**KEY TERMS**

**Control** a regulatory process of establishing standards to achieve organizational goals, comparing actual performance against the standards, and taking corrective action when necessary

**Standards** a basis of comparison for measuring the extent to which various kinds of organizational performance are satisfactory or unsatisfactory

**Benchmarking** the process of identifying outstanding practices, processes, and standards in other companies and adapting them to your company

**Cybernetic** the process of steering or keeping on course

**Feedback control** a mechanism for gathering information about performance deficiencies after they occur

**Concurrent control** a mechanism for gathering information about performance deficiencies as they occur, thereby eliminating or shortening the delay between performance and feedback

**Feedforward control** a mechanism for monitoring performance inputs rather than outputs to prevent or minimize performance deficiencies before they occur

**Control loss** the situation in which behavior and work procedures do not conform to standards

**Regulation costs** the costs associated with implementing or maintaining control

**Cybernetic feasibility** the extent to which it is possible to implement each step in the control process

**Bureaucratic control** the use of hierarchical authority to influence employee behavior by rewarding or punishing employees for compliance or noncompliance with organizational policies, rules, and procedures

**Objective control** the use of observable measures of worker behavior or outputs to assess performance and influence behavior

**Behavior control** the regulation of the behaviors and actions that workers perform on the job

**Output control** the regulation of workers’ results or outputs through rewards and incentives

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**LEARNING OUTCOMES**

**Review 1: The Control Process**

- The control process begins by setting standards, measuring performance, and then comparing performance to the standards. The better a company’s information and measurement systems, the easier it is to make these comparisons. The control process continues by identifying and analyzing performance deviations, and then developing and implementing programs for corrective action. However, control is a continuous, dynamic, cybernetic process, not a one-time achievement or result. Control requires frequent managerial attention. The three basic control methods are feedback control (after-the-fact performance information), concurrent control (simultaneous performance information), and feedforward control (preventive performance information). Control, however, has regulation costs and unanticipated consequences and therefore isn’t always worthwhile or possible.

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**Review 2: Control Methods**

- There are five methods of control: bureaucratic, objective, normative, concertive, and self-control (self-management). Bureaucratic and objective controls are top-down, management-based, and measurement-based. Normative and concertive controls represent shared forms of control because they evolve from company-wide or team-based beliefs and values. Self-control, or self-management, is a control system in which managers turn much, but not all, control over to the individuals themselves.

Bureaucratic control is based on organizational policies, rules, and procedures. Objective controls are based on reliable measures of behavior or outputs. Normative control is based on strong corporate beliefs and careful hiring practices. Concertive control is based on the development of values, beliefs, and rules in autonomous work groups. Self-control is based on individuals’ setting their own goals, monitoring themselves, and rewarding or punishing themselves with regard to their achievement.

We end this section (flip over card) by noting that each of these control methods may be more or less appropriate depending on the circumstances.
When to Use Different Methods of Control

| BUREAUCRATIC CONTROL | • When it is necessary to standardize operating procedures  
|                      | • When it is necessary to establish limits  
| BEHAVIOR CONTROL     | • When it is easier to measure what workers do on the job than what they accomplish on the job  
|                      | • When "cause-effect" relationships are clear, that is, when companies know which behaviors will lead to success and which won't  
|                      | • When good measures of worker behavior can be created  
| OUTPUT CONTROL       | • When it is easier to measure what workers accomplish on the job than what they do on the job  
|                      | • When good measures of worker output can be created  
|                      | • When it is possible to set clear goals and standards for worker output  
|                      | • When "cause-effect" relationships are unclear  
| NORMATIVE CONTROL    | • When organizational culture, values, and beliefs are strong  
|                      | • When it is difficult to create good measures of worker behavior  
|                      | • When it is difficult to create good measures of worker output  
| CONCERTIVE CONTROL   | • When responsibility for task accomplishment is given to autonomous work groups  
|                      | • When management wants workers to take "ownership" of their behavior and outputs  
|                      | • When management desires a strong form of worker-based control  
| SELF-CONTROL         | • When workers are intrinsically motivated to do their jobs well  
|                      | • When it is difficult to create good measures of worker behavior  
|                      | • When it is difficult to create good measures of worker output  
|                      | • When workers have or are taught self-control and self-leadership skills  

When to Use Different Methods of Control

Review 3: What to Control?

Deciding what to control is just as important as deciding whether to control or how to control. In most companies, performance is measured using financial measures alone. However, the balanced scorecard encourages managers to measure and control company performance from four perspectives: financial, customers, internal operations, and innovation and learning. Traditionally, financial control has been achieved through cash flow analysis, balance sheets, income statements, financial ratios, and budgets. (For a refresher on these traditional financial control tools, see the next card, which is a Financial Review Card.) Another way to measure and control financial performance, however, is through economic value added (EVA). Unlike traditional financial measures, EVA helps managers assess whether they are performing well enough to pay the cost of the capital needed to run the business. Instead of using customer satisfaction surveys to measure performance, companies should pay attention to customer defectors, who are more likely to speak up about what the company is doing wrong. Performance of internal operations is often measured in terms of quality, which is defined in three ways: excellence, value, and conformance to expectations. Minimization of waste has become an important part of innovation and learning in companies. The four levels of waste minimization are waste prevention and reduction, recycling and reuse, waste treatment, and waste disposal.

Calculating Economic Value Added (EVA)

<table>
<thead>
<tr>
<th>Step</th>
<th>Calculation</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Calculate net operating profit after taxes (NOPAT)</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>2.</td>
<td>Identify how much capital the company has invested (i.e., spent)</td>
<td>$16,800,000</td>
</tr>
<tr>
<td>3.</td>
<td>Determine the cost (i.e., rate) paid for capital (usually between 5 percent and 13 percent)</td>
<td>10%</td>
</tr>
<tr>
<td>4.</td>
<td>Multiply capital used (Step 2) times cost of capital (Step 3)</td>
<td>$(10% \times 16,800,000) = 1,680,000$</td>
</tr>
<tr>
<td>5.</td>
<td>Subtract the total dollar cost of capital from net profit after taxes</td>
<td>$(3,500,000 - 1,680,000) = 1,820,000$ Economic value added</td>
</tr>
</tbody>
</table>
Basic Accounting Tools for Controlling Financial Performance

**CHAPTER 16**

**STEPS FOR A BASIC CASH FLOW ANALYSIS**

1. Forecast sales (steady, up, or down).
2. Project changes in anticipated cash inflows (as a result of changes).
3. Project anticipated cash outflows (as a result of changes).
4. Project net cash flows by combining anticipated cash inflows and outflows.

**PARTS OF A BASIC BALANCE SHEET (ASSETS = LIABILITIES + OWNER’S EQUITY)**

1. **Assets**
   a. Current Assets (cash, short-term investment, marketable securities, accounts receivable, etc.)
   b. Fixed Assets (land, buildings, machinery, equipment, etc.)
2. **Liabilities**
   a. Current Liabilities (accounts payable, notes payable, taxes payable, etc.)
   b. Long-Term Liabilities (long-term debt, deferred income taxes, etc.)
3. **Owner’s Equity**
   a. Preferred stock and common stock
   b. Additional paid-in capital
   c. Retained earnings

**BASIC INCOME STATEMENT**

- Sales Revenue
  - Sales returns and allowances
  - Other income
  - Net Revenue
- Cost of goods sold (beginning inventory, costs of goods purchased, ending inventory)
  - Gross Profit
- Total operating expenses (selling, general, and administrative expenses)
  - Income from Operations
- Interest expense
  - Pretax Income
- Income taxes
  - Net Income

**Common Kinds of Budgets**

**Revenue Budgets**—used to project or forecast future sales.
- Accuracy of projection depends on economy, competitors, sales force estimates, etc.
- Determined by estimating future sales volume and sales prices for all products and services.

**Expense Budgets**—used within departments and divisions to determine how much will be spent on various supplies, projects, or activities.
- One of the first places that companies look for cuts when trying to lower expenses.

**Profit Budgets**—used by profit centers, which have “profit and loss” responsibility.
- Profit budgets combine revenue and expense budgets into one budget.
- Typically used in large businesses with multiple plants and divisions.

**Cash Budgets**—used to forecast how much cash a company will have on hand to meet expenses.
- Similar to cash flow analyses.
- Used to identify cash shortfalls, which must be covered to pay bills, or cash excesses, which should be invested for a higher return.

**Capital Expenditure Budgets**—used to forecast large, long-lasting investments in equipment, buildings, and property.
- Help managers identify funding that will be needed to pay for future expansion or strategic moves designed to increase competitive advantage.

**Variable Budgets**—used to project costs across varying levels of sales and revenues.
- Important because it is difficult to accurately predict sales revenue and volume.
- Lead to more accurate budgeting with respect to labor, materials, and administrative expenses, which vary with sales volume and revenues.
- Build flexibility into the budgeting process.

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## Common Financial Ratios

<table>
<thead>
<tr>
<th>RATIOS</th>
<th>FORMULA</th>
<th>WHAT IT MEANS</th>
<th>WHEN TO USE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIQUIDITY RATIOS</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Current Ratio</td>
<td>Current Assets / Current Liabilities</td>
<td>• Whether you have enough assets on hand to pay for short-term bills and obligations.&lt;br&gt;• Higher is better.&lt;br&gt;• Recommended level is two times as many current assets as current liabilities.</td>
<td>• Track monthly and quarterly.&lt;br&gt;• Basic measure of your company’s health.</td>
</tr>
<tr>
<td>Quick (Acid Test) Ratio</td>
<td>(Current Assets – Inventories) / Current Liabilities</td>
<td>• Stricter than current ratio.&lt;br&gt;• Whether you have enough (i.e., cash) to pay short-term bills and obligations.&lt;br&gt;• Higher is better.&lt;br&gt;• Recommended level is one or higher.</td>
<td>• Track monthly.&lt;br&gt;• Also calculate quick ratio with potential customers to evaluate whether they’re likely to pay you in a timely manner.</td>
</tr>
<tr>
<td><strong>LEVERAGE RATIOS</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Debt to Equity</td>
<td>Total Liabilities / Total Equity</td>
<td>• Indicates how much the company is leveraged (in debt) by comparing what is owed (liabilities) to what is owned (equity).&lt;br&gt;• Lower is better. A high debt-to-equity ratio could indicate that the company has too much debt.&lt;br&gt;• Recommended level depends on industry.</td>
<td>• Track monthly.&lt;br&gt;• Lenders often use this to determine the creditworthiness of a business (i.e., whether to approve additional loans).</td>
</tr>
<tr>
<td>Debt Coverage</td>
<td>(Net Profit + Noncash Expense) / Debt</td>
<td>• Indicates how well cash flow covers debt payments.&lt;br&gt;• Higher is better.</td>
<td>• Track monthly.&lt;br&gt;• Lenders look at this ratio to determine if there is adequate cash to make loan payments.</td>
</tr>
<tr>
<td><strong>EFFICIENCY RATIOS</strong></td>
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<tr>
<td>Inventory Turnover</td>
<td>Cost of Goods Sold / Average Value of Inventory</td>
<td>• Whether you’re making efficient use of inventory.&lt;br&gt;• Higher is better, indicating that inventory (dollars) isn’t purchased (spent) until needed.&lt;br&gt;• Recommended level depends on industry.</td>
<td>• Track monthly by using a 12-month rolling average.</td>
</tr>
<tr>
<td>Average Collections</td>
<td>Accounts Receivable / (Annual Net Credit / Sales Divided by 365)</td>
<td>• Shows on average how quickly your customers are paying their bills.&lt;br&gt;• Recommended level is no more than 15 days longer than credit terms. If credit is net 30 days, then average should not be longer than 45 days.</td>
<td>• Track monthly.&lt;br&gt;• Use to determine how long company’s money is being tied up in customer credit.</td>
</tr>
<tr>
<td><strong>PROFITABILITY RATIOS</strong></td>
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<tr>
<td>Gross Profit Margin</td>
<td>Gross Profit / Total Sales</td>
<td>• Shows how efficiently a business is using its materials and labor in the production process.&lt;br&gt;• Higher is better, indicating that a profit can be made if fixed costs are controlled.</td>
<td>• Track monthly.&lt;br&gt;• Analyze when unsure about product or service pricing.&lt;br&gt;• Low margin compared to competitors means you’re underpricing.</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>Net Income / Owner’s Equity</td>
<td>• Shows what was earned on your investment in the business during a particular period. Often called “return on investment.”&lt;br&gt;• Higher is better.</td>
<td>• Track quarterly and annually.&lt;br&gt;• Use to compare to what you might have earned on the stock market, bonds, or government Treasury bills during the same period.</td>
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