Professional Ethics

Ethical issues and considerations are tested in both parts of the CMA exam. In Part 1, ethics is tested from the perspective of the individual, and in Part 2, it is tested from the perspective of the organization. Ethics may be tested in conjunction with any topic area.

Most of this study unit is on investment decisions (20% of Part 2). A portion of this study unit is on professional ethics. The relative weight assigned to this major topic in Part 2 of the exam is 5%.

After studying the outlines and answering the questions in this study unit, you will have the skills necessary to address the following topics listed in the ICMA’s Learning Outcome Statements:

Part 2 – Section D.5. Risk analysis in capital investment

The candidate should be able to:

a. identify alternative approaches to dealing with risk in capital budgeting
b. demonstrate an understanding of and calculate certainty equivalents
c. distinguish among sensitivity analysis, scenario analysis, and Monte Carlo simulation as risk analysis techniques
d. explain why a rate specifically adjusted for risk should be used when project cash flows are more or less risky than is normal for a firm
e. explain how the value of a capital investment is increased if consideration is given to the possibility of adding on, speeding up, slowing down, or discontinuing early
f. demonstrate an understanding of real options and identify examples of the different types of real options (calculations not required)

Part 2 – Section D.6. Valuation

The candidate should be able to:

a. identify the key variables that should be used in valuing stocks and companies
b. demonstrate how discounted cash flow analysis can be used to analyze stocks, acquisitions, and divestitures
c. demonstrate an understanding of required rate of return concepts
d. explain the importance of beta and the CAPM in valuation
e. calculate a required rate of return using the capital asset pricing model (CAPM)
f. explain the concept of a risk premium and why discount rates higher (or lower) than the weighted average cost of capital might be appropriate in valuation
g. explain the importance of growth in valuation
h. explain the importance of cash flows (and earnings) in valuation
i. analyze financial statements to develop operating cash flows and forecast growth in cash flows
j. explain how changes in the discount rate will affect the valuation for stocks, acquisitions, or divestitures
k. explain the use of sensitivity analysis in valuation
l. use the constant growth dividend discount model to value stocks and demonstrate an understanding of the two-stage dividend discount model
m. demonstrate an understanding of relative or comparable valuation methods, such as price-earnings (P-E) ratios, market-book ratios, and price-sales ratios
n. value a business, a business segment, and a business combination using discounted cash flow methods
o. value a business using relative or comparable valuation methods (P-E ratios, etc.)
p. explain how income taxes impact valuation
q. explain how real options affect the valuation of a company
r. evaluate a proposed business combination and make a recommendation based on both quantitative and qualitative considerations

Ethics may be tested in conjunction with any topic area.

Part 2 – Section E.1. Ethical considerations for the organization

The candidate should be able to:

a. identify the purpose of the U.S. Foreign Corrupt Practices Act
b. identify the practices that the U.S. Foreign Corrupt Practices Act prohibits, and explain how to apply this Act to typical business situations
c. apply relevant provisions of IMA’s Statement on Management Accounting, “Values and Ethics: From Inception to Practice” to typical business situations
d. discuss corporate responsibility for ethical conduct
e. explain why it is important for an organization to have a code of conduct
f. demonstrate an understanding of the ways ethical values benefit an organization
g. demonstrate an understanding of the differences between ethical and legal behavior
h. demonstrate an understanding of role of “leadership by example” or “tone at the top” in determining an organization’s ethical environment
i. explain the importance of human capital to an organization in creating a climate where “doing the right thing” is expected (i.e., hiring the right people, providing them with training, and practicing consistent values-based leadership)
j. explain how an organization’s culture impacts its behavioral values
k. explain the importance of an organization’s core values in explaining its ethical behavior
l. discuss the importance of employee training to maintaining an ethical organizational culture
m. identify who should receive the employee training, what its focus should be, and what topics the training should cover
n. describe the following methods to monitor ethical compliance: human performance feedback loop and survey tools
o. explain the importance of a whistleblowing framework (e.g., ethics helpline) to maintaining an ethical organizational culture
p. identify the requirements of SOX Section 406 -- Code of Ethics for Senior Financial Officers
q. discuss the issues organizations face in applying their values and ethical standards internationally
r. demonstrate an understanding of the relationship between ethics and internal controls (comprehensive framework of corporate ethical behavior is a prerequisite for an effective system of internal control)
s. describe three tools that can be used to identify process controls related to ethical and behavioral issues
10.1 COMPREHENSIVE EXAMPLES OF INVESTMENT DECISIONS

1. EXAMPLE: Hazman Company plans to replace an old piece of equipment that is obsolete and expected to be unreliable under the stress of daily operations. The equipment is fully depreciated, and no salvage value can be realized upon its disposal. One piece of equipment being considered as a replacement will provide an annual cash savings of $7,000 before income taxes and without regard to the effect of depreciation. The equipment costs $18,000 and has an estimated useful life of 5 years. No salvage value will be used for depreciation purposes because the equipment is expected to have no value at the end of 5 years.

Hazman uses the straight-line depreciation method on all equipment for both book and tax purposes. Hence, annual depreciation is $3,600. The company is subject to a 40% tax rate. Hazman’s desired rate of return is 14%, so it will use the 14% column from a present value table.

<table>
<thead>
<tr>
<th>Analysis of cash flows</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Before-Tax Cash Flow</strong></td>
</tr>
<tr>
<td><strong>Investment</strong></td>
</tr>
<tr>
<td><strong>Annual cash savings</strong></td>
</tr>
<tr>
<td><strong>Depreciation tax shield</strong></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
</tr>
</tbody>
</table>

a. **Net present value** = (After-tax cash flows × Present value of an annuity) – Net investment
   = ($5,640 × 3.43) – $18,000
   = $19,345 – $18,000
   = $1,345

b. **Internal rate of return.** The goal is to find the discount rate that most nearly equals the net investment.
   Net present value at 16%: $5,640 × 3.27 = $18,443
   Net present value at 18%: $5,640 × 3.13 = (17,653)
   Difference $790
   Net present value at 16%: $18,443
   Initial investment (18,000)
   Difference $443
   Estimated increment ($443 ÷ $790) × 2% = 1.1%
   Rate used 16.0
   Internal rate of return 17.1%

c. **Payback period** = Net investment ÷ After-tax cash flow
   = $18,000 ÷ $5,640
   = 3.19 years

d. **Profitability index** = NPV of future cash flows ÷ Net investment
   = ($5,640 × 3.43) ÷ $18,000
   = $19,345 ÷ $18,000
   = 1.07
2. EXAMPLE: The management of Flesher Farms is trying to decide whether to buy a new team of mules at a cost of $1,000 or a new tractor at a cost of $10,000. They will perform the same job. But because the mules require more laborers, the annual return is only $250 of net cash inflows. The tractor will return $2,000 of net cash inflows per year. The mules have a working life of 8 years and the tractor 10 years. Neither investment is expected to have a salvage value at the end of its useful life. The discount rate is 6%.

a. **Net Present Value**

<table>
<thead>
<tr>
<th></th>
<th>Mules</th>
<th>Tractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash inflows</td>
<td>$250</td>
<td>$2,000</td>
</tr>
<tr>
<td>Times: present value factor</td>
<td>6.209</td>
<td>7.360</td>
</tr>
<tr>
<td>Present value</td>
<td>$1,552</td>
<td>$14,720</td>
</tr>
<tr>
<td>Less: initial investment</td>
<td>$(1,000)</td>
<td>$(10,000)</td>
</tr>
<tr>
<td><strong>Net present value</strong></td>
<td>$552</td>
<td>$4,720</td>
</tr>
</tbody>
</table>

b. **Internal Rate of Return**

1) **Mules:** Initial investment ÷ Net cash inflows = $1,000 ÷ $250 = 4
   a) On the 8-year line, a factor of 4 indicates a rate of return of approximately 18.7%.
2) **Tractor:** Initial investment ÷ Net cash inflows = $10,000 ÷ $2,000 = 5
   a) On the 10-year line, a factor of 5 indicates a rate of return of approximately 15.2%.

c. **Payback Period**

1) **Mules:** Initial investment ÷ Net cash inflows = $1,000 ÷ $250 = 4 years
2) **Tractor:** Initial investment ÷ Net cash inflows = $10,000 ÷ $2,000 = 5 years

d. **Profitability Index**

1) **Mules:** Present value of cash inflows ÷ Initial investment = $1,552 ÷ $1,000 = 1.552
2) **Tractor:** Present value of cash inflows ÷ Initial investment = $14,720 ÷ $10,000 = 1.472

e. The mule investment has the higher IRR, the quicker payback, and the better profitability index.

1) However, the tractor has the better net present value. The various methods thus give different answers to the investment question.
2) Either investment will be profitable. Management may decide to let noneconomic factors influence the decision.
   a) For example, the mules will require the use of more laborers. If unemployment in the community is high, management might wish to achieve a social goal of providing more jobs.
   b) Alternatively, a labor shortage might convince management to buy the tractor to reduce labor worries.
10.2 RISK ANALYSIS AND REAL OPTIONS IN CAPITAL INVESTMENT

1. **Risk analysis** attempts to measure the likelihood of the variability of future returns from the proposed investment. Risk cannot be ignored entirely, but mathematical approaches can be impossible because of a lack of critical information. The following approaches are frequently used to assess risk:

a. **Informal method.** NPVs are calculated at the firm’s desired rate of return, and the possible projects are individually reviewed. If the NPVs are relatively close for two mutually exclusive projects, the apparently less risky project is chosen.

b. **Risk-adjusted discount rates.** This technique adjusts the rate of return upward as the investment becomes riskier. By increasing the discount rate from 10% to 15%, for example, the expected flow from the investment must be relatively larger or the increased discount rate will generate a negative NPV, and the proposed acquisition/investment would be rejected. Although difficult to apply in extreme cases, this technique has much intuitive value.

c. **Certainty equivalent adjustments.** This technique is directly drawn from the concept of utility theory. It forces the decision maker to specify at what point the firm is indifferent to the choice between a certain sum of money and the expected value of a risky sum. The technique is not frequently used because decision makers are not familiar with the concept.

d. **Simulation analysis.** This method represents a refinement of standard profitability theory. The computer is used to generate many examples of results based upon various assumptions. Project simulation is frequently expensive. Unless a project is exceptionally large and expensive, full-scale simulation is usually not worthwhile.

e. **Sensitivity analysis.** Forecasts of many calculated NPVs under various assumptions are compared to see how sensitive NPV is to changing conditions. Changing or relaxing the assumptions about a certain variable or group of variables may drastically alter the NPV. Thus, the asset may appear to be much riskier than was originally predicted. In summary, sensitivity analysis is simply an iterative process of recalculated returns based on changing assumptions.

f. The **Monte Carlo technique** is often used in simulation to generate the individual values for a random variable.

1) The performance of a quantitative model under uncertainty may be investigated by randomly selecting values for each of the variables in the model (based on the probability distribution of each variable) and then calculating the value of the solution. If this process is performed a large number of times, the distribution of results from the model will be obtained.

2) **EXAMPLE:** Suppose a new marketing model includes a factor for a competitor’s introduction of a similar product within 1 year. Management estimates there is a 50% chance that this will happen. For each simulation, this factor must be determined, perhaps by flipping a coin or by putting two numbers in a hat and selecting one number. Random numbers between 0 and 1 could be generated. Numbers under one-half reveal a similar product; numbers over one-half reveal no similar product.

g. **The capital asset pricing model (CAPM).** This method is derived from the use of portfolio theory. It assumes that all assets are held in a portfolio. Each asset has variability in its returns. Some of this variability is caused by movements in the market as a whole, and some is specific to each firm. In a portfolio, each security’s specific variability is eliminated through diversification, and the only relevant risk is the market component. The more sensitive an asset’s rate of return is to changes in the market’s rate of return, the riskier the asset. See item 10. in Study Unit 4, Subunit 1.
2. **Real (managerial or strategic) options** reduce the risk of an investment project. A real option is the flexibility to affect the amounts and risk of an investment project’s cash flows, to determine its duration, or to postpone its implementation. A real option is ordinarily part of a major (strategic) project and involves real, not financial, assets.

   a. The value of a real option is the difference between the project’s net present value (NPV) without the option and its NPV with the option. Similarly, the worth of the project (true NPV) equals its NPV without the option plus the value of the option.

      1) Moreover, the greater the availability of real options and the uncertainty related to their exercise, the greater the worth of the project. The reason is that increased uncertainty (greater variability of potential cash flows) enhances the likelihood that an option will be exercised and therefore increases its value.

      2) Real options are not measurable with the same accuracy as financial options because the formulas applicable to the latter may not be appropriate for the former. Thus, other methods, e.g., decision tree analysis with recognition of probabilities and outcomes and simulations, are used in conjunction with discounted cash flow methods.

         a) An approach that exploits the availability of derivatives and other securities that are sensitive to specific risks is the replicating portfolio. This method involves identifying securities trading in efficient public markets with cash flows that are the same as those of the real option. Accordingly, these securities must have cash flows and fair values that respond to the same risks as the real option. Given the known prices of the securities, the firm may calculate the value of the portfolio and, presumably, the real option with the same cash flows.

            i) An advantage is that this method does not require estimating a discount rate for a discounted cash flow analysis.

            ii) A disadvantage is the need to estimate the effects on cash flows of multiple sources of risk.

   b. Management accountants should be able to determine what real options are embedded in a project, to measure their value, and to offer advice about structuring a project to include such options. The following are among the types of real options:

      1) **Abandonment** of a project entails selling its assets or employing them in an alternative project. Thus, the abandonment value of a project may be approximated. Abandonment should occur when, as a result of an ongoing evaluation process, the entity determines that the abandonment value of a new or existing project exceeds the NPV of the project’s future cash flows.

         a) The abandonment option enhances a project’s worth by allowing the entity to profit from favorable conditions while allowing it to reduce its risk when conditions are unfavorable. Thus, a project should be designed so that it has multiple decision points and total commitment of resources to project completion is deferred.

      2) The option of making a **follow-up investment** (expansion) may be the factor that renders a project feasible. NPV for the initial project may be negative because its scale is inefficient. For example, a new factory may lack the capacity to be profitable even if it can sell all of its output. However, if demand is expected to increase, a subsequent investment to expand capacity to an efficient scale may be profitable.

      3) The follow-up investment option is based on the assumption that the expansion would not have been possible without the first-stage investment. Otherwise, the entity might have chosen the option to wait and learn, that is, to postpone the project (also called a timing option). Postponement permits the entity to undertake the project with greater information and preparation, but it forgoes earlier cash flows and the possible advantage of being first into the market.
4) Other real options include the following:
   a) The **flexibility option** to vary inputs, for example, by switching fuels
   b) The **capacity option** to vary output, for example, to respond to economic
      conditions by raising or lowering output or by temporarily shutting down
   c) The option to enter a **new geographical market**, for example, in a market
      where NPV is apparently negative but the follow-up investment option is
      promising
   d) The **new product option**, for example, the opportunity to sell a
      complementary or a next-generation product even though the initial
      product is unprofitable

5) Real options may be viewed as **call options** or **put options**. For example, an
   abandonment option is in essence a put option, and a wait-and-learn option is
   in essence a call option.

   **c. Qualitative considerations.** Although real options may often not be readily
   quantifiable, adding them to a project is always a consideration because doing so is
   frequently inexpensive and the potential risk reduction is great.
   
   1) The option is usually more valuable the later it is exercised, the more variable
      the underlying risk, or the higher the level of interest rates.

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10.3 **CORPORATE VALUATION METHODS**

1. The **dividend discount model** is another method of arriving at the present value of an
   equity share:

   \[
   \text{Dividend per share} = \frac{\text{Cost of capital} - \text{Dividend growth rate}}{}
   \]

2. **Per-share ratios** relate company financial information to the market price per share.
   
   a. **Earnings per share (EPS)** equals net income available to common shareholders
      divided by the average number of shares outstanding for the period.

      \[
      \text{Net income available to common shareholders} \div \text{Average shares outstanding}
      \]

      1) Net income available to common shareholders is usually net income minus
         preferred dividends.
      2) Both basic and diluted EPS must be presented.
   
   b. **Book value per share** equals the amount of net assets available to the shareholders
      of a given type of stock divided by the number of those shares outstanding.

      \[
      \text{Shareholders’ equity} \div \text{Shares outstanding}
      \]

      1) When a company has preferred as well as common stock outstanding, the
         computation of book value per common share must consider potential claims by
         preferred shareholders, such as whether the preferred stock is cumulative and
         in arrears, or participating. It must also take into account whether the call price
         (or possibly the liquidation value) exceeds the carrying amount of the preferred
         stock.
c. **Dividend yield** equals the annual dividend payment divided by the market value per share.

\[
\frac{\text{Dividend per share}}{\text{Market value per share}}
\]

1) A related ratio is the **dividend payout**, which equals dividends per common share divided by EPS.

d. The **price-earnings (P-E) ratio** equals the market price per share of common stock divided by EPS.

\[
\frac{\text{Market price}}{\text{EPS}}
\]

1) Most analysts prefer to use diluted EPS. The diluted EPS is usually a more accurate reflection of a company’s earning power. **Earning power** is defined as a company’s ability to generate income from normal operations.

2) Growth companies are likely to have high P-E ratios. A high ratio may also indicate that the firm is relatively low risk or that its choice of accounting methods results in a conservative EPS.

3) Because of the widespread use of the P-E ratio and other measures, the relationship between accounting data and stock prices is crucial. Thus, managers have an incentive to “manage earnings,” sometimes by fraudulent means.

e. **Price-book ratio** (also called the market-to-book ratio).

\[
\frac{\text{Market price per share}}{\text{Book value per share}}
\]

1) Well-managed firms should sell at high multiples of their book value, which reflects historical cost.

f. **Price-sales ratio** is preferred by some analysts over profit ratios.

\[
\frac{\text{Market price per share}}{\text{Sales per share}}
\]

1) Analysts who use the price-sales ratio believe that strong sales are the basic ingredient of profits and that sales are the item on the financial statements least subject to manipulation.

### 10.4 ETHICS AND LEGISLATION

1. During the Watergate investigations of 1973-74, it was brought to light that U.S. companies were in the practice of handing out **bribes** to government officials, politicians, and political parties in **foreign countries**.

a. The Securities and Exchange Commission (SEC) began its own investigation and, eventually, over 400 U.S. companies admitted paying out an estimated total of over $300 million from secret “slush funds.”

1) The most notable firm involved was the aerospace giant Lockheed, which was found to have paid bribes in West Germany, Italy, Japan, the Netherlands, and Saudi Arabia since the late 1950s to ensure purchase by those governments of the company’s fighter planes and passenger jets.

2) The **Foreign Corrupt Practices Act (FCPA)** was passed in 1977 in response to these disclosures.
b. The FCPA contains **two sets of provisions**:

1) All public companies must devise and maintain a **system of internal accounting control**, regardless of whether they have foreign operations.

2) **No domestic concern**, including any person acting on its behalf, whether or not doing business overseas and whether or not registered with the SEC, may offer or authorize **corrupt payments** to any
   a) Foreign official
   b) Foreign political party or official thereof
   c) Candidate for political office in a foreign country

3) Note that only payments to **foreign officials and politicians** are prohibited; payments to foreign business owners or corporate officers are not addressed by the FCPA.

c. **Corrupt payments** are payments for the purpose of inducing the recipient to act or refrain from acting so that the domestic concern might obtain or retain business.

1) The FCPA prohibits a **mere offer or promise** of a bribe, even if it is not consummated.
   a) The FCPA prohibits payment of **anything of value**; de minimis gifts and tokens of hospitality are acceptable.

2) Payments are prohibited if the person making them **knew or should have known** that some or all of them would be used to influence a governmental official.

3) **Individuals** found in violation of the FCPA are subject to both **fine and imprisonment**. A **corporation** may be assessed a **fine** as well.
   a) Fines imposed upon individuals may not be paid directly or indirectly by an employer.

d. The FCPA contains an unusual provision that reflects the **culturally determined nature of ethics**.

1) During the various investigations, it became clear that some of the bribes had been distributed, not to gain unfair advantage, but **simply to compete** at all. In some countries, government officials expect to be paid by foreign companies just to perform the duties that would be considered a routine part of their job in the U.S.

2) The Congress became convinced that being prohibited from making such payments would put U.S. firms at a disadvantage.
   a) The antibribery section of the FCPA therefore contains a provision that **permits facilitation or “grease” payments** when the purpose is to get paperwork processed, secure a license, receive utility service, etc.

2. About 25 years after the passage of the FCPA, business ethics were even more in the news than in the mid-1970s. In late 2001 and early 2002, a wave of improper practices came to light. The following table summarizes some of the more prominent ones:

<table>
<thead>
<tr>
<th>Scandal Became Public</th>
<th>Company</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 2001</td>
<td>Enron</td>
<td>Hid debt of over $1 billion in improper off-the-books partnerships</td>
</tr>
<tr>
<td>Nov 2001</td>
<td>Arthur Andersen</td>
<td>Shredded documents related to audit of scandal-plagued client Enron</td>
</tr>
<tr>
<td>Feb 2002</td>
<td>Global Crossing</td>
<td>Inflated revenues, shredded accounting-related documents</td>
</tr>
<tr>
<td>Feb 2002</td>
<td>Qwest</td>
<td>Inflated revenues</td>
</tr>
<tr>
<td>Mar 2002</td>
<td>WorldCom</td>
<td>Booked operating expenses as capital expenses; large off-the-books payments to founder</td>
</tr>
<tr>
<td>Apr 2002</td>
<td>Adelphia</td>
<td>Booked operating expenses as capital expenses; hid debt</td>
</tr>
<tr>
<td>Jun 2002</td>
<td>Xerox</td>
<td>Inflated revenues</td>
</tr>
</tbody>
</table>
3. The **Sarbanes-Oxley Act of 2002** (SOX), a response to these scandals, imposed extensive new responsibilities on issuers of publicly traded securities and their auditors.
   
a. The most significant provision of SOX regarding ethics is Section 406(a), which requires any company issuing securities...
   ...to disclose whether or not, and if not, the reason therefor, such issuer has adopted a **code of ethics for senior financial officers**, applicable to its principal financial officer and comptroller or principal accounting officer, or persons performing similar functions.
   
b. Section 406(c) **defines “code of ethics”** as...
   ...such standards as are reasonably necessary to promote (1) honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (2) full, fair, accurate, timely, and understandable disclosure in the periodic reports required to be filed by the issuer; and (3) compliance with applicable governmental rules and regulations.
   
c. Note that SOX does not define “ethics” itself; it simply takes an understanding of the concept for granted. This reflects the **difficulty of legislating a sense of ethics**.

10.5 CORPORATE RESPONSIBILITY FOR ETHICAL BEHAVIOR

The IMA’s Statement on Management Accounting “Values and Ethics: From Inception to Practice” is a useful document for understanding ethical concepts in an organizational context. Quotations from this document are integrated into the outline below and on the following pages.

1. The **organization has a responsibility** to foster a sense of ethics in its employees and agents. All organizations need a code of conduct.
   
   *If no defined code of conduct and ethical behavior is developed, employees will act on their own beliefs and values, or they will observe and emulate the behavior they see around them on a daily basis.* (II. Introduction)

2. A pervasive sense of ethical values can **benefit an organization**.

   *In the past, quality compliance and industrially engineered output expectations helped exert a high level of control over direct-production employees ...*

   *In today’s service economy, control often involves developing management systems that include the flowcharting, mapping, and documentation of processes, activities, and tasks so that individuals know what to do “on the job.” This works well when everything proceeds as anticipated, but what does an employee do when unplanned events occur? What reference does an individual look to for help in making decisions? To take a phrase from the pioneering work done in process management by Geary Rummier and Alan Brache (1995), what does one do “in the white spaces”? In most cases, an organization relies on the judgment of the individual and/or direct supervisor to develop a course of action that they feel represents the “policy” of the organization. This is why it is important to have a defined set of organizational values and code of ethics — they create the “touchstone” against which every unanticipated decision must be judged. Failure to have every individual in the organization know and understand these values and ethical code leads to inconsistency and, in the worst cases, unethical or fraudulent behavior.* (IV. Values, Ethics, and Accounting)
3. A sense of ethics requires an ability to **distinguish between ethical and merely legal behavior.**

Many individuals at the center of corporate scandals [of the late 20th and early 21st Century] have professed the belief that they were innocent of any wrongdoing, including Kenneth Lay of Enron or Conrad Black of Hollinger. The problem is that these individuals did not define their behavior by what most of society would see as “reasonable,” but rather they followed their own particular code—in some cases, limiting the definition of ethical behavior to require compliance with the law and nothing more. (II. Introduction)

4. **“Leadership by example,”** or “tone at the top,” plays an important role in determining an organization’s ethical environment.

   Ethical behavior is not something that applies to someone else — every single individual is responsible for behaving ethically. Nowhere is this more important than the demonstration of ethical behavior that managers and supervisors exhibit in the way they execute their day-to-day work ...

   Many of us in today’s workforce have seen organizations operating with a lack of ethical commitment. As a result, there often is a high level of skepticism toward what is said by those in management and leadership positions: People tend to believe what they see rather than what they are told in the company “pep talk.” In order for a code of ethics to be effective, its application must be demonstrated by those in positions of power and leadership. Leaders must be seen living and managing by the code of ethics. (VI. Leadership by Example)

5. **The concept of “human capital”** is important to an organization in creating a climate where “doing the right thing” is expected.

   In most organizations today, labor costs constitute the majority of operating expenses. Efforts to reduce overhead have led to decentralization of operating decisions and the slimming down of supervision. The result is that employees cannot be watched and controlled in every aspect of their work, and an organization must, to a great degree, trust that its employees are acting in its best interests. Human “capital” is a critical asset. Humans create the innovation that generates new products or services and finds unique ways to undertake work in more cost-effective ways. They bring knowledge to the workplace and share it with coworkers. People develop relationships with each other and with suppliers, clients, and others on whom the organization depends. Top leadership in particular creates a climate and culture in which such productive applications of human skills can be optimized to the highest level.

   In organizations where capital investment is a key component of activity ... [a]ccountants would think little of carrying out detailed DCF/ROI calculations and developing models, spreadsheets, and simulations to verify the asset’s potential performance. The goal of this planning and analysis is to optimize the investment and reduce the risk of a poor decision. If hiring decisions and employee orientation and training fail to address the alignment of individual values and ethics with organizational expectations, the result can be an equal, if not greater, negative impact on an organization’s performance. Unmotivated employees can poison the atmosphere and reduce the teamwork and cooperation required for knowledge transfer and innovation, and they can have a significant negative impact on relationships with suppliers and customers. (IV. Values, Ethics, and Accounting)

   An organizational code of ethics must therefore be used as a benchmark for hiring decision. This ensures candidates have a personal code that aligns with the organizational expectations. (VI. Leadership by Example)
6. An organization’s culture impacts its behavioral values.

   Every organization already has a culture. In smaller companies — particularly family-owned businesses — the culture reflects the personal values and business methods of the owners and primary operators. In larger companies, it is more difficult to convey the proper culture from the top. One of the most significant risks in very large organizations, in fact, is that the culture (and, by definition, the values and ethics) that the board of directors and senior management believe to exist within the company may be different from the actual culture experienced by employees, clients, and suppliers. In other words, upper management’s perception of the culture is not reality.

   Step one in establishing an ethical culture must be an assessment of the existing organizational values and culture and the development of a set of statements that define the principles the organization believes in and should act upon. These statements and principles can be developed by the shareholders, the board, or a governing body within the organization.

   (V. Defining and Developing the Organization’s Behavioral Values)

7. Employee training is important to maintaining an ethical organizational culture.

   Although orientation must be provided to every employee at the time of hiring, it is not enough to maintain awareness and commitment to the application of a code of ethics in the workplace. Every existing member of staff should receive ongoing training, starting at the board level and cascading down throughout the organization ... Ethics training for employees should focus on covering ethical concepts, the organization’s code, and compliance. To achieve this, training should include:

   • Ethical concepts and thinking: What is “behind” the issue of ethical action?
   • The organization’s code of ethics and any supporting “rules”

   (VIII. Practical Application: Converting Intent into Operational Reality)

8. Two methods for monitoring ethical compliance are

   a. Human performance feedback loop

   Performance review and development systems must be fully aligned with the requirements for ethical conduct. Competencies, job descriptions, and objectives should include ethical expectations, and the regular employee review systems (conducted on an annual basis at minimum) must assess employees against the same criteria. If the code of ethics dictates that employees treat all others with dignity and respect, then the review process must include 360° input — including both internal and external responses — in order to assess whether that is truly happening. Key Performance Indicators (KPIs) must include tracking of employees against ethical training requirements. Examples include:

   • The number of new hires and percentage who completed orientation within required time frame
   • Percentage of employees who completed annual refresher training on ethical conduct
   • Number of employees scoring “achieved” and “exceeded” on annual reviews in ethics criteria
   • Number of employees given an award for noted ethical conduct

   (IX. Measuring and Improving Ethical Compliance)
b. **Survey tools**

Ongoing surveys are very valuable tools for assessing ethical performance, especially in areas such as management and leadership. Surveys can be created using the organization's code of ethics and asking employees to rate how well the organization is following the contents...

Respondents can be asked to rate each statement on a scale of 1 through 5 or from “Strongly Disagree” to “Strongly Agree.” The results become the basis for developing ongoing compliance indicators and can be used to stimulate dialogue with employees about their concerns and the possible courses of action that could be taken to improve ethical compliance. This turns the company into learning and developing organization. (IX. Measuring and Improving Ethical Compliance)

9. **A whistleblowing framework** (e.g., an ethics helpline) is an important component in maintaining an ethical organizational culture.

An effective feedback system includes having a confidential framework for employees to report possible violations of the organization’s code of ethics and to receive advice on the ethical aspects of challenging decisions. Statistics show that a large number of occupational fraud cases are detected through an employee “hotline” or other reporting method...

Whichever approach an organization chooses, the collection, analysis, and summarization of ethics issues can provide insight into the operation of its code of ethics and the degree to which employees are following it. In addition, tracking and monitoring issues raised through a whistleblowing framework creates opportunities to enhance and improve internal controls. Management accountants need to ensure that such processes are in place, that they operate on a fully confidential basis, and that they are capable of generating statistical or event-based reporting through which insight into ethical practice can be created. (IX. Measuring and Improving Ethical Compliance)

10. Organizations face particular challenges in applying their values and ethical standards internationally.

When groups share the same cultural background, they tend to share the same values as well. Consequently, the basis for decision making and actions, including alignment with a code of ethical conduct, will be similar. When immigration combines groups from dissimilar countries or backgrounds, the impact can be significant, and the values and decision making processes may not be the same. It has nothing to do with a person being “good” or “bad,” but rather is a matter of differing “norms” of behavior based on the society in which that person grew up. This situation is also observable when individuals go abroad to receive an education.

... The challenge of conflicting values becomes greatest in cases where a society has, for example, a limited separation of “state and religion.” While most of the Western world professes to maintain a barrier between church and state, a number of countries in other parts of the world have a far greater integration of the two. In many cases, this creates national conflict when the two find themselves in disagreement on various issues.

All of these changes lead to a melting pot of personal values within societies and organizations, creating profound challenges for leaders and resulting in a new aspect of risk management for organizations. If organizations fail to make the effort to clearly define their expectations of ethical behavior and provide support and encouragement for complying with them, then the vacuum that is left will lead to unpredictable results. (II. Introduction)
11. A comprehensive framework of corporate **ethical behavior** is a prerequisite for an effective system of **internal control**.

CEOs and CFOs have to place their own integrity on the line by attesting to compliance with an adequate level of internal controls (as well as all other certifications). Creating a thorough, integrated system for developing, implementing, sustaining, and monitoring ethical performance within the organization will allow executives to make such declarations with confidence that a code of ethics is the foundation of the organization’s culture and is fully integrated into the thinking process of every employee and business partner. (IX. Measuring and Improving Ethical Compliance)

12. **Three tools** that can be used to identify process controls related to ethical and behavioral issues

- **Business Process Reengineering (BPR)**, which became popular in the 1990s, provides a structured view of organizational processes and reveals the existence of tasks and activities that are carried out in order to transform inputs into outputs. At each task and activity level, there are potential risks that the management accountant will want to consider. In all cases, however, the behavioral aspects must provide a context for the risk and its control.

- **Quality Management** provides another view of process management that can provide management accountants with an excellent variety of options that assist in creating greater visibility on process performance and risk. In fact, quality management and management accounting have much in common. The quality manager seeks to ensure that a process achieves “zero defects” by avoiding unplanned mistakes and costly rework. This includes ensuring that any potential risks that can lead to mistakes occurring or not being identified are assessed and evaluated — goals shared by management accountants ...

Using this tool and considering risk from a behavioral aspect can assist in identifying what types of controls should be in place and where they would be best provided. Rather than relying on traditional accounting approaches such as control batch totals, authorization and security levels, etc., this approach uses the perspective of behavioral deviation from an anticipated norm.

- **Continual Process Improvement (CPI)** is the third area that can significantly contribute to identifying process controls related to ethical and behavioral issues. This concept relates to the development of a “learning organization” — where continual monitoring and assessment of process performance leads to the identification of potential process management and control issues ...

As an organization progresses — hiring new employees or adapting itself to competitive pressures — the business environment changes. These changes have the potential to make current internal controls ineffective or unacceptable. For example, as the workforce changes, the traditional reliance on the behavior of experienced staff may no longer be sufficient; new staff may not behave in a way that achieves the desired outcomes — especially if there is an inadequate approach to ethical hiring, leadership, and compliance. (VII. Ethics and Internal Controls)
10.6 CORE CONCEPTS
Risk Analysis and Real Options in Capital Investment

- **Risk analysis** attempts to measure the likelihood of the variability of future returns from the proposed investment. Several approaches can be used to assess risk.
- Under the *informal method*, NPVs are calculated at the firm’s desired rate of return, and the possible projects are individually reviewed.
- With **risk-adjusted discount rates**, the rate of return is adjusted upward as the investment becomes riskier.
- The **certainty equivalent adjustments** technique forces the decision maker to specify at what point the firm is indifferent to the choice between a certain sum of money and the expected value of a risky sum.
- Under **sensitivity analysis**, forecasts of many calculated NPVs under various assumptions are compared to see how sensitive NPV is to changing conditions. Changing or relaxing the assumptions about a certain variable or group of variables may drastically alter the NPV.
- **Simulation analysis** represents a refinement of standard profitability theory. The computer is used to generate many examples of results based upon various assumptions. Project simulation is frequently expensive.
- The **capital asset pricing model** is derived from the use of portfolio theory. It assumes that the return on each asset in a portfolio has variability. In a portfolio, each security’s specific variability is eliminated through diversification, and the only relevant risk is the market component.
- **Real (managerial or strategic) options** reduce the risk of an investment project. A real option is the flexibility to affect the amounts and risk of an investment project’s cash flows, to determine its duration, or to postpone its implementation.
- The **value of a real option** is the difference between the project’s NPV without the option and its NPV with the option.
- Real options are **not measurable with the same accuracy** as financial options because the formulas applicable to the latter may not be appropriate for the former.
- Management accountants should be able to **determine what real options are embedded** in a project, to measure their value, and to offer advice about structuring a project to include such options.
- The following are among the types of real options: abandonment; the option of making a follow-up investment; the option to wait and learn; the flexibility option to vary inputs; the capacity option to vary output; the option to enter a new geographical market; and the new product option.

Corporate Valuation Methods

- **Per-share ratios** relate company financial information to the market price per share.
- **Earnings per share** equals net income available to common shareholders divided by the average number of shares outstanding for the period.
- **Book value per share** equals the amount of net assets available to the shareholders of a given type of stock divided by the number of those shares outstanding.
- **Dividend yield** equals the annual dividend payment divided by the market value per share.
- The **price-earnings (P-E)** ratio equals the market price per share of common stock divided by EPS.
- **Price-book ratio** equals the market price per share of common stock divided by the book value per share.
- **Price-sales ratio** equals the market price per share of common stock divided by sales per share.
Ethics and Legislation

- The Foreign Corrupt Practices Act (FCPA) of 1977 contains two sets of provisions:
  - All public companies must devise and maintain a system of internal accounting control, regardless of whether they have foreign operations.
  - No domestic concern may offer or authorize corrupt payments to any foreign official, foreign political party or official thereof, or candidate for political office in a foreign country.
- Individuals found in violation of the FCPA are subject to both fine and imprisonment. A corporation may be assessed a fine as well.
- The Sarbanes-Oxley Act of 2002 (SOX) imposed extensive new responsibilities on issuers of publicly traded securities and their auditors. The most significant provision of SOX regarding ethics is Section 406(a), which requires any company issuing securities to adopt a code of ethics for senior financial officers.

Corporate Responsibility for Ethical Conduct

- The IMA’s Statement on Management Accounting “Values and Ethics: From Inception to Practice” is a useful document for understanding ethical concepts in an organizational context.
- The organization has a responsibility to foster a sense of ethics in its employees and agents. All organizations need a code of conduct.
- A pervasive sense of ethical values can benefit an organization.
- A sense of ethics requires an ability to distinguish between ethical and merely legal behavior.
- “Leadership by example,” or “tone at the top,” plays an important role in determining an organization’s ethical environment.
- The concept of “human capital” is important to an organization in creating a climate where “doing the right thing” is expected.
- An organization’s culture impacts its behavioral values.
- Employee training is important to maintaining an ethical organizational culture.
- Two methods for monitoring ethical compliance are human performance feedback loop and survey tools.
- A whistleblowing framework (e.g., an ethics helpline) is an important component in maintaining an ethical organizational culture.
- Organizations face particular challenges in applying their values and ethical standards internationally.
- A comprehensive framework of corporate ethical behavior is a prerequisite for an effective system of internal control.
- Three tools that can be used to identify process controls related to ethical and behavioral issues are business process reengineering, quality management, and continual Process Improvement.