative. Appropriate contingency plans should be prepared in the event this does occur.

Review of Assumptions

Once the forecasts are complete, review the assumptions one more time. The thought behind, and analytical support of, assumptions is normally a good indication of the overall quality of the forecast.

INCENTIVES

People work for challenge, satisfaction, self-esteem, achievement, and money. Most tasks in the business environment compete against various constraints and conflicting objectives. Motivated managers find that the challenge of overcoming these barriers makes success that much sweeter. Incentives for attaining the company’s goals can help to strengthen the motivation already present. Furthermore, everyone appreciates recognition for a job well done.

Forecasts do two things that help the incentive system: (1) targets that define success are made clear and (2) progress reports can be made on achieving the goals and injecting added motivation during the target period.

Incentive Policies

Incentives should—

- Reward achievement of company objectives.
- Be arranged to prevent secondary objectives from being missed. For example, a credit manager’s primary objectives are normally to minimize risk and maximize collections. A secondary, and vital, objective may be to ensure that receivables accounting and administration are accurate.
- Be clearly defined as to target, time frame, and reward.
- Be achievable. Avoid setting unrealistic targets.
- Be significant enough to motivate but not so large as to distort pay patterns.

- Be designed to continue motivating performance once goals have been achieved.
- Be arranged to avoid conflicting goals and incentives.
- Be within the authority of management to provide.
- Be flexible enough to allow for individual standards or targets. For example, give a special bonus to a credit manager for keeping all new accounts (say, those opened in the last twelve months) within two weeks of contractual credit terms.

Tips for Setting Incentives

Return on capital provides a useful benchmark on which to base senior-management incentives. One way to reward management for meeting (or exceeding) profit targets is to pay them a percentage of the profit exceeding the targeted return on capital.

Credit managers' incentives may be related to the balance in accounts receivable. If management's concerns revolve around particular receivables aging categories, incentive targets keyed to the various aging buckets can be used.

The commission paid to the sales force should be tied to company objectives. For example, company goals may include raising profit margins. Sales commissions, therefore, should be based on the *profitability* of sales, not just on raw sales volume. If a company has collection problems, sales commissions can be computed on *collected* sales revenue. Carrying this one step further, sales commissions may be reduced for commissions already paid on accounts proven to be uncollectible.

Be advised, the sales force will grumble at attempts to fiddle with its income. To make such adjustments acceptable, the company may have to adjust the payout so that commission income under the new plan, could be greater than under the old plan. If achievement of its goals makes the firm more profitable, there's nothing wrong with sharing the fruits of this success with the sales force that helped make it happen.

Examples of Incentive Management

Management of incentives can be tricky. Goals must be set that not only meet management

requirements but also are within reach. The reward structure must be meaningful and provide motivation to reach established goals.

The three examples that follow illustrate the use of incentives.

Example 1: Reduce Accounts Receivable Outstanding. Executives at ABC Antiquities watched in horror as their working capital requirements soared due to increasing receivables while sales actually dropped.

Objective: Secure customers having a lower credit risk and reduce accounts receivable balances.

Solution: The credit manager and manager of accounts receivables were provided with joint financial incentives to meet the firm's objectives. In addition, a computer interface was installed that linked the order entry system to the accounts receivable and credit authorization system. Next, delinquent accounts already in the system were assigned to a trained collection unit. Accounts between 90 and 120 days past due were assigned to a professional collection agency. Accounts more than 120 days past due and over \$5,000 were submitted to legal counsel for suit.

The credit and receivables managers worked together to, first, identify poor credit risks and then to either reduce the credit granted or cut them off completely. Stopping uncollectible or slow-paying customers from continuing to enter the system ensured that the delinquency problem was not compounded. Using the computer interface, the firm's order takers could now see both the current receivable balance and the assigned credit limit of the customer on the computer screen while they were taking the order over the phone. The computer was programmed to reject any orders that were for customers more than sixty-days delinquent or that would exceed authorized credit limits.

Exceptions, customer complaints, and requests for override were referred to the credit manager.

Results: The company reduced its outstanding receivables balances (and, thereby, working capital requirements) more than 33 percent. Sales dropped slightly as a result of more stringent credit criteria; however, overall profitability rose.

The credit and receivables managers were paid 10 percent of this savings as their incentive reward.

Example 2: Competitive Group Incentives. The T&M Group had ten wholesale warehouse outlets around the state. Each operated as a separate subsidiary with its own set of financial statements.

Objective: Improve T&M's overall return on capital.

Solution: Establish "competitive" return on capital incentives for the ten warehouses. Distribute the results of each warehouse monthly to all the warehouse personnel. Reward each warehouse that lowers required working capital by at least 10 percent with \$25,000, to be divided among warehouse employees as its manager deems appropriate. Provide a year-end incentive of \$100,000 to the facility showing the highest return on capital.

Results: Overall working capital requirements fell beginning in the first month. Division managers called on their supervisors of credit, receivables, cash management, inventory, and payables to help reduce working capital. Line managers responsible for profitability were motivated to increase net income.

Net income rose and working capital fell. The incentive rewards were equitably spread among those who deserved it. The rewards were worth going after but not so large that they disrupted the operation.

Example 3: Top Management Incentives. Lapin Corporation had the following annual profile:

Sales	\$10,000,000
Capital employed	\$5,000,000
Net income	\$700,000
Chief executive's salary	\$75,000
Other executives' salaries	\$200,000
Profit margin	7%
Aggregate cost of funds	12%
Capital intensity (annual sales/capital employed)	2
ROCE (profit margin × capital intensity) (.07 × 2)	14%

A return on capital of only 14 percent, with a cost of funds of 12 percent, provided little return on invested capital for the owners.

Objective: Increase return on capital to a minimum of 25 percent.

Solution: A new chairman was appointed, and he formed the view that it would take about two years to reach the return-on-capital target. He offered the chief executive a bonus of 2 percent of profits above a threshold return on capital of 18 percent for the next year and 25 percent for the year after that. Using the same criteria, the new chairman offered each of the three line executives reporting to the CEO a bonus of 1 percent of the profits. This provided the incentive to increase margins and reduce working capital.

Results: The incentive worked beyond the new chairman's expectations. Each of the executives under the bonus plan earned a premium for the first year equal to 30 percent of their annual salaries and a premium for the second year of 50 percent. The company exceeded the minimum targeted return on capital.

Chapter 2

Components

ACCOUNTS RECEIVABLE

Accounts receivable frequently comprise a large portion of a company's balance sheet. It is an expensive asset since the company has already paid to create the product or service that was sold. Therefore, the shorter the delay between product expenditure and collection of customer payments, the lower the cost of working capital. To accomplish this, companies must have well-defined policies concerning this major asset. Since receivables are often managed by staff who are several levels removed from senior management, control and monitoring of performance becomes especially important.

The basic requirements for effective control of receivables include—

- Well-trained, qualified personnel.
- Receivables collection policies and procedures.
- Clearly defined objectives.
- Timely and accurate information systems.
- Regular management review of performance and follow-up. This includes audit of receivables policies and procedures to ensure compliance.

Objectives

Receivables management has three objectives:

1. Collect what is owed in accordance with the terms of sale.

2. Avoid alienating customers and resolve balance disputes.
3. Collect receivables efficiently so that the cost of collection does not exceed the benefit.

Accounts Receivable Policies

Credit and collection policies should be clearly stated in writing and distributed to the appropriate staff. Policy should be set by the senior management of the company. Receivables policies should be consistent with the philosophy of management and with customary practices of the industry.

Accounts receivable policies should address—

- Acceptable level of accounts receivable.
- Customer credit authorization.
- Terms of payment.
- Early-payment discounts.
- Communication and enforcement of payment policy.

Following is a discussion of particular techniques and measurements applicable to each policy item.

Acceptable Level of Accounts Receivable. Receivables are measured in a variety of ways. Most of us are familiar with the standard aging of accounts receivable. Most aging analyses stratify receivables according to their age. Usually, the

aging categories are current, 30 days, 60 days, 90 days, and 120 days and over. This separation tells us what percentage of total receivables is in each aging category.

Weighted Average Aging of Receivables. Under the standard aging format the weighted average aging can be computed using the following equation:

$$\text{Weighted average age of accounts receivables} = \frac{\text{Sum of weighted average percentage of each aging bucket} \times \text{Number of days in each aging bucket}}{\text{Number of days in each aging bucket}}$$

The weighted average age of receivables indicates the velocity at which the company collects on its sales. The lower the weighted average age of receivables, the less the amount of cash invested in receivables and, therefore, in working capital.

Accounts Receivable Turnover. This ratio identifies the speed at which receivables are being collected (turned over). The higher the accounts receivable turnover rate, the less the amount of cash confined to this component of working capital.

$$\text{Accounts receivable turnover} = \frac{\text{Annual credit sales}}{\text{Average accounts receivable balance}}$$

Average Collection Period. The average collection period tells the cash manager how many days of average sales are tied up in accounts receivable. The lower the average collection period, the smaller the company's investment in receivables.

$$\text{Average collection period} = \frac{\text{Average accounts receivable balance}}{\text{Annual credit sales}/360}$$

Customer Credit Authorization. Credit can be an effective marketing tool. Recognize, however, that mistakes made in granting credit will haunt the company for months to come as delinquent receivables roll from one aging bucket to the next and finally to write-off.

Here are some of the credit management techniques successful firms use:

- Credit criteria are firmly established in writing. Authorizations personnel are taught how to employ credit criteria, and their adherence to policy is monitored by management.
- The effectiveness of credit criteria in obtaining the type of customers whose paying habits the company can afford is monitored. If the customers whom the credit criteria accepts no longer meet the company's working capital capabilities, the criteria are changed.
- A standardized evaluation process is used for all credit decisions. This standardization normally includes
 - Forming an opinion on the customer's financial stability by using a service such as Standard and Poor's or published audited annual reports.
 - Specific financial stability measurements such as financial ratios and verified credit history.
 - Stratification of credit authorization, with more and more senior management being consulted as the amount of risk being undertaken grows.

Terms of Payment. Monitor the effect your terms of payment have on customers. Payment terms can change. Customer needs often dictate that change, and competition may even lead the charge. Improvements in your firm's financing rates may allow you to extend more lenient payment terms in order to obtain sales that would have otherwise gone to someone else.

Early-Payment Discounts. Some managers of working capital are so desperate to collect receivables, they will do almost anything—even give discounts in exchange for early payment. This technique does bring in cash; however, it's the most expensive cash the company will ever see. Here's why.

Example. Assume that for a \$10,000 invoice payment the terms are 1/10, net 30. This means that if the invoice is paid within ten days, the buyer is entitled to a 1-percent discount; otherwise, the full amount is due within thirty days.

The equation for computing the cost of cash discounts is as follows:

$$\text{Annualized interest expense from offering the discount} = \frac{\text{Discount \%}}{\text{Due date} - \text{Discount date}} \times 360 \text{ days}$$

The annualized interest income from taking advantage of the discount is 18 percent, computed as follows:

$$\frac{.01}{30 - 10} \times 360 = 18\%$$

As long as the aggregate borrowing rate is less than 18 percent, this discount simply erodes profits. The firm is borrowing money at a higher rate to repay funds costing less.

Communication and Enforcement of Payment Policy. Be certain to communicate payment terms to the customer. This should be done at the time of sale, on your invoice, on your statement, and by the collections personnel should a contact be necessary.

Some customers ignore payment discount terms. They often take a discount after its offering time has expired. This not only costs the company, since it does not receive all it is due, but also causes it to bear the burden of working capital financing costs. Insist that customers adhere to the terms of payment. If they do not and if the firm continues to sell to them, compensation (such as raising the prices of goods they buy) for the loss in profit should be obtained.

Credit Authorization

Control of credit authorization procedures so that policies established by management are followed can save the firm from carrying large, unnecessary receivables balances and from incurring too much bad debt.

Rules for Management. Follow these rules for management of trade credit authorization:

- Establish a credit policy based on the firm's working capital requirements and the competitive environment.
- Establish credit limits for every customer. These limits should not be exceeded without management approval. In addition, these credit limits must be available to everyone

who needs them, such as the sales force and order entry staff.

- Investigate the customer's creditworthiness. The best source of financial information is the customer's audited financial statements, but many of your customers will not produce audited financials or they may not release them to the public if they do. However, except for purchases over a specified threshold, such research is not necessary. Since many firms are rated by independent credit agencies such as Dun & Bradstreet, William Morris, and Standard & Poor's, use those reports in your credit evaluation.
- Obtain information regarding the firm's experience with particular customers. Perhaps your own company has dealt with them before. Ask the customer for credit references and investigate them. Bank references often reveal something about a customer's payment habits.
- Join your industry's credit managers association if one exists. Credit managers trade information about their problem customers.
- Review the credit limits for all customers periodically. Management should review the credit decisions made by staff to verify compliance with policies and procedures.

Targets for Receivables Balances. Like the other components of working capital, receivables should have performance targets and a plan of action for achieving those targets.

Collection Procedures. Companies serious about collecting their receivables have well-defined collection procedures. These procedures include—

- A predefined point at which further deliveries are stopped.
- Established time periods for issuing dunning letters.
- Procedures for turning delinquent accounts over to a collection agency.
- Policies regarding lawsuits against major debtors.

Credit and collection management should work with sales management to develop collection

policies and procedures that do not damage customer relations but still get the job done.

When developing policies regarding legal remedies for delinquent accounts, determine three different cutoff points:

1. The amount at which the debt is not considered enough to go after and is written off
2. The amount at which the collections manager files a small-claims action (\$2,000 in some municipalities)
3. The amount at which your law firm files suit

Converting Receivables Into Cash

Some businesses are so strapped for cash that they cannot even wait the short time it takes to collect their receivables in the normal manner. These firms often either sell their receivables immediately at a discount or factor them.

Discounting invoices to a finance company for cash really amounts to loaning yourself your own money. You retain full responsibility for receivables collection. When the customer does pay, you must turn the funds over to the discount company to reimburse it for the funds advanced you.

A factor buys the receivables and pays the company either immediately or on a future date. The company no longer has the responsibility and expense of debt management. Further, in the case of nonrecourse factoring, the company receives complete protection against bad debts. Some companies find invoice factoring attractive, since the costs eliminated in receivables administration, bad debts, and financing working capital may well outweigh the costs of factoring. However, you lose an important point of contact with your customer.

Insurance

Many companies that cannot afford bad debts purchase insurance on their accounts receivable. Still others choose to insure only a part of their receivables (those so large they cannot afford to turn delinquent). You should determine that the costs of credit insurance do not exceed the expected value of its benefits.

Tips for Managing Receivables

Treatment of Special Customers. You often find that 20 percent of your customers account for 80

percent of your sales and, therefore, 80 percent of accounts receivable. These major customers should receive special attention both from the sales force and from the managers of credit and accounts receivable.

Find out who makes the payment decisions on behalf of these special customers. Call the person and get to know him or her personally. Resolve any disputes well ahead of the collection due date. Let the special customers know that you expect payment in accordance with the terms of sale. Follow up if payment is not received on the due date.

Shortening the Sales Cycle. The sales cycle for most businesses varies from several days to weeks, months, and even years for some major builders. To the extent that management shortens any part of this time frame, inventory is converted to collected payments that much faster. Here are the sales cycle control points.

Decision to Buy. Good salespeople consciously reduce the time it takes a customer to proceed from the initial contact through the sales presentation to the purchase decision. Companies that receive the bulk of their orders over the telephone, by fax, by computer, or in the mail can shorten the time required to make a buy decision.

They eliminate confusion by clearly defining the purchase options available. The order entry staff are trained, know the products, can quickly help the customer order what is needed, and can quickly move on to someone else.

Credit Authorization. The next step in the sales cycle is to authorize credit. Many firms (for example, credit card companies issuing a preapproved mass solicitation) that target their prospective client base make their credit decisions even before the customer decides to buy.

Credit authorization should be fast and accurate. The process should not be stymied by a single executive who insists on personally reviewing credit applications that meet established credit criteria. Many companies use automated credit scoring and decision support models to speed the process along. Some firms even install expert systems using artificial intelligence software operated by lower-level clerical staff. Faster, more accurate credit decisions are made less expensively using such technology.

Customers who do not adhere to established payment policies should be cut off immediately. They should be told to resolve the problem before attempting to place further orders.

Shipping. Shipments should be made as soon after the sale as possible. Maintaining inventory that has already been sold takes up warehouse space and slows its conversion into usable cash.

Invoicing the Customer. Many companies include an invoice with the shipment. Others release their invoices soon after the goods are shipped—often the same day. The faster the customer receives your invoice, the sooner the invoice is put into the customer's accounts payable system and the sooner it will be paid.

Make sure that your invoices are easily understood and that they clearly document what was purchased. Few customers will pay from an invoice that does not tell them what was purchased. Never use your internal parts codes to describe the items purchased. A short and clear description *in plain English* will get you paid much faster.

Incorrect invoices provide a good excuse not to pay. The customer will say, "If they don't know what the price was, I'm sure not going to tell them." Then the customer waits to be contacted—some wait for thirty, sixty, even ninety days. Be sure to resolve disputed invoices as soon as possible.

Reconciling Daily Shipping Batches With Daily Invoice Batches. A good way to ensure that all shipments were billed is to reconcile all outgoing shipments with all outgoing invoices. The retail price to the customers should balance. If it does not, a mistake was made.

Statements. Issue statements promptly each month, acknowledging any unresolved disputes. Temporarily remove the disputed amount from the total balance. Customers are more likely to pay if they are only being asked to pay for those items for which they have agreed to pay.

Bank Deposits. Submit bank deposits every day *before* the posting cutoff time so that you receive credit that day.

Deliveries. Avoid bunching deliveries late in the month. Deliveries made in the last few days

of the month may not actually be received until the next month. This will probably push payment forward to yet another month beyond that.

Partial deliveries provide a good excuse for holding payment. If you do make partial deliveries, your invoice should be only for the partial delivery amount and should include a note explaining that the remainder of the order will be sent shortly and billed separately.

Credit Memos. Issue credit memos promptly.

Delivery Documentation. Collect signed records of receipt of delivery and file them so that you can prove delivery if necessary.

Problem Customers. Don't be afraid to meet with problem customers. Often the problem has to do with something your company did. If a customer has fallen into a late-payment habit, it should understand that prices increase as reimbursement for carrying the receivable longer than intended. If this delinquency causes your profit margin to fall below what is acceptable, you are better off if the customer takes its business to the competition—let *them* suffer. If the delinquency makes no difference to your profit margins, your sales terms are overly restrictive. This may provide an opportunity to improve your competitive edge by relaxing payment terms for all customers.

Matching the Sales Cycle. If possible, the accounts receivable collection period should not exceed the accounts payable time frame. In this way you match financing that you grant your customers with the financing granted you by your vendors. The net effect reduces the cost of working capital.

Recovery of Overdue Debts

Failure to pay debts on the due date places the customer in breach of contract. Customers that have breached their sales contract should be placed on a COD basis, and a payment schedule should be established to collect the overdue balance.

Forcing someone who owes you money into bankruptcy does little good unless he or she has substantial assets that are readily marketable. In general, bankruptcies repay creditors only a fraction of the original debt after protracted litigation.

If your sales contract allows you to retain title, try to repossess the goods. This is usually difficult but may be worth a try. Seek legal advice before adding such a clause to any contract.

Conclusions

The following steps should be taken with regard to accounts receivable:

- Improve management procedures, internal control, and accelerated flow of information to speed the collection of accounts receivable.
- Use budgets and forecasts to quantify the potential improvement in profitability, working capital requirements, and cash position. Forecasts also define targets.
- Review policies for applicability and relevancy. Audit procedures to ensure staff compliance.
- Use motivation incentives that make sense and encourage managers to apply company policies and achieve goals.
- Use outside agencies such as credit rating services, insurance brokers, receivables factors, and collection agencies to assist in managing accounts receivable.

INVENTORY

Inventory control often presents problems for working capital management, since it requires the cooperation of several departments, each with its own set of priorities. Nevertheless, reduction of required inventory levels reduces working capital requirements.

Recognize also that inventory policy may be partially dictated by suppliers. For instance, some suppliers offer discounts for high-quantity purchases. Others require minimum inventory levels before they will treat you as a distributor-seller. These situations impact optimum inventory levels and working capital requirements.

Objectives

The following are the objectives of inventory management:

- Maintain inventory levels sufficient to satisfy customers' orders without unreasonable stock-out costs.

- If, in addition to finished goods, the company maintains raw material and work-in-process inventories, manage them so that inventory is available when needed, not too far ahead and not too late—just in time.

Inventory Policy

Policies regarding control and management of inventory should pertain to the following subjects:

Personnel. Assign responsibility for each category of inventory to specific individuals. They should be experienced, qualified, and well instructed in management's inventory policies and procedures. Their performance should be supervised and reviewed by competent personnel.

Planning. Schedule levels of inventory using the same time horizon as the profit plan's. Forecasted inventory levels should anticipate the sales plan. Inventory planning should emphasize fulfillment of product demand requirements rather than maximization of production capacity.

Inventory Levels. Establish inventory levels, order quantities, and minimum volumes of safety stock. As described in *The Accountant's Business Manual*, the computation for these items is as follows:¹

Economic Order Quantity. The optimum size of an inventory order defines the economic order quantity (EOQ). The EOQ is useful in determining management's control over its inventory purchasing procedures. EOQ is computed as follows:

$$EOQ = \text{Square root of } ([2AP]/S)$$

where—

A is the annual quantity of the item used in units.

P is the cost per purchase order.

S is the annual cost of carrying a unit in stock for one year. The carrying cost of inventory includes such costs as allocated warehouse expenses and interest costs.

Safety Stock. Inventory levels should not exceed that which is required plus a safety stock. Computation of safety stock considers such variables as the probability and cost of being short an

¹ William Behrenfeld and Andrew Biebl, *The Accountant's Business Manual*, ch. 23, "Cash Management" (New York: AICPA, 1991), 11-12.

inventory item, the orders placed per year (from the EOQ), and the cost of inventory carry. The lowest carrying cost of inventory at varying safety stock levels is computed as follows:

- Probability of stock out at a given level of safety stock
- × Stock-out cost
- × Number of orders per year (Demand/EOQ)
- = Expected stock-out cost
- + Carrying cost of safety stock
- = Total inventory carrying cost.

The aim is to compute the level of safety stock that has the lowest inventory carrying cost. In the following example, the optimum safety stock is forty units. Such control of inventory helps to ensure that the following two objectives are reached: purchases are well managed, and excessive inventory is not being accumulated in the name of safety stock only to mask poor inventory control procedures. Achieving these two objectives helps ensure that working capital is not being unnecessarily stockpiled.

Exhibit 2.1

Sample Safety Stock Computation

<i>Units of Safety Stock</i>	<i>Probability of Stock Out</i>	<i>Cost of Stock Out</i>	<i>No. of Orders per Year</i>	<i>Stock Out Cost^a</i>	<i>Carrying Cost^b</i>	<i>Total Cost^c</i>
20	60%	\$200	10	\$1,200	\$200	\$1,400
30	40	200	10	800	300	1,100
40	30	200	10	600	400	1,000
50	28	200	10	560	500	1,060

^a The stock-out cost is computed as: Probability of stock-out × Cost of stock-out × Number of orders per year (EOQ).

^b The carrying cost is computed as: Carrying cost of one unit per year (assumed to be \$10) × Safety stock.

^c The total cost is computed as: Stock-out cost + Carrying cost.

Delivery Standards. Determine delivery standards to achieve or maintain competitive customer service levels. These should be factored into the amount of finished-goods inventory maintained.

Obsolete Inventory. Eliminate obsolete and slow-moving inventory to make room for items that can be sold and show a profit. Stagnant inventory only increases working capital requirements without contributing to the profitability of the firm.

Tips for Managing Inventory

Management should be apprised of inventory levels by volume, by days of sales tied up in inventory, and by cost. It should also be aware of the levels of inventory classified as obsolete and slow-moving. The levels of inventory should be compared with the inventory forecast. Inventory forecasts should be sufficiently detailed for use as operating controls for each monthly reporting period.

Establish inventory measures for management review. Some of the common inventory computations include—

- *Inventory turnover.* The speed at which inventory turns over indicates how fast this component of working capital is being converted to cash. A low turnover rate indicates that working capital is not invested in high-demand inventory. Inventory turnover is computed as follows:

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

- *Days of inventory on hand.* Managers with a large number of days of inventory on hand who are still ordering more must be stopped or, at least, explain why they are still ordering. The number of days of inventory on hand can easily be determined by the following:

$$\text{Days of inventory on hand} = \frac{\text{Total inventory}}{\text{Daily demand}}$$

- *Inventory concentration reports.* Classifying inventory by frequency of sale illustrates how effectively you employ working capital invested in inventory. Inventory concentration reports include the following information:
 - The inventory items by number and description
 - The number of items on hand
 - The unit cost and extended cost
 - A report indicating the top-ten best sellers and the bottom-ten worst sellers
- *Overstock reports.* Working capital is not effectively employed when the firm is carrying overstocked inventory. Many modern automated inventory control systems allow for a maximum stock level to be entered for each inventory item. The overstock report indicates those items for which the quantity on hand exceeds the maximum stock level determined by management.

Physical inventory counts should be conducted at least quarterly by personnel who are not directly responsible for maintaining inventory. In addition, proper warehouse control procedures should be established to ensure against pilferage, theft, and vandalism.

If you have spare warehouse space, sell it, sublease it, or else put it to profitable use. There seems to exist some irresistible natural force causing managers to hold more inventory than necessary as long as they have the space.

Employ the “just in time” approach to inventory management. Under this philosophy, raw material inventory is kept extremely low. So low, in fact, that it (theoretically) arrives precisely when it is needed—not before and not after. This requires frequent deliveries by reliable suppliers but cuts down on warehouse requirements and working capital tied up in idle inventory. Just-in-time inventory management aims to convert raw materials to finished products for delivery to the final customer in the shortest possible time.

Some companies purposely expand inventory levels, thinking that commodity prices will rise in the future. By this type of speculation, they pay a high price in working capital requirements. If you want to hedge your inventory costs, do so using commodities futures contracts. They are less expensive than buying the actual inventory

and require no overhead to maintain. Further, there is no risk of holding obsolete inventory should the market turn against you.

Equalize the levels of the raw materials, work in process, and finished-goods components of inventory. Ensure that one does not rise at the expense of another. If possible, consider buying subassemblies. This reduces the number of inventory items to manage and the time between payment for raw materials and completion of a salable product.

Managers tend to create safety margins of inventory. These buffers are necessary in a volatile business but become inefficient if allowed to expand beyond what is reasonable.

Tips for Managing Raw Materials Inventory

Raw materials represent a unique type of inventory. There are some special techniques management can use to manage this asset more profitably. For instance, many firms purchase their raw materials in bulk because they get a good deal. However, bulk purchases may actually cost the company money if they cannot be processed quickly and turned back into cash.

Rather than accept delivery of your bulk purchases, some suppliers hold your inventory purchases on consignment. Some have you hold it but not consummate the sale until the inventory is used. Either way, if the offer is made, take it. Better to let your vendors finance your business than you.

Surplus items should be sold as soon as possible. Some, however, may deliver greater profit if they are first converted to finished goods and then sold at a discount.

Some suppliers deliver all items you ordered at the same time regardless of the agreed-on delivery dates of each component. If you don't need the items, refuse delivery.

Raw materials are expensive to hold, especially if they are not used promptly. Coordinate both the sales and production forecasts so that inventory is ready for shipment when the sale is completed.

During the design of product components and their bills of material, use as many of the same items in different finished articles as possible. This reduces the number of different inventory items that must be stocked.

Tips for Managing Work-In-Process Inventory

Shorter conversion time between raw material and finished goods reduces the required size of work-in-process (WIP) inventory. One way to speed production and reduce WIP inventory is to eliminate production bottlenecks, for which there may be a variety of causes. Often, excessive machinery downtime can slow production. Production planning may cause unnecessary waiting between production stages.

If work enters the factory before all components are available, the production planning system can be used to ensure that missing parts are available when needed.

The manager of working capital should keep an eye on levels of rejected output and machinery downtime. Equipment does not last forever. Investment in factory machinery that is more efficient may pay for itself in terms of the following:

- Faster production throughput
- Lower rejected output
- Less raw material wasted on rejects
- Lower costs of inventory rework
- Less machinery downtime
- Less machinery repair

Long production runs may be efficient in terms of retooling and production line set up. However, they tend to build inventory. Assessment of the cost savings from a long production run should be compared with the costs of holding the resultant excess inventory. This becomes a business decision that integrates the production, sales, and financial management of the company into a team.

People play a big part in most manufacturing processes—even those largely dependent on automated production facilities. Make sure that qualified people are part of the manufacturing process. How pay incentives motivate should be well thought-out. If emphasis is placed solely on production without regard to quality control, you will get what you asked for: excessive rejects, high rework costs, and an overly large production payroll.

Material shortages must be artfully managed. Allocate scarce materials so that the maximum number of lines are completed rather than spread materials around so that nothing gets finished.

Tips for Managing Finished-Goods Inventory

Products that are made to order maximize the investment in finished-goods inventory. Goods that are already sold before they are completed do not sit on the shelf and monopolize precious working capital. Few companies, however, operate the majority of their production lines on made-to-order inventory. Most keep some finished goods on hand for customers who *may* buy. These levels of finished products should match future expected usage rates.

Finished goods that do not move out the door soon become obsolete. Their probability of being sold at current prices decreases and they must be discounted to be moved out. This is particularly true of markets (such as the clothing industry) in which demand changes seasonally. For high-technology products, there is also a rapid obsolescence factor. At the rate silicon chip technology moves, products not sold before the next innovation simply gather dust on the warehouse shelves.

The distribution and location of warehouse facilities can have an impact on the time it takes for goods to reach your customers. Decisions regarding a central warehouse or distributed locations must include the costs of working capital and the costs of transport and handling.

As products leave the manufacturing facility and enter finished-goods inventory, they should also be reclassified in the inventory control system. You want the salespeople and order-entry operators to know exactly what goods are available for shipment as soon as the goods are ready. This prevents inventory that should be on its way to a customer from sitting on the shelves.

Many companies pride themselves on keeping a full line of inventory regardless of the profit margin of some items. The majority of your inventory should ideally comprise your highest-profit items. Unless an overriding business reason exists to hold large volumes of low-margin items, reduce them. Make room for the goods that pay the rent.

Returned merchandise should be processed quickly and placed back into salable inventory. Furthermore, the customer should be promptly credited to make way for the next transaction on his account.

Conclusions

Inventory management is a never-ending process. Here are a few conclusions with regard to inventory control:

- Inventory should always be managed as if it were excessive and should be reduced. Chances are it is and it can be. This attitude will, if nothing else, keep inventory levels from going out of control.
- Reduction of excessive inventory generally increases overall profitability regardless of what your marketing people tell you about stock-out costs and lost customer orders.
- Inventory levels are one of the few variables under the exclusive control of management. Other business decisions, such as sales and accounts receivable, require the cooperation of third parties (your customers) to implement management decisions. Inventory does not.
- Vigorous management of inventory requires timely and accurate management reporting. Inventory control reports include periodic assessments of investment in inventory, inventory turnover, and the number of days during which sales are tied up in inventory.
- Inventory policies, procedures, and performance should be reviewed regularly.

This list of practical tips is not exhaustive. Think about your own circumstances and challenge ingrained attitudes. When someone tells you, "It won't work for us, we've tried it before," find out exactly why it didn't work and change it. Finally, monitor the work of staff to ensure that management policies and objectives are being followed.

ACCOUNTS PAYABLE

Management of accounts payable combines business judgment with the art of communicating to your vendors. When squeezed for cash, some businesses simply stop paying their bills. This impugns their credit reputation and harms the firm's ability to gain future credit terms. Payables management stresses both information on future cash requirements and maintenance of long-term vendor relationships.

Growth in accounts payable has an impact on working capital that is the reverse of the impact

of growth in receivables or inventories. As payables increase, investment in working capital falls. The logic follows that growth of payables means that you are using your vendors to finance your business—just as your customers are using you to finance *their* business when they pay late or not at all. Likewise, when you pay your vendors, you increase the investment in working capital.

Objectives

The following are the objectives of accounts payable management:

- Pay in accordance with the terms of purchase.
- Avoid jeopardizing vendor relationships through negligent payment policies.
- Maintain the balance between available cash and the need to pay suppliers.

Accounts Payable Policies

The firm should be clear on its policies for accounts payable. These policies should address the maintenance of vendor relationships, communications with vendors, level of accounts payable, aging, and required documentation before invoices are paid.

Following is a discussion of particular techniques and measurements applicable to each policy item.

Composition of Accounts Payable. The accounts payable manager should be aware of what is in the accounts payable portfolio. He or she should receive a report showing—

- What is due today.
- What will be due in one week.
- What payables are scheduled to be paid in the next several weeks.

This report should show the individual vendors as well as total cash requirements. These reports are normally based on either the terms of payment agreed to by the vendor or on company policy established by management.

Accounts Payable Turnover: Accounts payable turnover tells us how fast we are paying our vendors. Due to the inherent differences between

operating expenses and inventory purchases, their turnover rates are often managed separately. The equations used to compute accounts payable turnover are as follows:

$$\frac{\text{Accounts payable turnover} - \text{Operating expenses}}{\text{Annual operating expenses}} = \frac{\text{Average operating accounts payable balance}}{\text{Average operating accounts payable balance}}$$

$$\frac{\text{Accounts payable turnover} - \text{Inventory purchases}}{\text{(Cost of goods sold - Beginning inventory) + Ending inventory}} = \frac{\text{Average inventory accounts payable balance}}{\text{Average inventory accounts payable balance}}$$

Turnover of the payables portfolio should not exceed the rate established by management.

Accounts Payable Aging Analysis. This report is similar to the receivables aging analysis. However, the objective here is to pay in accordance with purchasing terms and not before. The accounts payable aging analysis displays the vendors down the side, then the various aging categories the company has outstanding for each vendor across the top. These aging categories are usually current, 30 days, 60 days, 90 days, 120 days, over 120 days, and total owed.

A glance at the aging analysis tells us how much cash will be flowing out of the firm as a result of keeping our payables current or (at least) within management guidelines.

Credit Terms. Negotiate the terms of credit with major suppliers before the purchase.

Terms should give the greatest possible advantage to your business by delaying payment as far into the future as the supplier is willing to go. Payment due dates must be tracked to ensure that payments are not made prematurely. Set specific guidelines regarding the following:

- Early-payment discounts (see equation below)
- The method of payment (check, wire transfer, automatic preapproved bank debit using an automated clearing house, etc.)
- The currency in which the payment is made
- The place of payment
- The responsibility for freight costs
- The partial-payment policy

- The arbitration of disputes
- The timing of credits
- Letters of credit, if applicable

If you are giving up something (such as a bank float by paying by wire transfer), be sure you get something in return (such as an extended payment date).

The equation for computing the benefit of early-payment discounts is as follows:

$$\frac{\text{Annualized interest from early-payment discount}}{\text{Discount \%}} = \frac{\text{Due date} - \text{Discount date}}{\text{Due date} - \text{Discount date}} \times 360 \text{ days}$$

The discount should be taken as long as the aggregate borrowing rate is lower than the annualized interest from early-payment discount.

When forecasting your cash availability schedule, match inflows from receipts as closely as possible with outflows scheduled to be paid to vendors. Where a gap exists in available cash, plan how to make it up. Often companies with definite seasons require working capital loans during the down season that are paid off during the busy season.

Dating and Other Financing Techniques. Some suppliers employ a dating policy under which goods are delivered to customers and payment will not be made for many months thereafter. Presumably, the vendor has factored his or her cost of funds into the price of the goods.

When purchasing their inventory, car dealerships often employ a technique called “flooring.” In this method, the bank advances funds to the car manufacturer and retains title to the inventory. When the car is sold, the bank is repaid.

Multisourcing

Ensure that the cost benefits from using a sole supplier are not outweighed by the risks of dependence. Competing suppliers prevent dependence on a single source. Further, the price or terms may become more favorable through competition.

If you find yourself becoming dependent on a single supplier for a critical part, investigate the supplier’s financial stability. Maybe, you have to capitalize critical vendors faced with

bankruptcy just to ensure a steady supply of vital parts. Just be aware that you are exposed to the risk of being forced into a partnership with your vendor.

Tips for Managing Credit

Know When to Use Your Leverage. More favorable terms may frequently be negotiated with a vendor who is heavily dependent on your business when the same goods may be obtained from a number of qualified vendors. Press your advantage when you are able to do so. Be aware, however, that the winds of fortune often change. Vendors who were once squeezed unfairly, seldom forget and are anxious to return the favor when they are able.

Keep Your Payment Promises. Pay suppliers on the scheduled due dates. If a vendor knows your payment can be counted on, he or she will more readily negotiate extended credit terms. Sometimes this comes in the form of progress payments, say, one-third due at each thirty-, sixty-, and ninety-day period.

Consider a Steady Purchase Volume. Assess the profit impact of purchasing materials in constant volumes throughout the year even if your business cycle is seasonal. A constant purchase volume gives your vendors a reliable, constant source of sales especially in their down season. They often discount purchase prices in order to have this type of sales reliability. Be aware, however, that you are building your working capital requirements during the off-season in exchange for increased profitability during the busy season. This reduces your return on capital during part of the year and boosts it on the upswing. Make sure that by using this strategy you improve overall profitability.

Communicate With Vendors. Be sure to maintain effective lines of communication with your major vendors. Listen to their needs and voice your own. It may be that you have something they want in exchange for a lower price or more favorable terms. Good communication also lets you know of any financial problems critical vendors may be encountering. Enough advanced notice allows time to find a new supplier. Communicate with those competitors of yours who are also buying from your vendors. Find out what terms they get and why the terms may be different from yours.

Prioritize Payables. During a cash squeeze, settle the small accounts first. The benefits of a reliable supply from these more numerous vendors are enormous, and settling the small accounts means that fewer people say bad things about you. Besides, it is easier to manage one or two irate vendors than a whole gang of them. Finally, as the saying goes, “When you owe the bank \$100, the bank owns you; when you owe the bank \$1 billion, you own the bank.” Vendors to whom you owe large amounts may be willing to negotiate new terms so they don’t have to write off an untenable balance.

Conclusions

Managers often think that accounts payable are less important than the other components of working capital. This thinking leads them to overlook the fact that suppliers are a source of working capital improvement. Therefore, management of accounts payable can, indeed, be a major source of working capital improvement. After all, you are the one who authorizes payment. The supplier can take you to court—but only as a last resort. In this regard, you are in command.

Chapter 3

Special Situations

RAPID VARIATION IN BUSINESS SIZE

In a rapidly changing business environment, it's easy to lose sight of working capital objectives. If demand for your company's products suddenly takes off, attention shifts to fulfilling production schedules and obtaining raw materials. Little thought is given to the concessions you may be making in payment terms and receivables collections.

For some firms, this spells the beginning of the end. Their sales show enormous growth. However, profits erode due to a tendency to pay anything for raw materials just to have them available on the manufacturing line. Working capital demand soon outstrips the company's capacity to attract lenders. Even when loans are obtained, the higher rates further compromise margins. Still, the executives believe they will make it up in volume. Soon the balance in accounts receivable balloons as the credit and collections department becomes overburdened with its tasks.

Eventually, demand may cool and customers will slow their payment cycles. When this happens, demands on working capital are at a peak and the ability to finance the firm declines. Bankruptcy looms on the horizon.

Beware that during periods of rapid business growth or decline, events are more unpredictable than when business is constant. There are a number of features common to businesses experiencing volatile demand:

- Conventional operating ratios provide less of a guide for management control.

- The risks of changing the components of working capital vary from when the business was relatively steady.
- Control over working capital components (for example, receivables and payables) declines as the business becomes more volatile.
- Systems designed for smaller work loads show the strain during rapid expansion. The business components to watch include the number of staff and the capabilities of management to handle more frequent and more critical decisions in less time. In addition, the ability of data and information processing systems—both the human and automated factors—to provide management with timely and accurate information on which to base decisions declines.

Policies

During periods of rapid change, review previously established policies. Look for circumstances in which old policies and procedures actually hinder current progress or the current flow of information. Make changes quickly and precisely, and be sure to monitor the effects of newly installed policies. If change is rapid enough, policy may have to be adjusted several times before it does what was intended.

Tips for Periods of Rapid Growth

During a period of rapid growth, previously established relationships between working capital

components changes and the effort required to manage these changes probably increases for the same (or even less) result. Further, during a quick escalation of sales, attention becomes focused on product development, marketing, and the sales staff. Working capital management takes a backseat. Even worse, credit, accounts-receivable, and accounts-payable managers are often viewed with hostility, since they are the people who must try to control the expansion. Their words of caution and, often, their decisions are overruled in an attempt to satisfy market demand.

Here are some tips for working capital management during this difficult time:

- Companies that employ a systematic process to decision making cope with rapid changes more effectively than those using a “seat of the pants,” *ad hoc* approach. The systematic process focuses attention on those responsible for working capital management. If the old procedures are no longer effective, new ones are devised, tested, and implemented.
- Use of an automated “what if” modeling of the financial environment eliminates some of the guesswork that results from changes in product demand and manufacturing schedules.
- Realistic limits on the firm’s ability to grow and finance itself must be established. You must understand that it’s better to forgo some sales and survive than be tossed into bankruptcy proceedings by your creditors.
- Proportional increases in working capital occur most often with businesses that merely maintain their share of a rapidly growing market. Changes in working capital broadly parallel those in inventory movement. Use the following measurements to monitor working capital performance:
 - Aging of accounts receivable (see page 8)
 - Accounts receivable turnover (see page 8)
 - Inventory turnover (see page 13)
 - Composition and level of accounts receivable (see page 16)
 - Accounts payable turnover (see page 16)
 - Aging of accounts payable (see page 16)

When any component of working capital moves outside established boundaries, take steps to bring it back in line. Assess the impact

of major management decisions on these measures. The name of the game is profitability and survivability.

- To better judge your system’s ability to process working capital transactions, forecast the following:
 - The number of sales transactions to be processed
 - The number of new customer receivables accounts to be maintained
 - The ability of the payables system to process invoices from new vendors supplying inventory
 - New inventory items that will be added to the inventory control system
- Available cash over the course of the next year must be forecast by month. Identify any cash shortfalls, provide for a contingency reserve, and then determine the firm’s ability to generate the necessary cash internally or obtain it from external sources.
- Higher-capacity data processing facilities may be required. Higher-caliber personnel, with backgrounds commensurate with the increased level of responsibility, may also be necessary. An interim solution, though expensive, is to use outside service bureaus and consultants until the right combination of personnel and hardware can be acquired.

Companies that grow by seizing market share from competitors require increasing amounts of working capital. Levels of inventory must be increased to provide product to sell. Receivables are often intentionally expanded to allow more favorable terms. Often this strategy proves to be unprofitable in the short run. When the growth firm replaces its competitors, sales terms change, prices increase along with margins, and the firm fine tunes working capital requirements. Profit margins then rise to the levels they should be.

Quantify decisions affecting working capital—your banker certainly will when you ask for a loan. Vague statements on sales increases coming from an improved marketing campaign can spell trouble for the working capital manager. Determine exactly how much sales are expected to rise. Assign responsibility for making this happen. Determine contingency plans in the event estimates prove wrong. Formulate plans both for capitalizing on the success and for cutting losses

and getting out. Finally, obtain standby funding in the event working capital requirements outstrip the company's ability to generate internal cash.

If the growth strategy requires penetration of new markets, working capital requirements will change. Determine the payment customs for the target market in the new industry. If they are different from those of the current industry, a lag in collection of receivables may have to be provided.

Tips for Periods of Rapid Decline

Companies experiencing rapid decline both in sales and profits face enormous pressure from working capital demand. Under these circumstances it always seems that required working capital exceeds the company's ability to generate cash. Here are some tips for dealing with rapid decline:

- Understand the nature of the decline and how it affects your business and its markets. The decline may be due to a falling market, a falling market share, or both. Escalating costs of production or raw materials may also cause a profit downturn.
- Take steps to reduce working capital requirements immediately after confirming a sustained business downturn. Develop a strategy that minimizes the lag time needed to reduce working capital. Often that's the most difficult thing to accomplish. People refuse to admit that their business has encountered tough times. They wait too long for a turnaround, and this decreases the probability of survival.
- Use forecasting and modeling techniques to predict and quantify the consequences of the rapid decline. Then take action.
- Falling markets contain customers less inclined to buy and more reluctant to pay. With less demand, inventory becomes obsolete as it sits on the shelf. The risks of slow payments and bad debts may increase, since a customer who has stopped buying from you has little incentive to pay you in order to maintain a good relationship.

SERVICE COMPANIES

Service companies such as personal service corporations, professional firms, and brokerages are

generally less capital-intensive. The bulk of their working capital is tied up in receivables. Service companies face problems of working capital management that are different from those that manufacturers and sellers of goods face. Overhead and other staff salaries are constant and must be paid even during an uneven business cycle. Such companies provide services from the goodwill generated by their *employees*. When staff cutbacks occur, formerly loyal clients often go elsewhere or follow the staff member to a new employer.

Working Capital Objectives for Service Companies

Working capital management of service companies attempts to match cash receipts with cash payments. This requires careful monitoring of the market for services and knowledge of your client's future requirements. Anticipated changes must be recognized far enough in advance to make changes in working capital requirements to maintain capacity and profitability.

This requires an effective sales-, profit-, and working capital-forecasting mechanism. More important, management must have the confidence in its forecasts to use them for decision-making purposes.

Tips for Managing Working Capital in Service Industries

When changes in sales and profitability are anticipated (especially downturns), adjust variable expenses. Once these changes in service demand are recognized and determined to be long-lived, service staff levels should be adjusted. Staff hiring should be done far enough in advance so that staff are effective by the time they are needed. Likewise, excess staff should be cut back before demand falls to a level at which they drain earnings.

For extended service contracts (such as a two-year architectural design engagement), demand monthly billings. This maintains a level cash inflow to better match monthly expenses.

Slow-paying clients can be a real problem for service companies. To decrease the loss from slow-paying clients (or clients who refuse to pay at all), require a retainer prior to the start of work. Often such professional retainers are equivalent to a fixed percentage of the estimated

total job cost. Make sure the client understands that the retainer does not take the place of the first monthly payment, which still gets invoiced and paid. Rather, the retainer is kept until the end of the job and is used to offset any costs of delinquency, collections, or attorney's fees or, if everything went well, used as the *final* payment.

During periods of large cash outflow, billing should increase appropriately. Law firms, accounting firms, and many others bill by the hours spent by their staff on the job. This ensures that cash inflow matches outflow.

Maintain control over accounts receivable. If you foresee a downturn in business, increase the collections effort. Chances are, if you experience a business slump, your clients will also. Collect the amounts they owe while they still have the cash to pay on time.

Make sure your clients understand your payment policies. Clearly define the terms for payment, interest charged for late payment, and work stoppage for nonpayment. Don't be embar-

rassed to talk about money—after all, that's why you are there in the first place. Enforce your collections policy. Clients who are suddenly hit with an additional charge for interest because they did not pay on time realize that you are serious. For clients with whom you suspect there may be a problem, stop work and drop them if necessary.

Many service industries have seasonal work patterns. Tax preparers are a case in point. Such firms can often spread their work more evenly over the year to create a more level cash flow. To obtain work in the down periods, many service companies offer discounts. The discounts offered are offset by the lack of overtime required. If this is done correctly, your profit margin should not fall appreciably.

Make it a company policy that staff vacations should be taken during slack periods. For their exempt professional staff who work overtime, some companies give additional time off work.

Appendix A

Case Study: MTH Company

SITUATION

The MTH Company manufactures pet food. Its profits had been steadily declining over the last two years. Its market share had been eroded by competitors offering different varieties of products for pets of various ages. MTH's board decided that changes in management were required to pull their company out of the abyss into which it was plunging. They fired the president, vice president of finance, and controller. These three were replaced with seasoned professionals from three competing firms.

When the new management team walked in on January 3, they faced the following key financial statistics:

MTH COMPANY
Selected Financial Statistics
December 31, 19X1
(\$ in thousands)

Balance Sheet Items:

Inventory	\$ 160
Accounts receivable	230
Accounts payable	(75)
Bank overdrafts (note 2)	<u>(165)</u>
Working capital	\$ 150
Fixed assets	<u>100</u>
Capital employed	<u>\$ 250</u>
Loans (note 1)	\$ 100
Common stock	<u>150</u>
	<u>\$ 250</u>

Profit and Loss Items:

Sales	\$1,000
Cost of sales	<u>(665)</u>
Gross margin	\$ 335
Operating costs	<u>(280)</u>
Net income before interest and taxes	\$ 55
Interest expense	<u>(35)</u>
Profit before tax	<u>\$ 20</u>

Notes:

1. Loans payable are long-term at 12 percent.
2. Bank overdrafts remained relatively constant throughout the year, and the rate of interest payable averages 14 percent on the line-of-credit draw to fill the cash deficit.

On their first day on the job, MTH's new management team met with the board. The team was charged with turning the firm around within twelve months. The board required *only* that profits be increased 50 percent and return on capital, which was now a disaster, be improved.

WHAT TO DO?

The new management team first found that MTH required too much working capital to operate. Indeed, working capital as a percentage of sales was 15 percent ($150/1000 = 15\%$). Averages of this index in the pet food manufacturing industry are more in the 10-percent to 12-percent range. This means that one opportunity to improve both profits and return on capital

has to come from a reduction of the firm's working capital requirement.

The new team then looked at each component of working capital for indications of mismanagement and for further opportunities to improve the return. Here's what they found.

ACCOUNTS RECEIVABLE

The team discovered one blunder after another upon review of accounts receivable management. They fired the accounts receivable supervisor immediately. Rather than hire a replacement, the new controller took personal charge of what turned out to be MTH's largest asset.

On January 6, just three days after the new team started the job, the following changes were made to accounts receivable:

- A set of accounts receivable policies, procedures, and quantitative objectives was established and communicated to the accounts receivable staff. Time frames to meet the objectives were given along with specific plans of action.
- MTH had incurred unacceptable bad debts. As a result, the commissions of the salespeople were changed to a percentage of *collected* balances rather than simply gross sales.
- The focus of the collection staff effort was redirected toward the largest outstanding balances.
- Cutoffs were established for aging of receivables before they were sent to a collections agency.
- Lawsuits were filed against five customers who each had a balance that exceeded \$10,000 and that had been outstanding for more than five months.
- Invoices were included with every shipping advice and packing slip contained in the goods that went out.

Significant improvements were seen in receivables almost immediately. During the first week after the new controller took over, three of the five lawsuits were settled in full, including interest and attorney's fees. The fourth delinquent customer set up a three-month payment

plan. The fifth ended up settling three weeks later for 75 percent of the amount owed.

The sales force, motivated to attract customers with good payment habits so they could get paid themselves, changed their target customers. Delinquencies steadily came back into line. Bad-debt write-off fell to just 0.5 percent of sales rather than the 5 percent it had been.

During the year, these measures reduced the average accounts receivable balance by \$50,000.

INVENTORY

Inventory levels were dictated by the sales staff, whose commissions depended on MTH's ability to ship immediately. As a result, inventory investment was way over what it should have been. Here are the actions that were taken:

- The safety stock in the finished-goods inventory was reduced by \$10,000 without compromising shipping schedules.
- The manufacturing schedule and inventory build-up cycles were coordinated (for the first time in MTH's history) with the sales forecast. This reduced the average investment in inventory by another \$10,000.
- The concept of a "just in time" inventory management technique was introduced. Raw-materials, work-in-process, and finished-goods inventories were further reduced by \$50,000.

The reductions in inventory levels slashed working capital requirements by \$70,000 at the end of the first year. During the year, these measures created an average annual working capital reduction of \$35,000.

ACCOUNTS PAYABLE

Relationships with vendors had become too good. The payables manager wanted to be friends with everyone. She felt bad when there were outstanding bills at the end of the month.

The new management team realized that most of their suppliers were in a similar market predicament to their own. MTH received no better service from its suppliers than its competitors received, yet MTH was paying its bills, on average, thirty days ahead of everyone else. Certainly the suppliers didn't complain.

Here's what the new team did:

- All standing purchase contracts were renegotiated to a contractual payment time of forty-five days.
- An automated accounts payable system was installed to track contractual payment dates on all invoices. Invoices were paid on those days. This meant that checks were usually cut every day rather than only twice a month.
- Payables having discount terms for early payment were tracked with special care. All discount terms were reviewed to determine if the annualized discount percentage exceeded the firm's cost of funds. If it did, the discount was taken and the vendor was paid in accordance with the discount provisions.
- Overseas suppliers were all placed on ninety-day payment terms. Where possible, MTH paid foreign suppliers in U.S. dollars with checks drawn on their U.S. disbursement bank.
- All major suppliers were visited by one or more members of the new management team. MTH's problems and recovery plans were outlined, and a firm working arrangement was hammered out. The team made sure that any commitments to these suppliers were honored. In addition, they followed up with each of these vendors at least monthly just to stay in touch and to resolve any problems that may have come up.

The results of this campaign were that the average accounts payable balance was increased by \$15,000 without jeopardizing any vendor relationships.

OVERALL PROCEDURES AND RESULTS

The board of directors was kept informed every step of the way. They were told about the problems that the team found and that had led to the mess the firm was in. Plans of attack and projected improvements were described. As the plans unfolded, actual results for each month were compared with those forecast. Where changes were required, they were made.

Through the increased efficiency of cash usage, MTH found they were able to repay part of the bank overdraft that had been previously outstanding. This reduced the liability from \$165,000 to \$115,000.

One year later, the new team was still in place. MTH's financial picture looked much brighter. The following shows the results of their changes:

MTH COMPANY
Selected Financial Results
December 31, 19X1 and 19X2
(*\$ in thousands*)

	<u>19X1</u>	<u>Improvement</u>	<u>19X2</u>
<i>Balance Sheet Items:</i>			
Inventory	\$ 160	\$35	\$ 125
Accounts receivable	230	50	180
Accounts payable	(75)	15	(90)
Bank overdrafts	<u>(165)</u>	<u>(50)</u>	<u>(115)</u>
Working capital	\$ 150	\$50	\$ 100
Fixed assets	<u>100</u>	<u>—</u>	<u>100</u>
Capital employed	<u>\$ 250</u>	<u>\$50</u>	<u>\$ 200</u>
Loans	\$ 100	\$50	\$ 50
Common stock	<u>150</u>	<u>—</u>	<u>150</u>
	<u>\$ 250</u>	<u>\$50</u>	<u>\$ 200</u>
<i>Profit and Loss Items:</i>			
Sales	\$1,000	—	\$1,000
Cost of sales	<u>(665)</u>	<u>—</u>	<u>(665)</u>
Gross margin	\$ 335	—	\$ 335
Operating costs	<u>(280)</u>	<u>3</u>	<u>(277)</u>
Net income before interest and taxes	\$ 55	3	\$ 58
Interest expense	<u>(35)</u>	<u>7</u>	<u>(28)</u>
Profit before tax	<u>\$ 20</u>	<u>\$10</u>	<u>\$ 30</u>

Other results of the new team's efforts were the following:

- Pretax profits rose the required 50 percent.
- Return on capital rose to a level of 29 percent ($58/200 = 29\%$). This is above the marginal cost of funds.
- The debt/equity ratio (which equals total debt/total equity) was reduced from 177 percent to 110 percent. Although still high, this shows an improvement.

Appendix B

Suggestions for Further Reading

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Other books in the Management Series include:

Financing Your Business
Managing Business Risk
Making the Most of Marketing

