Title: Controls and Control Systems
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Chapter 6
Controls and Control Systems
Chapter 6

• How and why do managers use the control process?
• What types of controls are used by managers?
• What are some useful organizational control tools and techniques?
Controlling is one of the four management functions.

Control begins with objectives and standards.

Control measures actual performance.

Control compares results with objectives and standards.

Control takes corrective action as needed.
Control as a Management Function

Controlling is the process of measuring performance and taking action to ensure desired results.
Step 1:
Control starts with objectives and standards

- Output standards measure results in terms of quantity, quality, cost or time
- Input standards measure the work efforts that go into the performance task
CONTROL

Control Process

Step 2:
Control measures actual performance
– Agreed-upon standards
– Accurate and timely measurement
Control Process

Step 3:
Control compares results with objectives and standards

Desired Performance - Actual Performance
Need for action
Step 4: Control takes corrective action as needed

– Management by exception is the practice of giving attention to situations that show the greatest need
6.2
How Managers Use Control

• Managers use feedforward, concurrent and feedback controls
• Managers use both internal and external controls
• Management by objectives is a way of integrating planning and controlling
Organizations are open systems that interact with environment with input, throughput and output controls.
HOW MANAGERS USE CONTROL

Types of Controls

WORK INPUTS
- Feedforward Controls: Ensure the right directions are set and the right resource inputs are available
  - Solve problems before they occur

WORK THROUGHPUTS
- Concurrent Controls: Ensure the right things are being done as part of work-flow operations
  - Solve problems while they are occurring

WORK OUTPUTS
- Feedback Controls: Ensure that final results are up to desired standards
  - Solve problems after they occur
HOW MANAGERS USE CONTROL

Internal and External Controls

- Internal Control
  - Motivated employees exercise self-control in their work
  - Participation in planning work and having a sense of purpose facilitate motivation
HOW MANAGERS USE CONTROL

Internal and External Controls

External Control

Bureaucratic control
- involves policies, procedures, budgets and supervision to influence behavior

Clan control
- uses the organization’s culture to influence behavior

Market control
- influence that market competition has on organizational decisions such as price, product modification and expansion
Objectives

Management By Objectives (MBO)
• Superior and subordinate jointly plan objectives
Objectives

• Types of objectives
  – Improvement objectives state goals for improvement in measurable terms
    • “increase sales by 5%”
  – Personal development objectives focus on personal growth
    • “learn a second language”
Control Systems and Techniques

- Quality control is a foundation of modern management
- Gantt charts and CPM/PERT are used in project management and control
- Inventory controls help save costs
- Breakeven analysis shows where revenues will equal costs
- Financial ratios and balanced scorecards strengthen organizational controls
Quality Control

• Quality Control is increasingly important for global competition
  – Total Quality Management
    • Commitment to quality
    • Striving for zero defects
  – Continuous Improvement
    • Always searching for new ways to improve work quality and performance
Project Management

- Responsibility for planning and control of projects
CONTROL SYSTEMS AND TECHNIQUES

Project Management

Project Management Tools

• Gantt Charts
• CPM/PERT Charts
  – Critical Path

CPM/PERT is a combination of the critical path method and the program evaluation and review technique.
Inventory Control

- Inventory controls reduce inventory costs
  - Economic order quantity
    - Pre-determined amount of inventory is ordered when current inventory reaches a certain level
  - Just-in-time scheduling
    - Inventory arrives exactly when needed for production or sale
Breakeven Analysis

- Breakeven Point
  - is the point at which revenues equal costs

- Breakeven Analysis
  - calculates the point at which sales revenues cover costs.

How to Calculate a Breakeven Point

Breakeven Point = Fixed Costs / (Price - Variable Costs)
Breakeven Analysis

- **Breakeven Point**: Revenues = Costs
- **Total Costs**: Fixed + Variable
- **Total Sales Revenue**
Major Financial Ratios for Organizational Control

Liquidity—measures ability to meet short-term obligations.
- **Current Ratio** = \( \frac{\text{Current Assets}}{\text{Current Liabilities}} \)
- **Quick Ratio** = \( \frac{\text{Current Assets - Inventory}}{\text{Current Liabilities}} \)
Higher is better: You want more assets and fewer liabilities

Leverage—measures use of debt.
- **Debt Ratio** = \( \frac{\text{Total Debts}}{\text{Total Assets}} \)
Lower is better: You want fewer debts and more assets.

Asset Management—measures asset and inventory efficiency.
- **Asset Turnover** = \( \frac{\text{Sales}}{\text{Total Assets}} \)
- **Inventory Turnover** = \( \frac{\text{Sales}}{\text{Average Inventory}} \)
Higher is better: You want more sales and fewer assets or lower inventory.

Profitability
- **Net Margin** = \( \frac{\text{Net Profit after Taxes}}{\text{Sales}} \)
- **Return on Assets (RAO)** = \( \frac{\text{Net Profit after Taxes}}{\text{Total Assets}} \)
- **Return on Equity (ROE)** = \( \frac{\text{Net Income}}{\text{Owner’s Equity}} \)
Higher is better: You want as much profit as possible for sales, assets, & equity.
Balanced Scorecard

- Balanced Scorecards start with the organizational mission and vision to build goals and performance measures for:
  - Financial performance
  - Customer satisfaction
  - Internal process improvement
  - Innovation and learning