CIA Part 3

Business Knowledge For Internal Auditing

Version 22.01

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CIA

Preparatory Program

Part 3

Business Knowledge For Internal Auditing

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Editorial Notes

Throughout these materials, we have chosen particular language, spellings, structures and grammar in order to be consistent and comprehensible for all readers. HOCK study materials are used by candidates from countries throughout the world, and for many, English is a second language. We are aware that our choices may not always adhere to "formal" standards, but our efforts are focused on making the study process easy for all of our candidates. Nonetheless, we continue to welcome your meaningful corrections and ideas for creating better materials.

This material is designed exclusively to assist people in their exam preparation. No information in the material should be construed as authoritative business, accounting or consulting advice. Appropriate professionals should be consulted for such advice and consulting.

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We are honored that you have chosen HOCK as your partner in this process. We know that this is a great responsibility, and it is our goal to make this process as efficient as possible for you. To do so, HOCK has developed the following tools for your use:

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- **The Textbook** that you are currently reading. This is your main study source and contains all of the information necessary to pass the exam. This textbook follows the exam contents and provides all necessary background information so that you don't need to purchase or read other books.
- **The Flash Cards** include short summaries of main topics, key formulas and concepts. You can use them to review whenever you have a few minutes, but don't want to take your textbook along.
- **ExamSuccess** contains original questions and questions from past exams that are relevant to the current syllabus. Answer explanations for the correct and incorrect answers are also included for each question.
- **A Mock Exam** enables you to make final preparations using questions that you have not seen before.
- **Teacher Support** via our online student forum, e-mail, and telephone throughout your studies to answer any questions that may arise.
- **Videos** using a multimedia learning platform that provide the same coverage as a live-taught course, teaching all of the main topics on the exam syllabus.

We understand the commitment that you have made to the exams, and we will match that commitment in our efforts to help you. Furthermore, we understand that your time is too valuable to study for an exam twice, so we will do everything possible to make sure that you pass the first time.

I wish you success in your studies, and if there is anything I can do to assist you, please contact me directly at brian@hockinternational.com.

Sincerely,

Brian Hock, CIA, CMA

President and CEO

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Exam Introduction

The CIA Part 3 exam, **Business Knowledge for Internal Auditing**, is 120 minutes (2 hours) long and consists of 100 multiple-choice questions. For more information about the exams, visit the IIA's website (www.theiia.org).

The Part 3 exam has four sections:

- **Section I**: Business Acumen (35%)
- **Section II**: Information Security (25%)
- **Section III**: Information Technology (20%)
- **Section IV**: Financial Management (20%)

Additionally, the IIA syllabus refers to **proficient** and **basic** cognitive levels:

- **Proficient**: Candidates must exhibit thorough understanding and ability to apply concepts, processes, or procedures; analyze, evaluate, and make judgments based on criteria; and/or put elements or material together to formulate conclusions and recommendations.
- **Basic**: Candidates must retrieve relevant knowledge from memory and/or demonstrate basic comprehension of concepts or processes.

Note: All information in Part 3 is tested at the **basic level** unless otherwise indicated.

In preparing for the exam, candidates need to read the textbook and use the ExamSuccess software with questions from past exams. Many of the exam topics are very large; therefore, by studying past exam questions candidates can get a feeling for the manner and depth to which a topic is tested.

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Section I – Business Acumen

1. Organizational Objectives, Behavior, and Performance

1 A. Strategic Planning

Planning in general refers to the process that provides guidance and direction regarding what an organization needs to do throughout its operations. It determines the answers to the "who, what, when, where, and how" questions of a business operation. Planning is the first activity management must undertake when creating yearly budgets and making other critical decisions that will affect the company's future. A company's plan serves as its guide or compass for the activities and decisions made by individuals throughout the entire organization. The planning process not only defines the company's objectives and goals, it sets the stage for prioritizing how to develop, communicate and carry out accomplishing them.

Planning in Order to Achieve Superior Performance

For most companies, if not all, the ultimate objective is to achieve **superior performance** in comparison with the performance of their competitors. When superior performance is achieved, company profitability will increase. When profits are growing, shareholder value will grow. A publicly-owned for-profit company must have maximizing shareholder value as its ultimate goal. The shareholders are the owners. They have provided risk capital with the expectation that the managers will pursue strategies that will give them a good return on their investment. Thus, managers have an obligation to invest company profits in such a way as to maximize shareholder value.

The result of attaining superior performance will be **competitive advantage**. Competitive advantage is an advantage a company has over its competitors that it gains by offering consumers greater value than they can get from its competitors. The greater value may be in lower prices for the same product or service; or it may be in offering greater benefits and service than its competitors do, thereby justifying higher prices; or it may be offering greater benefits at the same or even at a lower price than its competitors charge. Competitive advantage may be derived from attributes that enable an organization to outperform its competitors such as access to natural resources, highly-skilled personnel, a favorable geographic location, high entry barriers, and so forth.

A company that has competitive advantage will usually be more profitable than the companies it competes with. The higher its profits are in comparison to its competitors, the greater its competitive advantage will be. Competitive advantage leads to increased profitability; and greater profitability leads to increased competitive advantage. Competitive advantage makes the difference between a company that succeeds and a company that fails.

In order to increase profitability and sustain profit growth, managers need to **formulate strategies** that will give their companies competitive advantage. **Strategic planning** is this formulation of strategies. The strategies that managers pursue create the activities that together can set the company apart from its competitors and cause it to consistently outperform them.

Strategic planning is neither detailed nor focused on specific financial targets, but instead looks at the **strategies**, **objectives and goals of the company** by examining both the **internal and external factors** affecting the company.

- Internal factors include current facilities, current products and market share, corporate goals and objectives, long-term targets, technology investment, and anything else within the direct control of the company itself.
- External factors include the economy, labor market, domestic and international competition, environmental issues, technological developments, developing new markets, and political risk in other countries (or the home country).

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The Strategic Planning Process

The formal strategic planning process consists of five steps, as follows:

1) Defining the company's mission, vision, values, and goals, or developing its mission statement. The company's mission statement provides the context within which its strategies will be formulated.

2) Analyzing the organization's **external** competitive environment in order to identify opportunities and threats.

3) Analyzing the **internal** operating environment to identify strengths, weaknesses, and limitations of the organization.

4) Formulating and selecting strategies that, consistent with the organization's mission and goals, will optimize the organization's strengths and correct its weaknesses and limitations for the purpose of taking advantage of external opportunities while countering external threats.

5) Developing and implementing the chosen strategies.

Developing the Mission Statement

Note: This is the **first** of five steps in the strategic planning process.

The mission statement includes four components:

1) A statement of the company's **mission**, or "**reason to be**." A company's mission is what the company does. A company's mission statement should be very broad, because customer demands can shift quickly, and a given need can be served in more than one way. A company that limits itself to serving a need in just one way will find itself obsolete when technological change passes it by. It needs to be flexible and ready to adapt to changing conditions and new ways of serving its customers' needs.

2) Its **vision**, or a statement of a desired future state. The **vision** is what the company would like to achieve or become, and it should be challenging. A good vision statement should challenge the company by stating an ambitious future state that will (1) motivate employees at all levels and (2) drive the strategies that the company's management will formulate and implement in order to achieve the vision. For example, Du Pont's mission statement says, "Our vision is to be the world's most dynamic science company, creating sustainable solutions essential to a better, safer and healthier life for people everywhere."

3) A statement of the organization's **values**. The organization's values describe how managers and employees should behave and do business. A company's values are the foundation of its **organizational culture**. The organizational culture consists of the values, norms and standards that govern how the company's employees work to achieve the company's mission and goals. These standards are in turn associated with the company's performance—either good performance or poor performance. A deep respect for the interests of customers, employees, suppliers and shareholders has been associated with high performance in firms. On the other hand, a lack of respect for the same groups (values **not** expressed in the company's mission statement) has been associated with poor performance in firms. Thus, the company must not only "talk the talk" but it must also "walk the walk."

4) A statement of its major **goals**. A goal is a **precise** and **measurable** future state that the company wants to achieve. The purpose of goal-setting is to specify what needs to be done in order to attain the company's mission and vision. Well-constructed goals provide a means for managers' performance to be evaluated.

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The characteristics of well-constructed goals are:

a. They are precise and measurable.

b. They should be crucial and address important issues.

c. The number of goals should be limited so managers can maintain their focus on them.

d. They should be challenging while at the same time being realistic. A goal that is too unrealistic may cause employees to either give up or embark upon unethical behavior in an attempt to meet the goal. On the other hand, a goal that is not challenging enough may not be motivating enough.

e. They should specify when they should be achieved in order to create a sense of urgency.

f. The goals that are developed must be **clearly stated in specific terms** to prevent "interpretation" of the objectives by employees.

g. The goals must be **communicated to all individuals who will be impacted by them**, and everyone in the organization must **accept** the goals and work toward accomplishing them.

Analyzing the External Environment

Note: This is the **second** of the five steps in the strategic planning process.

The second step in the strategic planning process is to analyze the forces that shape the industry in which the company operates and the competition within that industry in order to understand the **opportunities** available to the firm and any **threats** confronting the firm that can affect it in the pursuit of its mission. Understanding its opportunities and threats will enable the company to outperform the competition.

- **Opportunities** arise when companies can leverage[1] external conditions to develop and implement strategies that will make them more profitable.
- **Threats** include conditions in the external environment that pose a danger to profitability.

Three environments should be examined, and the three environments are interrelated.

1) Examine the industry in which the company operates, as other companies in the same industry are a company's closest competitors.

2) Analyze the country or the national environment in which the company operates as well as the international environment, including domestic and international political risk and the impact of globalization on competition within the industry.

3) Assess the macroenvironment in which the company operates, including macroeconomic factors such as economic growth and recession that will affect the industry or the economy as a whole, interest rates, currency exchange rates, and social factors such as laws and regulations and technological factors.

Competitive Analysis

Competitive analysis involves analyzing the competitive environment in which a business operates or is considering operating in to determine the following:

- Defining the competitors and analyzing their strengths and weaknesses.
- Demographics and needs of the market in which the business operates, including customer needs and wants.

[1] "Leverage" as it is used here means "to gain advantage through the use of something."

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- Analyzing the company's own internal strengths and weaknesses and strategies to improve the company's position in the marketplace.
- Studying impediments to the market for both the company and its competitors, such as patents, high start-up costs, or a high level of knowledge required for success.
- Studying impediments to the company's entering new markets.
- Barriers the company can erect to limit competitors' ability to erode the company's place in the market.

Analyzing the Internal Environment

Note: This is the **third** of the five steps in the strategic planning process.

The purpose of internal analysis is to identify **strengths**, **weaknesses**, and **limitations** within the organization. The company's resources and capabilities need to be assessed. Strengths lead to superior performance. Weaknesses and limitations lead to inferior performance.

The primary objective of strategy is to create a sustained competitive advantage, because that will lead to superior profitability and profit growth.

A firm creates competitive advantage when it is able to use its **resources** and its **capabilities** to achieve either a **differentiation advantage** or a **cost advantage** (or both) to create superior value for its customers and superior profits for the company.

1) A **differentiation advantage** creates value for a firm's customers because it provides its customers with benefits that exceed those provided by the firm's competitors. A differentiation advantage gives the firm more flexibility in pricing because it can price its product or service higher than the prices of its competitors, leading to greater profits than the competition.

2) A **cost advantage** creates the same value and benefits for the firm's customers as its competitors but at a lower cost, also leading to greater profits than the competition.

Distinctive competencies are strengths a company has that enable it to have either a differentiation advantage or a cost advantage, or both, leading to competitive advantage. Distinctive competencies come from a company's resources and capabilities.

Four generic distinctive competencies create competitive advantage. These four factors are called "generic" distinctive competences because any company can pursue them. The four generic distinctive competencies are:

- Superior **efficiency**. Efficiency is the relationship between inputs and outputs. The more efficient the company is, the fewer inputs will be required to produce a given output. Therefore, superior efficiency leads to lower costs, which in turn lead to higher profitability and competitive advantage.
- Superior **quality**. A product has **superior quality** when customers consider that its attributes give them higher utility than the attributes of competing products. Offering superior quality enables the company to charge a higher price than competitors for its product, leading to higher profits.
- Superior **innovation**. Innovation is the creation of **new products** or **new processes**. Product innovation creates value by developing products that customers perceive as having more utility, and thus the company's pricing options for the products are increased. Process innovation can create value by decreasing costs.
- Superior **customer responsiveness**. Superior customer responsiveness occurs when a company is able to do a better job than its competitors of identifying customer needs and satisfying them. Customers attribute more utility to the product, and this greater utility differentiates the product from that of the competition. Customer response time, or the time required to deliver a product or perform a service, is also an important aspect of customer responsiveness.

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An important part of the internal analysis is analysis of the company's financial performance to identify how its strategies contribute or do not contribute to its profitability. Comparing, or **benchmarking**, the company's current financial performance against that of its competitors as well as against the company's own historical performance using financial statement analysis can help management to understand what is going on in the company and identify its strengths and weaknesses.

By analyzing its financial performance, management can see whether the company is more or less profitable than its competitors and whether its profitability has been improving or deteriorating. Analysis of financial performance will also help management to see whether the strategies the company is pursuing are maximizing value creation, whether the company's costs are in line with those of its competitors, and whether the company's resources are being used effectively.

Formulating Strategies (SWOT Analysis)

Note: This is the **fourth** of the five steps in the strategic planning process.

Once the company's external opportunities and threats and internal strengths and weaknesses have been identified, the next step is to perform **SWOT analysis**.

SWOT stands for **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats. The purpose of SWOT analysis is to optimize the organization's strengths and correct or minimize its weaknesses in order to take advantage of external opportunities while countering external threats.

SWOT analysis consists of generating a series of **strategic alternatives** that could be pursued given the company's strengths, weaknesses, opportunities and threats. The strategic alternatives are used to **select** the strategies that will do the most to align the company's resources and capabilities to the demands of its environment.

Management selects a set of strategies that will create and sustain a competitive advantage for the company. It considers a range of strategies. The general classifications of strategies considered are:

- **Functional-level strategy**, for the purpose of improving operations inside the company. These operations include areas such as manufacturing, marketing, materials management, product development, and customer service.
- **Business-level strategy**, which includes the position of the business in the marketplace as well as different positioning strategies that could be used. Some examples are (1) cost leadership, (2) differentiation, (3) focusing on a particular marketing niche or segment, or (4) a combination of more than one of these.
- **Global strategy**, or considering how to expand operations outside the home country.
- **Corporate-level strategy**, considering what business or businesses the company should be in so as to maximize its long-run profitability and profit growth.

The strategies that emerge from SWOT analysis should be compatible with each other. Functional-level strategies should support the company's business-level and global strategies. Corporate-level strategies should also support business-level strategies.

The strategies selected by the company will constitute its **business model**. A company's business model is its managers' idea of how the set of strategies and capital investments the company makes should fit together to generate above-average profitability and, at the same time, profit growth.

SWOT analysis enables management to **choose among possible business models** and to **fine-tune the business model selected**.

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Developing and Implementing the Chosen Strategies

Note: This is the **fifth** of the five steps in the strategic planning process.

Once a set of strategies has been chosen to achieve competitive advantage and increase performance, the strategies must be translated into action. Translating strategy into action is strategy implementation, or taking the actions necessary to execute the strategic plan.

Strategy implementation takes place in the context of the organization's **organizational design**. Analysis of a company's organizational design can lead top management to devise ways to restructure the company's culture, organizational structure, and control systems in order to improve coordination and motivation among its people. Effective organizational design can give a company the means to obtain competitive advantage and above-average profitability. Therefore, the next priority after formulation of the business model and strategies is organizational design.

Organizational design involves determining how a company should create, combine, and use three elements to pursue its business model successfully:

1) Its organizational structure
2) Its control systems
3) Its organizational culture

The above three elements of organizational design are the means by which the organization motivates and coordinates its members to work toward achieving competitive advantage through its distinctive competencies. Remember that those distinctive competencies are **superior efficiency**, **superior quality**, **superior innovation**, and **superior responsiveness to customers**.

- **Organizational structure** specifies who should do what, how it should be done, and how the various people and groups should work together to increase **efficiency**, **quality**, **innovation**, and **responsiveness to customers** so that employees work together to achieve the strategies specified by the business model.
- **Control systems** provide managers with incentives to motivate their employees to work to increase **efficiency**, **quality, innovation**, and **responsiveness to customers**. Control systems also provide feedback to managers on how well the company and its employees are succeeding in increasing these building blocks of competitive advantage. Feedback from control systems enables management to take action when needed to strengthen the business model.
- **Organizational culture** includes all of the norms, values, beliefs and attitudes that people in an organization share. It is the company's way of doing things, and it controls the way its members interact with one another and also with outside stakeholders. Furthermore, the structure of an organization affects its culture. In order to change the culture, it may be necessary to change the structure.

Characteristics of Successful Strategic Plans

- Strategic planning should be an **ongoing process**, not just a one-time or even a once-a-year or once-every-five-years activity. It should be integrated into the organization as a core business practice that keeps the company focused on its strategic direction.
- A successful strategic plan is **integrated throughout the organization**. Strategies should be balanced across all of the dimensions that will drive growth in the organization. All of the different areas of the business need to be in alignment and operating together. The plan should not focus only on specific areas such as financial results or marketing programs. Instead, it should address the whole company's strategy. For example, the marketing program should support the strategic initiatives of the organization.

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- In developing a strategic plan, **all former assumptions should be challenged**. The strategy should be based on a clear understanding of the current direction of the business environment and the company's markets, not just a reiteration of the previous plan.
- Strategies should be **long-term in nature**. However, if an idea or a discovery that could lead to a new product or a new market is brought forth or if a disruptive change occurs in the market after the plan has been formalized, the plan should be flexible enough to enable the company to respond to the change or the new opportunity. If the plan cannot be changed and if the company cannot change its direction when necessary, the company's actual results may diverge more and more from the strategic plan, and the plan may become irrelevant.
- **Employees at all levels should have input** into the strategic planning process. Although top management must take the lead and make the final decisions, input should not be limited to top management. Sometimes the best ideas for change come from lower level managers, engineers, or customer service employees because those people are closest to what is going on. Furthermore, inclusion of lower-level managers and employees in the planning process promotes their understanding and ownership of the plan, motivates them to participate in its implementation, and helps them to perceive that the decision-making process is fair and inclusive.
- Everyone in the organization needs to know what the firm is trying to achieve. The strategy should be **communicated clearly and often** to everyone in the organization. The strategy should be viewed as a roadmap to take the firm from vision to reality.
- **The success of the strategy lies in its execution**. The organization and its people need to have the tools to properly execute the strategy. Performance objectives should be developed, and employees at all levels should have performance incentives linked to the company's strategy.
- The strategic planning process should be viewed as an opportunity to **develop a shared vision**, increase **the sense of joint-ownership among the staff**, and **build a leadership team** that is focused on moving the business in the right direction.

Benefits of Planning

- Objectives are formally expressed and the methods of attaining the objectives are clearly defined. The plan focuses employees' attention on the company's stated objectives and facilitates coordination of efforts.
- If the plans are communicated properly throughout the organization, employees may feel more motivated to take part in carrying them out.
- When planning is done in advance, risk and uncertainty can be minimized, backup plans can be prepared, and decisions can be made in a measured, disciplined manner rather than spontaneously.
- Planning can improve a company's competitive advantage. The company can plan ahead and find the best prices for resources it needs and it can use those resources more effectively, leading to reduced costs and higher profitability.
- Planning helps the company to efficiently effect changes in its procedures, product line, and facilities.
- Planning provides the objectives against which actual performance can be measured, facilitating controlling.

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Limitations of Planning

- Planning is time-consuming and costly. The services of outside professionals such as accountants and marketing experts may be needed, and the planning process itself takes managers' time away from other responsibilities. The costs versus the benefits need to be weighed before embarking upon a complex planning process.
- Following a plan too rigidly can cause the business to be unable to adapt to new threats or to take advantage of new opportunities. Plans can hinder managers' creativity and innovation if they are not flexible enough to accommodate changes that may be suggested by new ideas.
- Planning is based on forecasts that may be inaccurate. A large variance between actual circumstances and planned circumstances, such as an unplanned recession, natural disaster, labor strike, or technological change may cause the plan to become ineffective or unworkable. Excessive reliance on a plan in the face of obviously changed circumstances can cause severe problems.

1 B. Common Performance Measures

Note: CIA exam candidates are expected to demonstrate knowledge of **common performance measures** at the **proficient** level. They must be able to apply concepts, processes, or procedures; analyze, evaluate, and make judgments based on criteria; and/or put elements or material together to formulate conclusions and recommendations.

Strategic Issues in Performance Measurement

A company needs to measure performance and reward outstanding performance in a way that motivates its managers to achieve the **company's** strategic objectives and operational goals. If the performance measurement system rewards managers for achieving only their own units' goals, managers may maximize their own units' performance without necessarily maximizing the company's performance. Therefore, performance evaluation measures should be directly related to the company's strategic objectives and operational goals. The company's specific performance targets (such as increasing market share in key customer segments, reducing costs, or providing innovative products and services) need to be reinforced by the management reward system so that managers' rewards are dependent on their achieving the target performance.

"**Goal congruence**" is defined as "aligning of goals of the individual managers with the goals of the organization as a whole." "Goal congruence" means that individuals and organization segments are all working toward achieving the organization's goals. It also means that managers who are working on behalf of their own best interests are taking actions that accomplish the overall goals of the company's senior management. It is important to evaluate managers on their achievement of goals that benefit the **company**, not on goals that benefit only their own departments or divisions.

Another strategic issue in performance measurement is the balance between short-term versus long-term focus. Too much emphasis on the current quarter's results will nearly always cause managers to eliminate or postpone activities that are vital for the firm's long-term success in order to improve short-term profits. If the long-term focus is lost, the business's future success will be endangered. For example, a pharmaceutical company could improve its current results by cutting back on new drug R&D, but eventually its existing drug patents will expire, and without enough new drugs in the pipeline as new sources of revenue the company will be exposed to competition from generic drugs.

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Timing of Feedback

An important part of any performance measurement system is the feedback it generates. The timing of the feedback is important because feedback that is not received in a timely manner is not useful. The proper timing of the feedback depends on who should receive the information, the importance of the information, and the content of the feedback.

For example, managers of profit centers need information about their sales volumes quickly, usually on a daily or a weekly basis, particularly in a business with high fixed costs. When a manager is responsible for generating adequate sales to cover high fixed expenses, he or she needs to know immediately if sales decline so that actions can be taken to reverse the decline. However, daily or weekly sales information would probably be too frequent for top management. Top management may need sales information on a monthly basis only, although if top management has any cause for concern, it may need information more frequently.

Performance Measures Should be Related to Cost and Revenue Drivers

A cost driver is anything (such as an activity, an event, or a volume of something) that causes costs to be incurred each time the driver occurs. If a performance measure involves costs, then the company needs to evaluate its processes that cause those costs, not just the costs themselves.

Example: Packaging for shipping of items sold is an example. If the company's goal is to minimize packaging costs, then it needs to have standards for the amount it should pay for boxes, bubble wrap, tape, and other packaging materials. The actual costs should be compared against those standards, and the causes of variances should be investigated as part of the performance measurement system. The cause of an unfavorable variance in packaging costs may be that too much bubble wrap was used for the items that were shipped, and the reason for the excess bubble wrap used may be that in an attempt to save money, the shipping boxes purchased were too flimsy and so required extra bubble wrap to prevent damage to the contents. If the cost for the additional bubble wrap was greater than the amount saved by buying the flimsy boxes, then the decision to purchase cheaper boxes was not a good one and should be changed. Just looking at "packaging costs" without considering the causes, or drivers, of packaging costs will not identify the cause of an unfavorable variance.

Anything that creates revenue is a revenue driver. Units of output sold, selling prices, and marketing activities are all examples of revenue drivers. Therefore, revenue performance measurements need to focus on things like units of output, sales volume, selling prices, and marketing activities. The performance measurement system needs to compare actual activities with planned levels of activities, not simply measure actual revenue in comparison with planned revenue. Focusing on the revenue drivers will help the company identify the causes of unfavorable variances. Perhaps sales were down because of an economic recession, or perhaps a competitor introduced a new product that directly competed with one of the company's own products.

If the cause (or driver) of the lower revenue is not identified, then the decreased revenue cannot be addressed.

Financial Performance Measurement

Return on Investment (ROI) and Residual Income (RI) are the primary means of segment financial performance measurement. Candidates should know what each one is, how each is calculated, how each one is interpreted, and how they compare and contrast with each other.

Each of these methods by itself measures only one thing, and therefore one method by itself does not provide a complete evaluation of a manager or a department.

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Note: In addition to these numerical and financial-based measures, it is also critical for the evaluation process to include non-financial measures such as customer satisfaction, innovation, operational efficiency, and capabilities in human capital, information capital, and organizational capital. Evaluation of a manager's overall contributions can be accomplished by means of the balanced scorecard, which is discussed later in this section.

Return on Investment (ROI)

Return on Investment (ROI) can be used to evaluate the performance of the entire firm, but it can also be used to evaluate the performance of single divisions and their division managers.

ROI is the key performance measure for an investment center. It measures the percentage of return that was earned on the amount of the investment (that is, assets). The formula for ROI is:

$$\text{ROI} = \frac{\textbf{Income of Business Unit}}{\textbf{Assets of Business Unit}}$$

Note: For performance measurement, "Income" means operating income unless otherwise stated.

Example: A company has four regional divisions. A summary of financial results for the company is shown below.

	North	East	South	West
Operating income	1,000	5,000	4,000	7,500
Assets	2,500	15,000	8,000	25,000
Total equity	2,000	8,000	7,000	20,000
Liabilities	500	7,000	1,000	5,000

North division's ROI is: $\frac{1,000}{2,500} = 0.40$ or 40%

East division's ROI is: $\frac{5,000}{15,000} = 0.333$ or 33.3%

South division's ROI is: $\frac{4,000}{8,000} = 0.50$ or 50%

West division's ROI is: $\frac{7,500}{25,000} = 0.30$ or 30%

South division's return on investment is the highest of the four.

If ROI is used as an evaluation tool, management must be certain that it is the correct measurement for the company's goals and that the ROI goals are representative of that individual segment's market and business.

A manager can use ROI to determine if the division should accept a capital investment or project. If the ROI of the project is higher than the target or required rate of return or hurdle rate (see next topic), the manager will accept the project. Conversely, if the ROI is lower than the required rate of return, the manager will reject the project, even if the project itself is profitable.

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The Required Rate of Return

The **required rate of return** is the minimum rate of return that a segment or project must earn in order to justify the investment of resources. **Senior management of the company determines what the company's required rate of return should be**. Generally, a company's weighted average cost of capital is its minimum required rate of return. However, the required rate of return set by management may be higher than the firm's weighted average cost of capital, depending on the risk inherent in the segment or project. If the level of business risk for a particular segment or project is judged to be higher than the overall firm's level of business risk, the required rate of return for that segment or project will be increased above the firm's weighted average cost of capital.

The Weighted Average Cost of Capital (WACC)

Capital is long-term debt and equity. The weighted average cost of capital is expressed as a percentage rate, roughly equivalent to the total cost of long-term funds (debt and equity) divided by the fair value of the long-term funds.

The following formula gives a general idea of what WACC represents. However, be aware that **the formula below is not the way the weighted average cost of capital is calculated** but is only a general idea of what the WACC represents.

$$\text{WACC} = \frac{\text{(Interest Paid on Debt} - \text{Effect of Taxes) + Dividends Paid on Shares}}{\text{Average } \textit{Fair Value} \text{ of Debt Outstanding + } \textit{Fair Value} \text{ of Shares Outstanding}}$$

Note that the **fair values (market values)** of outstanding debt and stock are used to calculate the WACC, in contrast to the book value of balance sheet accounts used in other ratios.

Calculation of the weighted-average cost of capital is covered in this volume in Section IV, *Financial Management*, in the topic *Capital Structure*.

Note: The total interest cost must take into account the **effect of taxes**. Because interest is a deductible expense, the true cost of interest (the **after-tax cost** of interest) is the amount of interest expense minus (the tax rate × the interest expense amount). The after-tax cost of interest can also be calculated as the amount of interest × (1 − the tax rate). The after-tax cost of interest is lower than the actual interest expensed by the company.

Disadvantages of Using ROI for Performance Measurement

The problem with ROI as a performance measurement tool is that it measures return as a percentage rather than as a monetary amount. If the expected ROI of a new project under consideration is lower than the division's present ROI but higher than the target rate, the manager may reject a profitable project because it would lower the division's overall ROI, even though the project would be beneficial for the company. While it is good to have a higher rate of return, the company is ultimately interested in the **amount** of the return. **Any project with a return higher than the company's required rate of return will increase the company's net income**. However, a project with a return higher than the company's required rate of return may reduce the division's ROI if the division's current ROI is higher than the expected ROI of the new project. The outcome may be that a division manager will reject a project that would have been beneficial to the company as a whole because it would have lowered that division's ROI. As a result of this shortcoming of ROI, ROI is often used together with other performance measurement tools.

Another **disadvantage** of using ROI for performance measurement is that when a manager is evaluated using current ROI, the pressure to meet the current period's ROI target may cause short-term profits to take priority over long-term profits. Prioritizing short-term profits can lead to **reduced** performance in the

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