Intangible Assets

Untouchable

As shown in the graph below, tangible assets as a percent of all assets has declined dramatically in the last 45 years.

Consequently, value today is increasingly derived from intangible assets—intellectual property, technology, or reputation. For example, many well-known companies make most of their money from intangible assets: Microsoft Corp.’s software, Pfizer Inc.’s drug patents, and Walt Disney Co.’s film and television productions.

Although these formidable franchises are unlikely to erode soon, the experience at Winstar Communications illustrates how quickly the value of intangible assets can erode. Just before Winstar filed for bankruptcy in the spring of 2001, it listed $5 billion in assets, a large share comprised of intangible assets related to its customer base. Within just a few short months, its assets fetched just $42 million, and Winstar’s investors and creditors learned the shocking speed at which the value of such assets can decline. Similarly, the meltdown at Enron was accelerated as the market lost confidence in Enron’s ability to deliver services in its virtual energy-trading operation.

Perhaps Federal Reserve Chairman Alan Greenspan’s remarks are relevant in these turbulent times: “. . . a firm is inherently fragile if its value-added emanates more from conceptual as distinct from physical assets. Trust and reputation can vanish overnight. A factory cannot.”

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1Adapted from Greg Ip, “The Rise and Fall of Intangible Assets Leads to Shorter Company Life Spans,” Wall Street Journal Online (April 4, 2002).
As the opening story indicates, the accounting and reporting of intangible assets is taking on increasing importance in this information age, especially for companies like Microsoft, Pfizer, and Walt Disney. The purpose of this chapter is to explain the basic conceptual and reporting issues related to intangible assets. The content and organization of the chapter are as follows.

**INTANGIBLE ASSET ISSUES**

**Characteristics**

Gap Inc.’s most important asset is not store fixtures—brand image is. The major asset of Coca-Cola is not its plant facilities—its secret formula for making Coke is. America Online’s most important asset is not its Internet connection equipment—it is its subscriber base is. As these examples show, we have an economy dominated today by information and service providers, and their major assets are often intangible in nature. Accounting for these intangibles is difficult, and as a result many intangibles are presently not reported on a company’s balance sheet. Intangible assets have two main characteristics.2

1. They lack physical existence. Unlike tangible assets such as property, plant, and equipment, intangible assets derive their value from the rights and privileges granted to the company using them.

2. They are not financial instruments. Assets such as bank deposits, accounts receivable, and long-term investments in bonds and stocks lack physical substance but are not classified as intangible assets. These assets are financial instruments. They derive their value from the right (claim) to receive cash or cash equivalents in the future.

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In most cases, intangible assets provide services over a period of years. As a result, they are normally classified as long-term assets. The most common types of intangibles are patents, copyrights, franchises or licenses, trademarks or trade names, and goodwill.

**Valuation**

**Purchased Intangibles**

Intangibles purchased from another party are **recorded at cost**. Cost includes all costs of acquisition and expenditures necessary to make the intangible asset ready for its intended use—for example, purchase price, legal fees, and other incidental expenses.

If intangibles are acquired for stock or in exchange for other assets, the cost of the intangible is the fair value of the consideration given or the fair value of the intangible received, whichever is more clearly evident. When several intangibles, or a combination of intangibles and tangibles, are bought in a “basket purchase,” the cost should be allocated on the basis of fair values. Essentially the accounting treatment for purchased intangibles closely parallels that followed for purchased tangible assets.

**Internally-Created Intangibles**

Costs incurred internally to create intangibles are generally expensed as incurred. Thus, even though a company may incur substantial research and development costs to create an intangible, these costs are expensed.

Various reasons are given for this approach. Some argue that the costs incurred internally to create intangibles bear no relationship to their real value; therefore, expensing these costs is appropriate. Others note that with a purchased intangible, a reliable number for the cost of the intangible can be determined; with internally developed intangibles, it is difficult to associate costs with specific intangible assets. And others argue that due to the underlying subjectivity related to intangibles, a conservative approach should be followed—that is, expense as incurred. As a result, the **only internal costs capitalized are direct costs** incurred in obtaining the intangible, such as legal costs.

**Amortization of Intangibles**

Intangibles have either a **limited (finite) useful life** or an **indefinite useful life**. An intangible asset with a **limited life** is amortized; an intangible asset with an **indefinite life is not amortized**.

**Limited-Life Intangibles**

As you learned in Chapter 11, the expiration of intangible assets is called **amortization**. **Limited-life intangibles** should be amortized by systematic charges to expense over their useful life. The useful life should reflect the periods over which these assets will contribute to cash flows. Factors considered in determining useful life are:

1. The expected use of the asset by the entity.
2. The expected useful life of another asset or a group of assets to which the useful life of the intangible asset may relate (such as mineral rights to depleting assets).
3. Any legal, regulatory, or contractual provisions that may limit the useful life.
4. Any legal, regulatory, or contractual provisions that enable renewal or extension of the asset’s legal or contractual life without substantial cost. (This factor assumes that there is evidence to support renewal or extension and that renewal or extension can be accomplished without material modifications of the existing terms and conditions.)
The effects of obsolescence, demand, competition, and other economic factors. (Examples include the stability of the industry, known technological advances, legislative action that results in an uncertain or changing regulatory environment, and expected changes in distribution channels.)

5 The level of maintenance expenditure required to obtain the expected future cash flows from the asset. (For example, a material level of required maintenance in relation to the carrying amount of the asset may suggest a very limited useful life.)

The amount of amortization expense for a limited-life intangible asset should reflect the pattern in which the asset is consumed or used up, if that pattern can be reliably determined. For example, assume that Second Wave, Inc. has purchased a license to provide a limited quantity of a gene product, called Mega. The cost of the license should be amortized following the pattern of production of Mega. If the pattern of production or consumption cannot be determined, the straight-line method of amortization should be used. For homework problems, assume the use of the straight-line method unless stated otherwise.

When intangible assets are amortized, the charges should be shown as expenses, and the credits should be made either to the appropriate asset accounts or to separate accumulated amortization accounts.

The amount of an intangible asset to be amortized should be its cost less residual value. The residual value is assumed to be zero unless at the end of its useful life the intangible asset has value to another entity. For example, if U2D Co. has a commitment from Hardy Co. to purchase its intangible asset at the end of its useful life, U2D Co. should reduce the cost of its intangible asset by the residual value. Similarly, if market values for residual values can be reliably determined, market values should be considered.

What happens if a limited-life intangible asset’s useful life is changed? In that case the remaining carrying amount should be amortized over the revised remaining useful life. Limited-life intangibles should be continually evaluated for impairment. Similar to property, plant, and equipment, an impairment loss should be recognized if the carrying amount of the intangible is not recoverable and its carrying amount exceeds its fair value.

Indefinite-Life Intangibles

If no legal, regulatory, contractual, competitive, or other factors limit the useful life of an intangible asset, it is considered an indefinite-life intangible asset. Indefinite means that there is no foreseeable limit on the period of time over which the intangible asset is expected to provide cash flows. An intangible asset with an indefinite life is not amortized.

To illustrate, assume that Double Clik, Inc. acquired a trademark that is used to distinguish a leading consumer product. The trademark is renewable every 10 years at minimal cost. All evidence indicates that this trademark product will generate cash flows for an indefinite period of time. In this case, the trademark has an indefinite life because it is expected to contribute to cash flows indefinitely.

Indefinite-life intangibles should be tested for impairment at least annually. The impairment test compares the fair value of an intangible asset with its carrying amount. This impairment test is different from the one used for a limited-life intangible. That is, there is no recoverability test related to indefinite-life intangibles, only the fair value test. The reason: Indefinite-life intangible assets might never fail the undiscounted cash flows recoverability test because cash flows could extend indefinitely into the future.

In summary, the accounting treatment for intangible assets is shown in Illustration 12-1.

\[^{3}\text{Ibid, par. 11.}\]
TYPES OF INTANGIBLE ASSETS

As indicated, the accounting for intangible assets depends on whether the intangible has a limited or an indefinite life. There are many different types of intangibles, and they are often classified into the following six major categories.4

1. Marketing-related intangible assets.
2. Customer-related intangible assets.
3. Artistic-related intangible assets.
5. Technology-related intangible assets.

Marketing-Related Intangible Assets

Marketing-related intangible assets are those assets primarily used in the marketing or promotion of products or services. Examples are trademarks or trade names, newspaper mastheads, Internet domain names, and noncompetition agreements.

A very common form of a marketing-related intangible asset is a trademark or trade name. A trademark or trade name is a word, phrase, or symbol that distinguishes or identifies a particular enterprise or product. Under common law, the right to use a trademark or trade name, whether it is registered or not, rests exclusively with the original user as long as the original user continues to use it. Registration with the U.S. Patent and Trademark Office provides legal protection for an indefinite number of renewals for periods of 10 years each. Therefore a business that uses an established trademark or trade name may properly consider it to have an indefinite life. Trade names like Kleenex, Pepsi-Cola, Oldsmobile, Excedrin, Wheaties, and Sunkist create immediate product identification in our minds, thereby enhancing marketability.

If a trademark or trade name is acquired, its capitalizable cost is the purchase price. If a trademark or trade name is developed by the enterprise itself, the capitalizable cost includes attorney fees, registration fees, design costs, consulting fees, successful legal defense costs, and other expenditures directly related to securing it (excluding research and development costs). When the total cost of a trademark or trade name is insignificant, it can be expensed rather than capitalized. In most cases, the life of a trademark or trade name is indefinite, and therefore its cost is not amortized.

The value of a marketing-related intangible can be substantial. Consider Internet domain names as an example. The name Drugs.com recently sold for $800,000, and the bidding for the name Loans.com approached $500,000.

4This classification framework has been adopted from “Business Combinations,” Statement of Financial Accounting Standards No. 141 (Norwalk, Conn.: FASB, 2001).
Company names themselves identify qualities and characteristics that the companies have worked hard and spent much to develop. In a recent year an estimated 1,230 companies took on new names in an attempt to forge new identities. In doing so, they paid over $250 million to corporate-identity consultants. Among these were Primerica (formerly American Can), Navistar (formerly International Harvester), and Nissan (formerly Datsun).5

Customer-Related Intangible Assets

Customer-related intangible assets occur as a result of interactions with outside parties. Examples are customer lists, order or production backlogs, and both contractual and noncontractual customer relationships.

To illustrate, assume that We-Market Inc. acquired the customer list of a large newspaper for $6,000,000 on January 1, 2003. The customer list is a database that includes name, contact information, order history, and demographic information for a list of customers. We-Market expects to benefit from the information on the acquired list for 3 years, and it believes that these benefits will be spread evenly over the 3 years. In this case, the customer list is a limited-life intangible that should be amortized on a straight-line basis over the 3-year period.

The entries to record the purchase of the customer list and the amortization of the customer list at the end of each year are as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2003</td>
<td>Customer List</td>
<td>6,000,000</td>
<td>Cash</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6,000,000</td>
</tr>
<tr>
<td>(To record purchase of customer list)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 31, 2003, 2004, 2005</td>
<td>Customer List Amortization Expense</td>
<td>2,000,000</td>
<td>Customer List (or Accumulated Customer List Amortization)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,000,000</td>
</tr>
<tr>
<td>(To record amortization expense)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the preceding example it was assumed that the customer list had no residual value. But what if We-Market determines that it can sell the list for $60,000 to another company at the end of 3 years? In that case, this residual value should be subtracted from the cost in order to determine the proper amortization expense for each year. Amortization expense would therefore be $1,980,000, as shown below.

<table>
<thead>
<tr>
<th>Cost</th>
<th>$6,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual value</td>
<td>60,000</td>
</tr>
<tr>
<td>Amortization base</td>
<td>5,940,000</td>
</tr>
</tbody>
</table>

\[
\text{Amortization expense per period: } \frac{1,980,000}{3} = 660,000
\]

The residual value should be assumed to be zero unless the asset’s useful life is less than the economic life and reliable evidence is available concerning the residual value.6

5To illustrate how various intangibles might arise from a given product, consider what the creators of the highly successful game, Trivial Pursuit, did to protect their creation. First, they copyrighted the 6,000 questions that are at the heart of the game. Then they shielded the Trivial Pursuit name by applying for a registered trademark. As a third mode of protection, the creators obtained a design patent on the playing board’s design because it represents a unique graphic creation.

Artistic-Related Intangible Assets

Artistic-related intangible assets involve ownership rights to plays, literary works, musical works, pictures, photographs, and video and audiovisual material. These ownership rights are protected by copyrights.

A copyright is a federally granted right that all authors, painters, musicians, sculptors, and other artists have in their creations and expressions. A copyright is granted for the life of the creator plus 70 years. It gives the owner, or heirs, the exclusive right to reproduce and sell an artistic or published work. Copyrights are not renewable. The costs of acquiring and defending a copyright may be capitalized, but the research and development costs involved must be expensed as incurred.

Generally, the useful life of the copyright is less than its legal life (life in being plus 70 years). The costs of the copyright should be allocated to the years in which the benefits are expected to be received. The difficulty of determining the number of years over which benefits will be received normally encourages the company to write these costs off over a fairly short period of time.

Copyrights can be valuable. Really Useful Group is a company that consists of copyrights on the musicals of Andrew Lloyd Webber—Cats, Phantom of the Opera, Jesus Christ-Superstar, and others. It has little in the way of hard assets, yet it has been valued at $300 million. The Walt Disney Co. is facing loss of its copyright on Mickey Mouse on January 1, 2004, which may affect sales of billions of dollars of Mickey-related goods and services (including theme parks). Although Disney may be able to use its trademarks on Mickey (which may be renewed indefinitely) to protect itself, many big entertainment companies, Disney included, have been quietly pushing Congress for a copyright extension.

Contract-Related Intangible Assets

Contract-related intangible assets represent the value of rights that arise from contractual arrangements. Examples are franchise and licensing agreements, construction permits, broadcast rights, and service or supply contracts. A very common form of contract-based intangible asset is a franchise.

A franchise is a contractual arrangement under which the franchisor grants the franchisee the right to sell certain products or services, to use certain trademarks or trade names, or to perform certain functions, usually within a designated geographical area. For example, when you drive down the street in an automobile purchased from a Volkswagen dealer, fill your tank at the corner Texaco station, eat lunch at Subway, cool off with one of Baskin-Robbins’ 31 flavors, work at a Coca-Cola bottling plant, live in a home purchased through a Century 21 real estate broker, or vacation at a Holiday Inn resort, you are dealing with franchises.

The franchisor, having developed a unique concept or product, protects its concept or product through a patent, copyright, or trademark or trade name. The franchisee acquires the right to exploit the franchisor’s idea or product by signing a franchise agreement.

Another type of franchise is the arrangement commonly entered into by a municipality (or other governmental body) and a business enterprise that uses public property. In such cases, a privately owned enterprise is permitted to use public property in performing its services. Examples are the use of public waterways for a ferry service, the use of public land for telephone or electric lines, the use of public land to perform public property in performing its services. Examples are the use of public waterways for a ferry service, the use of public land for telephone or electric lines, the use of phone lines for cable TV, the use of city streets for a bus line, or the use of the airwaves for radio or TV broadcasting. Such operating rights, obtained through agreements with governmental units or agencies, are frequently referred to as licenses or permits.

Franchises and licenses may be for a definite period of time, for an indefinite period of time, or perpetual. The enterprise securing the franchise or license carries an intangible asset account entitled Franchise or License on its books only when there are costs (such as a lump-sum payment in advance or legal fees and other expenditures) that are identified with the acquisition of the operating right. The cost of a franchise (or license) with a limited life should be amortized as operating expense over the
life of the franchise. A franchise with an indefinite life, or a perpetual franchise, should be carried at cost and not be amortized.

Annual payments made under a franchise agreement should be entered as operating expenses in the period in which they are incurred. They do not represent an asset to the concern since they do not relate to future rights to use public property.

Technology-Related Intangible Assets

Technology-related intangible assets relate to innovations or technological advances. Examples are patented technology and trade secrets. To illustrate, patents are granted by the U.S. Patent and Trademark Office. A patent gives the holder exclusive right to use, manufacture, and sell a product or process for a period of 20 years without interference or infringement by others. With this exclusive right, fortunes can be made. For example, companies such as Merck, Polaroid, and Xerox were founded on patents. The two principal kinds of patents are product patents, which cover actual physical products, and process patents, which govern the process by which products are made.

If a patent is purchased from an inventor (or other owner), the purchase price represents its cost. Other costs incurred in connection with securing a patent, as well as attorneys’ fees and other unrecovered costs of a successful legal suit to protect the patent, can be capitalized as part of the patent cost. Research and development costs related to the development of the product, process, or idea that is subsequently patented must be expensed as incurred, however. See pages 584–586 for a more complete presentation of accounting for research and development costs.

The cost of a patent should be amortized over its legal life or its useful life (the period benefits are received), whichever is shorter. If a patent is owned from the date it is granted, and it is expected to be useful during its entire legal life, it should be amortized over 20 years. If it appears that the patent will be useful for a shorter period of time, say, for 5 years, its cost should be amortized to expense over 5 years. Changing demand, new inventions superseding old ones, inadequacy, and other factors often limit the useful life of a patent to less than the legal life. For example, the useful life of patents in the pharmaceutical and drug industry is frequently less than the legal life because of the testing and approval period that follows their issuance. A typical drug patent has 5 to 11 years knocked off its 20-year legal life because 1 to 4 years must be spent on tests on animals, 4 to 6 years on human tests, and 2 to 3 years for the Food and Drug Administration to review the tests—all after the patent is issued but before the product goes on pharmacists’ shelves.

**What do the numbers mean?**

Patent battles

From bioengineering to software design to the Internet, battles over patents are heating up as global competition intensifies. For example, Priceline.com filed suit against Microsoft for launching Hotel Price Matcher, a service that operates pretty much like the name-your-own-price system pioneered by Priceline. And Amazon.com filed a complaint against Barnesandnoble.com, its bitter rival in the Web-retailing wars. The suit alleges that Barnesandnoble.com is infringing on Amazon.com’s patent for one-click shopping and asks the court to stop Barnesandnoble.com from using its own quick-checkout system, called ExpressLane.

Source: Adapted from “Battle over Patents Threatens to Damp Web’s Innovative Spirit,” Wall Street Journal (November 8, 1999).

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7Consider the opposite result: Sir Alexander Fleming, who discovered penicillin, decided not to use a patent to protect his discovery. He hoped that companies would produce it more quickly to help save sufferers. Companies, however, refused to develop it because they did not have the patent shield and, therefore, were afraid to make the investment.
Legal fees and other costs incurred in successfully defending a patent suit are debited to Patents, an asset account, because such a suit establishes the legal rights of the holder of the patent. Such costs should be amortized along with acquisition cost over the remaining useful life of the patent.

Amortization expense should reflect the pattern in which the patent is used up, if that pattern can be reliably determined. Amortization of patents may be credited directly to the Patent account, or it may be credited to an Accumulated Patent Amortization account. To illustrate, assume that Harcott Co. incurs $180,000 in legal costs on January 1, 2003, to successfully defend a patent. The patent has a useful life of 20 years and is amortized on a straight-line basis. The entries to record the legal fees and the amortization at the end of each year are as follows.

**January 1, 2003**

<table>
<thead>
<tr>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patents</td>
<td>180,000</td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td></td>
<td>180,000</td>
</tr>
</tbody>
</table>

(To record legal fees related to patent)

**December 31, 2003**

<table>
<thead>
<tr>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent Amortization Expense</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>Patents (or Accumulated Patent Amortization)</td>
<td></td>
<td>9,000</td>
</tr>
</tbody>
</table>

(To record amortization of patent)

Amortization on a units-of-production basis would be computed in a manner similar to that described for depreciation on property, plant, and equipment in Chapter 11, page 523.

Although a patent’s useful life should not extend beyond its legal life of 20 years, small modifications or additions may lead to a new patent. For example, AstraZeneca Plc has filed additional patents on minor modifications to its heartburn drug, Prilosec. The effect may be to extend the life of the old patent. In that case it is permissible to apply the unamortized costs of the old patent to the new patent if the new patent provides essentially the same benefits. Alternatively, if a patent becomes worthless (impaired) because demand drops for the product, the asset should be written down or written off immediately to expense.

*The Value of a Secret Formula*

While the nuclear secrets contained within the Los Alamos nuclear lab seem easier to check out than a library book, Coca-Cola has managed to keep the recipe for the world’s best-selling soft drink under wraps for more than 100 years. How has it done so?

Coca-Cola offers almost no information about its lifeblood. The only written copy of the formula resides in a SunTrust Bank vault in Atlanta. This handwritten sheet isn’t available to anyone except by vote of the Coca-Cola board of directors.

Why can’t science offer some clues? Coke contains 17 to 18 ingredients. That includes the usual caramel color and corn syrup, as well as a blend of oils known as 7X (rumored to be a mix of orange, lemon, cinnamon, and others). Distilling natural products like these is complicated, since they’re made of thousands of compounds. One ingredient you won’t find is cocaine. Although the original formula contained trace amounts, today’s Coke doesn’t. When was it removed? That is a secret too.

Some experts indicate that the power of this formula and related brand image account for almost 95 percent of Coke’s $150 billion stock value.


Another example is Eli Lilly’s drug Prozac (used to treat depression) which in 1998 accounted for 43 percent of its U.S. sales. The patent on Prozac expired in 2001 and the company was unable to extend its protection with a second-use patent for the use of Prozac to treat appetite disorders. Sales of Prozac were off substantially in 2001 as generic equivalents entered the market.
Goodwill

Although companies are permitted to capitalize certain costs to develop specifically identifiable assets such as patents and copyrights, the amounts capitalized are generally not significant. But material amounts of intangible assets are recorded when companies purchase intangible assets, particularly in situations involving the purchase of another business (often referred to as a business combination).

In a business combination, the cost (purchase price) is assigned where possible to the identifiable tangible and intangible net assets, and the remainder is recorded in an intangible asset account called Goodwill. Goodwill is often referred to as the most intangible of the intangibles because it can only be identified with the business as a whole. The only way it can be sold is to sell the business.

The problem of determining the proper cost to allocate to intangible assets in a business combination is complex because of the many different types of intangibles that might be considered. Many of these types of intangibles have been discussed earlier. It is extremely difficult not only to identify certain types of intangibles but also to assign a value to them in a business combination. As a result, the approach followed is to record identifiable intangible assets that can be reliably measured. Other intangible assets that are difficult to identify or measure are recorded as goodwill.

Recording Goodwill

Internally Created Goodwill. Goodwill generated internally should not be capitalized in the accounts. Measuring the components of goodwill is simply too complex and associating any costs with future benefits too difficult. The future benefits of goodwill may have no relationship to the costs incurred in the development of that goodwill. To add to the mystery, goodwill may even exist in the absence of specific costs to develop it. In addition, because no objective transaction with outside parties has taken place, a great deal of subjectivity—even misrepresentation—might be involved.

Purchased Goodwill. Goodwill is recorded only when an entire business is purchased, because goodwill is a “going concern” valuation and cannot be separated from the business as a whole. To record goodwill, the fair market value of the net tangible and identifiable intangible assets are compared with the purchase price of the acquired business. The difference is considered goodwill. This is why goodwill is sometimes referred to as a “plug,” or “gap filler,” or “master valuation” account. Goodwill is the residual—the excess of cost over fair value of the identifiable net assets acquired.

To illustrate, Multi-Diversified, Inc. decides that it needs a parts division to supplement its existing tractor distributorship. The president of Multi-Diversified is interested in buying a small concern in Chicago (Tractorling Company) that has an established reputation and is seeking a merger candidate. The balance sheet of Tractorling Company is presented in Illustration 12-3.

### Illustration 12-3

Tractorling Balance Sheet

<table>
<thead>
<tr>
<th>TRACTORLING CO.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance Sheet</strong></td>
<td></td>
</tr>
<tr>
<td><strong>As of December 31, 2003</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Assets</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$25,000</td>
</tr>
<tr>
<td>Receivables</td>
<td>35,000</td>
</tr>
<tr>
<td>Inventories</td>
<td>42,000</td>
</tr>
<tr>
<td>Property, plant, and equipment, net</td>
<td>153,000</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>$255,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Equities</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liabilities</td>
<td>$55,000</td>
</tr>
<tr>
<td>Capital stock</td>
<td>100,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total equities</strong></td>
<td>$255,000</td>
</tr>
</tbody>
</table>

The new business combination standard provides detailed guidance regarding the recognition of identifiable intangible assets in a business combination. Using this guidance, the expectation is that more identifiable intangible assets will be recognized in the financial statements as a result of business combinations. If this situation occurs, less goodwill will be recognized.
After considerable negotiation, Tractorling Company decides to accept Multi-
Diversified’s offer of $400,000. What, then, is the value of the goodwill, if any?

The answer is not obvious. The fair market values of Tractorling’s identifiable as-
ets are not disclosed in its historical cost-based balance sheet. Suppose, though, that
as the negotiations progress, Multi-Diversified conducts an investigation of the under-
lying assets of Tractorling to determine the fair market value of the assets. Such an
investigation may be accomplished either through a purchase audit undertaken by
Multi-Diversified’s auditors in order to estimate the values of the seller’s assets, or by
an independent appraisal from some other source. The following valuations are
determined.

<table>
<thead>
<tr>
<th>Types of Intangible Assets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$ 25,000</td>
</tr>
<tr>
<td>Receivables</td>
<td>35,000</td>
</tr>
<tr>
<td>Inventories</td>
<td>122,000</td>
</tr>
<tr>
<td>Property, plant, and equipment, net</td>
<td>205,000</td>
</tr>
<tr>
<td>Patents</td>
<td>18,000</td>
</tr>
<tr>
<td>Liabilities</td>
<td>(55,000)</td>
</tr>
<tr>
<td><strong>Fair market value of net assets</strong></td>
<td><strong>$350,000</strong></td>
</tr>
</tbody>
</table>

Normally, differences between current fair market value and book value are more
common among long-term assets, although significant differences can also develop in
the current assets category. Cash obviously poses no problems as to value. And receivables normally are fairly close to current valuation, although at times certain
adjustments need to be made because of inadequate bad debt provisions. Liabilities
usually are stated at book value, although if interest rates have changed since the
liabilities were incurred, a different valuation (such as present value) might be appro-
priate. Careful analysis must be made to determine that no unrecorded liabilities are
present.

The $80,000 difference in Tractorling’s inventories ($122,000 – $42,000) could result
from a number of factors, the most likely being that the company uses LIFO. Recall
that during periods of inflation, LIFO better matches expenses against revenues, but in
doing so creates a balance sheet distortion. Ending inventory is comprised of older
layers costed at lower valuations.

In many cases, the values of long-term assets such as property, plant, and equip-
ment, and intangibles may have increased substantially over the years. This difference
could be due to inaccurate estimates of useful lives, continual expensing of small
expenditures (say, less than $300), inaccurate estimates of salvage values, and the
discovery of some unrecorded assets (as in Tractorling’s case, where Patents are dis-
covered to have a fair value of $18,000). Or, replacement costs may have substantially
increased.

Since the fair market value of net assets is now determined to be $350,000, why
would Multi-Diversified pay $400,000? Undoubtedly, the seller pointed to an estab-
lished reputation, good credit rating, top management team, well-trained employees,
and so on as factors that make the value of the business greater than $350,000. At the
same time, Multi-Diversified placed a premium on the future earning power of these
attributes as well as the basic asset structure of the enterprise today. At this point in
the negotiations, price can be a function of many factors; the most important is prob-
ably sheer skill at the bargaining table.

The difference between the purchase price of $400,000 and the fair market value of
$350,000 is labeled goodwill. Goodwill is viewed as one or a group of unidentifiable
values (intangible assets) the cost of which “is measured by the difference between
the cost of the group of assets or enterprise acquired and the sum of the assigned costs
of individual tangible and identifiable intangible assets acquired less liabilities
This procedure for valuation is referred to as a master valuation approach because goodwill is assumed to cover all the values that cannot be specifically identified with any identifiable tangible or intangible asset. This approach is shown in Illustration 12-5.

ILLUSTRATION 12-5
Determination of Goodwill—Master Valuation Approach

| Cash | $ 25,000 |
| Receivables | 35,000 |
| Inventories | 122,000 |
| Property, plant, and equipment, net | 205,000 |
| Patents | 18,000 |
| Liabilities | (55,000) |
| Fair market value of net identifiable assets | $350,000 |
| Purchase price | 400,000 |
| Value assigned to goodwill | $ 50,000 |

The entry to record this transaction would be as follows.

Cash 25,000
Receivables 35,000
Inventories 122,000
Property, Plant, and Equipment 205,000
Patents 18,000
Goodwill 50,000
Liabilities 55,000
Cash 400,000

Goodwill is often identified on the balance sheet as the excess of cost over the fair value of the net assets acquired.

Goodwill Write-off

Goodwill acquired in a business combination is considered to have an indefinite life and therefore should not be amortized. The Board’s position is that investors find the amortization charge of little use in evaluating financial performance. In addition, although goodwill may decrease over time, predicting the actual life of goodwill and an appropriate pattern of amortization is extremely difficult.

On the other hand, knowing the amount invested in goodwill is important to the investment community. Therefore, income statements are not charged unless goodwill has been impaired. This approach will have a significant impact on the income statements of some companies because goodwill often is the largest intangible asset on a company’s balance sheet. Prior to the new FASB standard, companies were required to amortize this intangible. For example, it was estimated that as a result of the new rules, earnings per share in 2001 would increase 21 percent for International Paper, 16 percent for Johnson Controls, and 30 percent for Pepsi Bottling Group.

Some believe that goodwill’s value eventually disappears and therefore that goodwill should be charged to expense over the periods affected. Amortizing goodwill, they argue, provides a better matching of expense with revenues. Others note that the accounting treatment for purchased goodwill and goodwill created internally should be consistent. Goodwill created internally is immediately expensed and does not appear as an asset; the same treatment, they argue, should be accorded purchased goodwill. Even though these arguments may have some merit, the FASB decided that nonamor-

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10The FASB expressed concern about measuring goodwill as a residual, but it noted that there is no real measurement alternative since goodwill is not separable from the enterprise as a whole. “Business Combinations,” Statement of Financial Accounting Standards No. 141 (Norwalk, Conn.: FASB, 2001), par. B145.
tization of goodwill combined with an adequate impairment test provides the most useful financial information to the investment community.

Companies will use 2002 to take massive write-offs that will cut earnings by 15 percent to 20 percent, says Goldman Sachs Group Inc. Chief Investment Strategist Abby Joseph Cohen. “Simply stated, many companies are writing off not only the kitchen sink but the bathtub as well,” Ms. Cohen wrote. For instance, AOL Time Warner Inc. planned a goodwill write-down in the first quarter that—by itself—would reduce S&P 500 earnings by $2 to $4 on an after-tax basis, Ms. Cohen said.

Ms. Cohen attributed companies’ massive write-downs to various factors: the implied or real impacts from the September 11, 2001, terrorist attacks, the official announcement that the country was in a recession, and new rules for the write-down of goodwill. She also says that when all is said and done, 2002 will have seen write-offs that cut into S&P earnings by 35 percent to 40 percent.

Still, Ms. Cohen isn’t backing off estimates of 7 percent to 8 percent long-term earnings growth, saying that the hits will be tough to swallow in the quarter during which they are taken, but that they won’t be of lasting impact psychologically or operationally. “The quarter in which the write-offs are recorded typically bears the statistical brunt, but may not be reflective of performance in future quarters,” according to Ms. Cohen.

**Negative Goodwill—Badwill**

**Negative goodwill** arises when the fair value of the assets acquired is higher than the purchase price of the assets. This situation is a result of market imperfection, because the seller would be better off to sell the assets individually than in total. However, situations do occur in which the purchase price is less than the value of the net identifiable assets and therefore a credit develops. Because the Board believes that these situations are generally unrealistic, it decided that any excess should be allocated on a pro-rata basis to certain assets (generally non-financial in nature), to reduce them to a zero basis. Any remaining credit is referred to as **negative goodwill** or, alternatively, as **excess of fair value over the cost acquired**, **badwill**, or **bargain purchase**.

The FASB requires that this remaining excess be recognized as an extraordinary gain. The Board noted that extraordinary gain treatment is appropriate in order to highlight the fact that an excess exists and to reflect the unusual nature and infrequent occurrence of the item. Some disagree with the approach, as it results in a gain at the time of the purchase. However, it appears that the Board took a practical approach, given that this transaction rarely occurs.\(^1\)

**IMPAIRMENT OF INTANGIBLE ASSETS**

In some cases, the carrying amount of a long-lived asset (whether property, plant, and equipment or intangible assets) is not recoverable, and therefore a write-off is needed. This write-off is referred to as an **impairment**.

**Impairment of Limited-Life Intangibles**

The rules that apply to impairments of long-lived assets also apply to limited-life intangibles. As indicated in Chapter 11, long-lived assets to be held and used by a company are to be reviewed for impairment whenever events or changes in circumstances

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indicate that the carrying amount of the assets may not be recoverable (recoverability test). In performing the review for recoverability, the company would estimate the future cash flows expected to result from the use of the asset and its eventual disposition. If the sum of the expected future net cash flows (undiscounted) is less than the carrying amount of the asset, an impairment loss would be measured and recognized. Otherwise, an impairment loss would not be recognized.\(^{12}\) The impairment loss is the amount by which the carrying amount of the asset exceeds the fair value of the impaired asset (fair value test). As with other impairments, the loss is reported as part of income from continuing operations, generally in the “Other expenses and losses” section.

To illustrate, assume that Lerch, Inc. has a patent on how to extract oil from shale rock. Unfortunately, reduced oil prices have made the shale oil technology somewhat unprofitable, and the patent has provided little income to date. As a result, a recoverability test is performed, and it is found that the expected net future cash flows from this patent are $35 million. Lerch’s patent has a carrying amount of $60 million. Because the expected future net cash flows of $35 million are less than the carrying amount of $60 million, an impairment loss must be measured. Discounting the expected net future cash flows at the market rate of interest, Lerch determines the fair value of its patent to be $20 million. The impairment loss computation (fair value test) is shown in Illustration 12-6.

![Illustration 12-6](Computation of Loss on Impairment of Patent)

<table>
<thead>
<tr>
<th>Carrying amount of patent</th>
<th>$60,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value (based on present value computation)</td>
<td>$20,000,000</td>
</tr>
<tr>
<td>Loss on impairment</td>
<td>$40,000,000</td>
</tr>
</tbody>
</table>

The journal entry to record this loss is:

\[
\text{Loss on Impairment} \quad 40,000,000 \\
\text{Patents} \quad 40,000,000
\]

After the impairment is recognized, the reduced carrying amount of the patents is its new cost basis. The patent’s new cost should be amortized over its useful life or legal life, whichever is shorter. Even if oil prices increase in subsequent periods, and the value of the patent increases, restoration of the previously recognized impairment loss is not permitted.

### Impairment of Indefinite-Life Intangibles Other Than Goodwill

Indefinite-life intangibles other than goodwill should be tested for impairment at least annually. The impairment test for an indefinite-life asset other than goodwill is a fair value test. This test compares the fair value of the intangible asset with the asset’s carrying amount. If the fair value of the intangible asset is less than the carrying amount, impairment is recognized. This one-step test is used because it would be relatively easy for many indefinite-life assets to meet the recoverability test (because cash flows may extend many years into the future). As a result, the recoverability test is not used.

To illustrate, assume that Arcon Radio purchased a broadcast license for $2,000,000. The license is renewable every 10 years if the company provides appropriate service and does not violate Federal Communications Commission (FCC) rules and procedures. The license has been renewed with the FCC twice, at a minimal cost. Cash flows were expected to last indefinitely, and therefore Arcon reported the license as an indefinite-life intangible asset. Recently the FCC decided to no longer renew broadcast licenses, but to auction these licenses to the highest bidder. Arcon’s existing license has 2 years...

remaining, and cash flows are expected for these 2 years. Arcon performs an impairment test and determines that the fair value of the intangible asset is $1,500,000. It therefore reports an impairment loss of $500,000, computed as follows.

<table>
<thead>
<tr>
<th>Carrying amount of broadcast license</th>
<th>$2,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of broadcast license</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Loss on impairment</td>
<td>$ 500,000</td>
</tr>
</tbody>
</table>

The license would now be reported at $1,500,000, its fair value. Even if the value of the license increases in the remaining 2 years, restoration of the previously recognized impairment loss is not permitted.

**Impairment of Goodwill**

The impairment rule for goodwill is a two-step process. First, the fair value of the reporting unit should be compared to its carrying amount including goodwill. If the fair value of the reporting unit is greater than the carrying amount, goodwill is considered not to be impaired, and the company does not have to do anything else.

To illustrate, assume that Kohlbuy Corporation has three divisions in its company. One division, Pritt Products, was purchased 4 years ago for $2 million. Unfortunately, it has experienced operating losses over the last 3 quarters, and management is reviewing the division for purposes of recognizing an impairment. The Pritt Division’s net assets including the associated goodwill of $900,000 from purchase are listed in Illustration 12-8.

<table>
<thead>
<tr>
<th>Cash</th>
<th>$ 200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receivables</td>
<td>300,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>700,000</td>
</tr>
<tr>
<td>Property, plant, and equipment (net)</td>
<td>800,000</td>
</tr>
<tr>
<td>Goodwill</td>
<td>900,000</td>
</tr>
<tr>
<td>Less: Accounts and notes payable</td>
<td>(500,000)</td>
</tr>
<tr>
<td>Net assets</td>
<td>$2,400,000</td>
</tr>
</tbody>
</table>

It is determined that the fair value of Pritt Division is $2,800,000. As a result, no impairment is recognized, because the fair value of the division is greater than the carrying amount of the net assets.

However, if the fair value of Pritt Division is less than the carrying amount of the net assets, then a second step must be performed to determine whether impairment has occurred. In the second step, the fair value of the goodwill must be determined (implied value of goodwill) and compared to its carrying amount. To illustrate, assume that the fair value of Pritt’s Division was $1,900,000 instead of $2,800,000. The implied value of the goodwill in this case is computed in Illustration 12-9.\(^{13}\)

**ILLUSTRATION 12-9**

<table>
<thead>
<tr>
<th>Fair value of Pritt Division</th>
<th>$1,900,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net identifiable assets (excluding goodwill) ($2,400,000 – $900,000)</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Implied value of goodwill</td>
<td>$ 400,000</td>
</tr>
</tbody>
</table>

\(^{13}\)Illustration 12-9 assumes that the carrying amount and the fair value of the net identifiable assets (excluding goodwill) are the same. If different, the fair value of the net identifiable assets (excluding goodwill) is used to determine the implied goodwill.
The implied value of the goodwill is then compared to the recorded goodwill to determine whether an impairment has occurred, as shown in Illustration 12-10.

<table>
<thead>
<tr>
<th>Carrying amount of goodwill</th>
<th>$900,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implied value of goodwill</td>
<td>400,000</td>
</tr>
<tr>
<td>Loss on impairment</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

Illustration 12-11 summarizes the impairment tests for various intangible assets.

<table>
<thead>
<tr>
<th>Type of Intangible Asset</th>
<th>Impairment Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited life</td>
<td>Recoverability test, then fair value test</td>
</tr>
<tr>
<td>Indefinite life other than goodwill</td>
<td>Fair value test on reporting unit, then fair value test on implied goodwill</td>
</tr>
<tr>
<td>Goodwill</td>
<td>Fair value test</td>
</tr>
</tbody>
</table>

**RESEARCH AND DEVELOPMENT COSTS**

Research and development (R & D) costs are not in themselves intangible assets. The accounting for R & D costs is presented here, however, because research and development activities frequently result in the development of something that is patented or copyrighted (such as a new product, process, idea, formula, composition, or literary work).

Many businesses spend considerable sums of money on research and development to create new products or processes, to improve present products, and to discover new knowledge that may be valuable at some future date. The following schedule shows recent outlays for R & D made by selected U.S. companies.

<table>
<thead>
<tr>
<th>Company</th>
<th>R &amp; D Dollars</th>
<th>% of Sales</th>
<th>% of Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deere &amp; Co.</td>
<td>$444,400,000</td>
<td>3.73%</td>
<td>43.51%</td>
</tr>
<tr>
<td>Dell Computer</td>
<td>272,000,000</td>
<td>1.49%</td>
<td>18.63%</td>
</tr>
<tr>
<td>General Mills</td>
<td>70,000,000</td>
<td>1.12%</td>
<td>13.10%</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>2,269,000,000</td>
<td>9.59%</td>
<td>74.17%</td>
</tr>
<tr>
<td>Kellogg</td>
<td>121,900,000</td>
<td>1.80%</td>
<td>24.25%</td>
</tr>
<tr>
<td>Merck</td>
<td>1,821,100,000</td>
<td>6.77%</td>
<td>34.70%</td>
</tr>
</tbody>
</table>

Two difficulties arise in accounting for these research and development (R & D) expenditures: (1) identifying the costs associated with particular activities, projects, or achievements, and (2) determining the magnitude of the future benefits and length of time over which such benefits may be realized. Because of these latter uncertainties, the accounting practice in this area has been simplified by requiring that all research and development costs be charged to expense when incurred.14

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Identifying R & D Activities

To differentiate research and development costs from similar costs, the following definitions are used for research activities and development activities.\(^{15}\)

<table>
<thead>
<tr>
<th>Research Activities</th>
<th>Development Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned search or critical investigation aimed at discovery of new knowledge.</td>
<td>Translation of research findings or other knowledge into a plan or design for a new product or process or for a significant improvement to an existing product or process whether intended for sale or use.</td>
</tr>
</tbody>
</table>

Examples

| Laboratory research aimed at discovery of new knowledge; searching for applications of new research findings. | Conceptual formulation and design of possible product or process alternatives; construction of prototypes and operation of pilot plants. |

It should be emphasized that R & D activities do not include routine or periodic alterations to existing products, production lines, manufacturing processes, and other ongoing operations even though these alterations may represent improvements. For example, routine ongoing efforts to refine, enrich, or improve the qualities of an existing product are not considered R & D activities.

Accounting for R & D Activities

The costs associated with R & D activities and the accounting treatment accorded them are as follows.

1. **Materials, Equipment, and Facilities.** Expense the entire costs, unless the items have alternative future uses (in other R & D projects or otherwise), in which case, carry as inventory and allocate as consumed; or capitalize and depreciate as used.

2. **Personnel.** Salaries, wages, and other related costs of personnel engaged in R & D should be expensed as incurred.

3. **Purchased Intangibles.** Expense the entire cost, unless the items have alternative future uses (in other R & D projects or otherwise), in which case, capitalize and amortize.

4. **Contract Services.** The costs of services performed by others in connection with the reporting company’s R & D should be expensed as incurred.

5. **Indirect Costs.** A reasonable allocation of indirect costs shall be included in R & D costs, except for general and administrative cost, which must be clearly related in order to be included and expensed.\(^{16}\)

Consistent with item 1 above, if an enterprise owns a research facility consisting of buildings, laboratories, and equipment that conducts R & D activities and that has

\(^{15}\)Ibid., par. 8.

\(^{16}\)Ibid, par. 11.
alternative future uses (in other R & D projects or otherwise), the facility should be accounted for as a capitalized operational asset. The depreciation and other costs related to such research facilities are accounted for as R & D expenses.17

To illustrate the identification of R & D activities and the accounting treatment of related costs, assume that Next Century Incorporated develops, produces, and markets laser machines for medical, industrial, and defense uses.18 The types of expenditures related to its laser machine activities, along with the recommended accounting treatment, are listed in Illustration 12-14.

![Illustration 12-14](Image)

**ILLUSTRATION 12-14**
Sample R & D Expenditures and Their Accounting Treatment

<table>
<thead>
<tr>
<th>Type of Expenditure</th>
<th>Next Century Incorporated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Acquisition of R &amp; D equipment for use on current project only.</td>
<td>Expense immediately as R &amp; D.</td>
</tr>
<tr>
<td>3. Acquisition of machinery to be used on current and future R &amp; D projects.</td>
<td>Capitalize and depreciate as R &amp; D expense.</td>
</tr>
<tr>
<td>4. Purchase of materials to be used on current and future R &amp; D projects.</td>
<td>Inventory and allocate to R &amp; D projects; expense as consumed.</td>
</tr>
<tr>
<td>5. Salaries of research staff designing new laser bone scanner.</td>
<td>Expense immediately as R &amp; D.</td>
</tr>
<tr>
<td>7. Material, labor, and overhead costs of prototype laser scanner.</td>
<td>Expense immediately as R &amp; D.</td>
</tr>
<tr>
<td>8. Costs of testing prototype and design modifications.</td>
<td>Expense immediately as R &amp; D.</td>
</tr>
<tr>
<td>9. Legal fees to obtain patent on new laser scanner.</td>
<td>Capitalize as patent and amortize to overhead as part of cost of goods manufactured.</td>
</tr>
<tr>
<td>10. Executive salaries.</td>
<td>Expense as operating expense (general and administrative).</td>
</tr>
<tr>
<td>11. Cost of marketing research to promote new laser scanner.</td>
<td>Expense as operating expense (selling).</td>
</tr>
<tr>
<td>12. Engineering costs incurred to advance the laser scanner to full production stage.</td>
<td>Expense immediately as R &amp; D.</td>
</tr>
<tr>
<td>13. Costs of successfully defending patent on laser scanner.</td>
<td>Capitalize as patent and amortize to overhead as part of cost of goods manufactured.</td>
</tr>
<tr>
<td>14. Commissions to sales staff marketing new laser scanner.</td>
<td>Expense as operating expense (selling).</td>
</tr>
</tbody>
</table>

17Costs of research, exploration, and development activities that are unique to companies in the extractive industries (e.g., prospecting, acquisition of mineral rights, exploration, drilling, mining, and related mineral development) and those costs discussed which are similar to but not classified as R & D costs may be: (1) expensed as incurred, (2) capitalized and either depreciated or amortized over an appropriate period of time, or (3) accumulated as part of inventorable costs. Choice of the appropriate accounting treatment for such costs should be guided by the degree of certainty of future benefits and the principle of matching revenues and expenses.

18Sometimes enterprises conduct R & D activities for other entities under a contractual arrangement. In this case, the contract usually specifies that all direct costs, certain specific indirect costs, plus a profit element, should be reimbursed to the enterprise performing the R & D work. Because reimbursement is expected, such R & D costs should be recorded as a receivable. It is the company for whom the work has been performed that reports these costs as R & D and expenses them as incurred.

For a more complete discussion of how an enterprise should account for its obligation under an arrangement for the funding of its research and development by others, see “Research and Development Arrangements,” Statement of Financial Accounting Standards No. 68 (Stamford, Conn.: FASB, 1982).
Other Costs Similar to R & D Costs

Many costs have characteristics similar to research and development costs. Examples are:

1. Start-up costs for a new operation.
2. Initial operating losses.
3. Advertising costs.

For the most part, these costs are expensed as incurred, similar to the accounting for R & D costs. A brief explanation of these costs is provided below.

Start-up Costs

Start-up costs are costs incurred for one-time activities to start a new operation. Examples include opening a new plant, introducing a new product or service, or conducting business in a new territory or with a new class of customers. Start-up costs include organizational costs. These are costs incurred in the organizing of a new entity, such as legal and state fees of various types.

The accounting for start-up costs is straightforward: Expense start-up costs as incurred. The profession recognizes that these costs are incurred with the expectation that future revenues will occur or increased efficiencies will result. However, to determine the amount and timing of future benefits is so difficult that a conservative approach—expensing these costs as incurred—is required. 19

To illustrate the type of costs that should be expensed as start-up costs, assume that U.S.-based Hilo Beverage Company decides to construct a new plant in Brazil. This represents Hilo’s first entry into the Brazilian market. As part of its overall strategy, Hilo plans to introduce the company’s major U.S. brands into Brazil, on a locally produced basis. Following are some of the costs that might be involved with these start-up activities.

1. Travel-related costs, costs related to employee salaries, and costs related to feasibility studies, accounting, tax, and government affairs.
2. Training of local employees related to product, maintenance, computer systems, finance, and operations.
3. Recruiting, organizing, and training related to establishing a distribution network.

All of these costs are start-up costs and should be expensed as incurred.

It is not uncommon for start-up activities to occur at the same time as other activities, such as the acquisition or development of assets. For example, property, plant, and equipment or inventory used in Hilo’s new plant should not be immediately expensed. These assets should be reported on the balance sheet and charged to operations using appropriate GAAP reporting guidelines.

Initial Operating Losses

Some contend that initial operating losses incurred in the start-up of a business should be capitalized, since they are unavoidable and are a cost of starting a business. For example, assume that Hilo lost money in its first year of operations and wished to capitalize this loss arguing that as the company becomes profitable, it will offset these losses in future periods. What do you think? We believe that this approach is unsound, since losses have no future service potential and therefore cannot be considered an asset.

Our position that operating losses during the early years should not be capitalized is supported by Statement of Financial Accounting Standards No. 7, which clarifies the accounting and reporting practices for development stage enterprises. The FASB concludes that the accounting practices and reporting standards should be no different for an enterprise trying to establish a new business than they are for other enterprises. The standard says that the same “generally accepted accounting principles that apply to established operating enterprises shall govern the recognition of revenue by a development stage enterprise and shall determine whether a cost incurred by a development stage enterprise is to be charged to expense when incurred or is to be capitalized or deferred.”

Advertising Costs

Recently, PepsiCo hired pop icon Britney Spears to advertise its products. How should the advertising costs related to Britney Spears be reported? These costs could be expensed in a variety of ways:

1. When she has completed her singing assignment.
2. The first time the advertising takes place.
3. Over the estimated useful life of the advertising.
4. In an appropriate fashion to each of the three periods identified above.
5. Over the period revenues are expected to result.

For the most part advertising costs must be expensed as incurred or the first time the advertising takes place. These two alternatives are permitted because whichever approach is followed, the results are essentially the same. Tangible assets used in advertising, such as billboards or blimps, are recorded as assets because they do have alternative future uses. Again the profession has taken a conservative approach to recording advertising costs because defining and measuring the future benefits are so difficult.

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20. Accounting and Reporting by Development Stage Enterprises, Statement of Financial Accounting Standards No. 7 (Stamford, Conn.: FASB, 1975), par. 10. A company is considered to be in the developing stages when its efforts are directed toward establishing a new business and either the principal operations have not started or no significant revenue has been earned.

21. Reporting on Advertising Costs, Statement of Position 93-7 (New York: AICPA, 1993). Note that there are some exceptions for immediate expensing of advertising costs when they relate to direct-response advertising, but this subject is beyond the scope of this book.
For many companies, developing a strong brand image is as important as developing the products they sell. Now more than ever, companies see the power of a strong brand, which is generally enhanced by significant and effective advertising investments. As indicated in the following chart, the value of such investments is substantial, with Coca-Cola leading the list with an estimated brand value of nearly $70 billion.

**The World’s 10 Most Valuable Brands**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Brand</th>
<th>Value (billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coca-Cola</td>
<td>$69.6</td>
</tr>
<tr>
<td>2</td>
<td>Microsoft</td>
<td>64.1</td>
</tr>
<tr>
<td>3</td>
<td>IBM</td>
<td>51.2</td>
</tr>
<tr>
<td>4</td>
<td>GE</td>
<td>41.3</td>
</tr>
<tr>
<td>5</td>
<td>Intel</td>
<td>30.9</td>
</tr>
<tr>
<td>6</td>
<td>Nokia</td>
<td>30.0</td>
</tr>
<tr>
<td>7</td>
<td>Disney</td>
<td>29.3</td>
</tr>
<tr>
<td>8</td>
<td>McDonald’s</td>
<td>26.4</td>
</tr>
<tr>
<td>9</td>
<td>Marlboro</td>
<td>24.2</td>
</tr>
<tr>
<td>10</td>
<td>Mercedes</td>
<td>21.0</td>
</tr>
</tbody>
</table>

Source: 2002 data, from Interbrand Corp. and J. P. Morgan Chase.

Except for the value of a brand that may be included in goodwill, you won’t find the estimated values of these brands recorded in these companies’ balance sheets. The reason? The subjectivity that goes into estimating the value of a brand. In some cases, brand value is estimated based on opinion polls or based on some multiple of ad spending. In estimating the values in the table, Interbrand Corp. develops an estimate of the percentage of the overall future revenues that will be accounted for by the power of the brand and then discounts the net cash flows (after deducting the estimated costs to generate the cash flows), to arrive at a present value. While some believe that information on brand values is relevant, subjectivity in the estimates for revenues, costs, and the risk component of the discount rate introduces valid concerns about the reliability of brand value estimates.


**Research and Development Costs**

A special problem arises in distinguishing R & D costs from selling and administrative activities. The FASB’s intent was that the acquisition, development, or improvement of a product or process by an enterprise for use in its selling or administrative activities be excluded from the definition of research and development activities. For example, the costs of software incurred by an airline in acquiring, developing, or improving its computerized reservation system, or the costs incurred during the development of a general management information system are not research and development costs. Accounting for computer software costs is a specialized and complicated accounting topic that is discussed and illustrated in Appendix 12A (pages 594–597).

**Conceptual Questions**

The requirement that all R & D costs (as well as other costs mentioned in the previous section) incurred internally be expensed immediately is a conservative, practical solution that ensures consistency in practice and uniformity among companies. But the practice of immediately writing off expenditures made in the expectation of benefiting future periods cannot be justified on the grounds that it is good accounting theory.
Proponents of immediate expensing contend that from an income statement standpoint, long-run application of this standard frequently makes little difference. They contend that because of the ongoing nature of most companies’ R & D activities, the amount of R & D cost charged to expense each accounting period would be about the same whether there is immediate expensing or capitalization and subsequent amortization. Critics of this practice argue that the balance sheet should report an intangible asset related to expenditures that have future benefit. To preclude capitalization of all R & D expenditures removes from the balance sheet what may be a company’s most valuable asset. This standard represents one of the many trade-offs made among relevance, reliability, and cost-benefit considerations.22

PRESENTATION OF INTANGIBLES AND RELATED ITEMS

Presentation of Intangible Assets

The reporting of intangible assets differs from the reporting of property, plant, and equipment in that contra accounts are not normally shown for intangibles. On the balance sheet, all intangible assets other than goodwill should be reported as a separate item. If goodwill is present, it also should be reported as a separate item. The Board concluded that since goodwill and other intangible assets differ significantly from other types of assets, users of the balance sheet will benefit from this disclosure.

On the income statement, amortization expense and impairment losses for intangible assets other than goodwill should be presented as part of continuing operations. Goodwill impairment losses should also be presented as a separate line item in the continuing operations section, unless the goodwill impairment is associated with a discontinued operation.

The notes to the financial statements should include information about acquired intangible assets, including the aggregate amortization expense for each of the succeeding 5 years. The notes should include information about changes in the carrying amount of goodwill during the period. Illustration 12-15 on page 591 shows the type of disclosure made related to intangible assets in the financial statements and related notes for Harbaugh Company.

Presentation of Research and Development Costs

Acceptable accounting practice requires that disclosure be made in the financial statements (generally in the notes) of the total R & D costs charged to expense each period for which an income statement is presented. Merck & Co., Inc., a global research pharmaceutical company, reported research and development in its recent income statement as shown in Illustration 12-16 on page 592.

22Recent research suggests that capitalizing research and development costs may be helpful to investors. For example, one study showed that a significant relationship exists between R & D outlays and subsequent benefits in the form of increased productivity, earnings, and shareholder value for R & D-intensive companies. Baruch Lev and Theodore Sougiannis, “The Capitalization, Amortization, and Value-Relevance of R & D,” Journal of Accounting and Economics (February 1996). Another study found that there was a significant decline in earnings usefulness for companies that were forced to switch from capitalizing to expensing R & D costs and that the decline appears to persist over time. Martha L. Loudder and Bruce K. Behn, “Alternative Income Determination Rules and Earnings Usefulness: The Case of R & D Costs,” Contemporary Accounting Research (Fall 1995).
HARBAUGH COMPANY
Balance Sheet (partial)  
(in thousands)

<table>
<thead>
<tr>
<th>Intangible Assets (Note C)</th>
<th>$3,840</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goodwill (Note D)</td>
<td>2,575</td>
</tr>
</tbody>
</table>

Income Statement (partial)  
(in thousands)

<table>
<thead>
<tr>
<th>Amortization expense</th>
<th>$380</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment losses (goodwill)</td>
<td>46</td>
</tr>
</tbody>
</table>

Note C: Acquired Intangible Assets

<table>
<thead>
<tr>
<th>Amortized intangible assets</th>
<th>As of December 31, 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trademark</td>
<td>$2,000</td>
</tr>
<tr>
<td>Customer list</td>
<td>500</td>
</tr>
<tr>
<td>Other</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>$2,560</td>
</tr>
<tr>
<td>Unamortized intangible assets</td>
<td></td>
</tr>
<tr>
<td>Licenses</td>
<td>$1,300</td>
</tr>
<tr>
<td>Trademark</td>
<td>400</td>
</tr>
<tr>
<td>Total</td>
<td>$1,700</td>
</tr>
</tbody>
</table>

Aggregate Amortization Expense

- For year ended 12/31/03 $380

Estimated Amortization Expense

- For year ended 12/31/04 $200
- For year ended 12/31/05 90
- For year ended 12/31/06 70
- For year ended 12/31/07 60
- For year ended 12/31/08 50

Note D: Goodwill

The changes in the carrying amount of goodwill for the year ended December 31, 2003, are as follows:

<table>
<thead>
<tr>
<th>($)000s</th>
<th>Technology Segment</th>
<th>Communications Segment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance as of January 1, 2003</td>
<td>$1,413</td>
<td>$904</td>
<td>$2,317</td>
</tr>
<tr>
<td>Goodwill acquired during year</td>
<td>189</td>
<td>115</td>
<td>304</td>
</tr>
<tr>
<td>Impairment losses</td>
<td>(46)</td>
<td>(46)</td>
<td>(92)</td>
</tr>
<tr>
<td>Balance as of December 31, 2003</td>
<td>$1,602</td>
<td>$973</td>
<td>$2,575</td>
</tr>
</tbody>
</table>

The Communications segment is tested for impairment in the third quarter, after the annual forecasting process. Due to an increase in competition in the Texas and Louisiana cable industry, operating profits and cash flows were lower than expected in the fourth quarter of 2002 and the first and second quarters of 2003. Based on that trend, the earnings forecast for the next 5 years was revised. In September 2003, a goodwill impairment loss of $46 was recognized in the Communications reporting unit. The fair value of that reporting unit was estimated using the expected present value of future cash flows.
In addition, Merck provides a discussion about R & D expenditures in its annual report, as shown in Illustration 12-17.

ILLUSTRATION 12-16
Income Statement
Disclosure of R & D Costs

Additional Disclosures of Intangibles and R & D Costs

ILLUSTRATION 12-17
Merck’s R & D Disclosure

Research and development in the pharmaceutical industry is inherently a long-term process. The following data show an unbroken trend of year-to-year increases in research and development spending. For the period 1992 to 2001, the compounded annual growth rate in research and development was 10%. Research and development expenses for 2002 are estimated to approximate $2.9 billion.

R&D Expenditures

SUMMARY OF LEARNING OBJECTIVES

1. Describe the characteristics of intangible assets. Intangible assets have two main characteristics: (1) They lack physical existence, and (2) they are not financial instruments. In most cases, intangible assets provide services over a period of years. As a result, they are normally classified as long-term assets.

2. Identify the costs included in the initial valuation of intangible assets. Intangibles are recorded at cost. Cost includes all costs of acquisition and expenditures necessary to make the intangible asset ready for its intended use. If intangibles are acquired for
explain the procedure for amortizing intangible assets. intangibles have either a limited useful life or an indefinite useful life. an intangible asset with a limited life is amortized. an intangible asset with an indefinite life is not amortized. limited-life intangibles should be amortized by systematic charges to expense over their useful life. the useful life should reflect the period over which these assets will contribute to cash flows. the amount to report for amortization expense should reflect the pattern in which the asset is consumed or used up if that pattern can be reliably determined. otherwise a straight-line approach should be used.

identify the types of intangible assets. major types of intangibles are: (1) marketing-related intangibles which are used in the marketing or promotion of products or services; (2) customer-related intangibles which are a result of interactions with outside parties; (3) artistic-related intangibles which involve ownership rights to such items as plays and literary works; (4) contract-related intangibles which represent the value of rights that arise from contractual arrangements; (5) technology-related intangible assets which relate to innovations or technological advances; and (6) goodwill which arises in business combinations.

explain the conceptual issues related to goodwill. goodwill is unique because unlike receivables, inventories, and patents that can be sold or exchanged individually in the marketplace, goodwill can be identified only with the business as a whole. goodwill is a “going concern” valuation and is recorded only when an entire business is purchased. goodwill generated internally should not be capitalized in the accounts, because measuring the components of goodwill is too complex and associating any costs with future benefits too difficult. the future benefits of goodwill may have no relationship to the costs incurred in the development of that goodwill. goodwill may exist even in the absence of specific costs to develop it.

describe the accounting procedures for recording goodwill. to record goodwill, the fair market value of the net tangible and identifiable intangible assets are compared with the purchase price of the acquired business. the difference is considered goodwill. goodwill is the residual—the excess of cost over fair value of the identifiable net assets acquired. goodwill is often identified on the balance sheet as the excess of cost over the fair value of the net assets acquired.

explain the accounting issues related to intangible asset impairments. impairment occurs when the carrying amount of the intangible asset is not recoverable. impairments for limited-life intangible assets are based on a recoverability test and a fair value test. indefinite-life intangibles use only a fair value test. goodwill impairments use a two-step process: first, test the fair value of the reporting unit, then do the fair value test on implied goodwill.

identify the conceptual issues related to research and development costs. r & d costs are not in themselves intangible assets, but research and development activities frequently result in the development of something that is patented or copyrighted. the difficulties in accounting for r & d expenditures are: (1) identifying the costs associated with particular activities, projects, or achievements, and (2) determining the magnitude of the future benefits and length of time over which such benefits may be realized. because of these latter uncertainties, the fasb has standardized and simplified accounting practice by requiring that all research and development costs be charged to expense when incurred.

describe the accounting procedures for research and development costs and for other similar costs. the costs associated with r & d activities and the accounting treatment...
accorded them are as follows: (1) Materials, equipment, and facilities: Expense the entire costs, unless the items have alternative future uses, in which case, carry as inventory and allocate as consumed; or capitalize and depreciate as used. (2) Personnel: Salaries, wages, and other related costs of personnel engaged in R & D should be expensed as incurred. (3) Purchased intangibles: Expense the entire cost, unless the items have alternative future uses, in which case, capitalize and amortize. (4) Contract services: The costs of services performed by others in connection with the reporting company’s R & D should be expensed as incurred. (5) Indirect costs: A reasonable allocation of indirect costs shall be included in R & D costs, except for general and administrative costs, which must be related to be included and expensed. Many costs have characteristics similar to R & D costs. Examples are start-up costs, initial operating losses, advertising costs, and computer software costs. For the most part, these costs are expensed as incurred, similar to the accounting for R & D costs.

10. Indicate the presentation of intangible assets and related items. The reporting of intangibles differs from the reporting of property, plant, and equipment in that contra accounts are not normally shown. On the balance sheet, all intangible assets other than goodwill should be reported as a separate item. If goodwill is present, it too should be reported as a separate item. On the income statement, amortization expense and impairment losses should normally be reported in continuing operations. The notes to the financial statements have additional detailed information. Disclosure must be made in the financial statements for the total R & D costs charged to expense each period for which an income statement is presented.

APPENDIX 12A

Accounting for Computer Software Costs

The development of computer software products takes on increasing importance as our economy continues to change from a manufacturing process orientation (tangible outputs) to an information flow society (intangible outputs).1 This appendix discusses the basic issues involved in accounting for computer software.

DIVERSITY IN PRACTICE

Computer software may be either purchased or created by a company. It may be purchased or created for external use (such as spreadsheet applications like Excel or Lotus 1-2-3) or for internal use (e.g., to establish a better internal accounting system).

1A major contributing factor was IBM’s decision in 1969 to “unbundle” its hardware and software, that is, to state the cost of the hardware and software separately. Prior to the unbundling, most applications software was provided free with the hardware. This unbundling led to the creation of a whole new industry, the software industry, whose members began selling software to hardware users.
Should costs incurred in developing the software be expensed immediately or capitalized and amortized in the future? Prior to 1985, some companies expensed all software costs, and others capitalized such costs. Still others differentiated such costs on the basis of whether the software was purchased or created, or whether it was used for external or internal purposes.

THE PROFESSION’S POSITION

A major question is whether the costs involved in developing software are research and development costs. If they are actually R & D, then the profession requires that they be expensed as incurred. If they are not research and development costs, then a strong case can be made for capitalization. As one financial executive of a software company, who argues for capitalization, noted, “The key distinction between our spending and R & D is recoverability. We know we are developing something we can sell.”

In an attempt to resolve this issue (at least for companies that sell computer software), the FASB issued Statement of Financial Accounting Standards No. 86, “Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed.” The major recommendations of this pronouncement are:

1. Costs incurred in creating a computer software product should be charged to research and development expense when incurred until technological feasibility has been established for the product.
2. Technological feasibility is established upon completion of a detailed program design or working model.

In short, the FASB has taken a conservative position in regard to computer software costs. All costs must be expensed until the company has completed planning, designing, coding, and testing activities necessary to establish that the product can be produced to meet its design specifications. Subsequent costs incurred should be capitalized and amortized to current and future periods.

Two additional points should be emphasized. First, if the software is purchased and it has alternative future uses, then it may be capitalized. Second, this standard applies only to the development of software that is to be sold, leased, or otherwise marketed to third parties (i.e., for external use).

The profession has also indicated how to account for computer software to be used internally. Activities performed during the preliminary project stage of development (conceptual formulation and evaluation of alternatives, for example) are similar to R & D costs and should be expensed immediately. However, once the software is at the application development stage (at the coding or installation into hardware stages, for example), its future economic benefits become probable and so capitalization of costs is required. Costs subsequent to the application development stage related to training and application maintenance should be expensed as incurred.

ACCOUNTING FOR CAPITALIZED SOFTWARE COSTS

If software costs are capitalized, then a proper amortization pattern for these costs must be established. Companies are required to use the greater of (1) the ratio of current revenues to current and anticipated revenues (percent of revenue approach) or (2) the straight-line method over the remaining useful life of the asset (straight-line approach).
approach) as a basis for amortization. These rules can result in the use of the ratio method one year and the straight-line method in another.

To illustrate, assume that AT&T has capitalized software costs of $10 million, and its current (first-year) revenues from sales of this product are $4 million. AT&T anticipates earning $16 million in additional future revenues from this product, which is estimated to have an economic life of 4 years. Using the percent of revenue approach, the current (first) year’s amortization would be $2 million ($10,000,000 × $4,000,000/ $20,000,000). Using the straight-line approach, the amortization would be $2.5 million ($10,000,000/4 years). Thus the straight-line approach would be employed because it results in the greater amortization charge.

REPORTING SOFTWARE COSTS

Because much concern exists about the reliability of an asset such as software, the FASB indicated that capitalized software costs should be valued at the lower of unamortized cost or net realizable value. If net realizable value is lower, then the capitalized software costs should be written down to this value. Once written down, they may not be written back up. In addition to the regular disclosures for R & D costs, the following should be reported in the financial statements.

1. Unamortized software costs.
2. The total amount charged to expense and amounts, if any, written down to net realizable value.

Once again these accounting and reporting requirements apply only to software developed for external purposes.

An example of software development cost disclosure, taken from the annual report of Analogic Corporation, is shown below.

---

### Analogic Corporation

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>July 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001</td>
</tr>
<tr>
<td>Total current assets</td>
<td>$268,350</td>
</tr>
<tr>
<td>Property, plant and equipment, net</td>
<td>68,846</td>
</tr>
<tr>
<td>Investments in and advances to affiliated companies</td>
<td>4,692</td>
</tr>
<tr>
<td>Capitalized software, net</td>
<td>5,488</td>
</tr>
<tr>
<td>Other assets</td>
<td>5,143</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$352,519</strong></td>
</tr>
</tbody>
</table>

### Significant Accounting Policies

**Capitalized Software Costs:** In accordance with FAS 86, the Company capitalizes certain computer software costs, primarily labor and overhead, it develops for use in its own products. Capitalization commences when the Company determines, after a detailed review, that the product is technologically feasible. Capitalized costs are amortized on a straight-line basis over the economic lives of the related products, generally three years. Amortization expense was $1,647, $1,778 and $1,977 in fiscal 2001, 2000, and 1999, respectively. The unamortized balance of capitalized software was $5,488 and $5,368 at July 31, 2001, and 2000, respectively.

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### SETTING STANDARDS FOR SOFTWARE ACCOUNTING

“It’s unreasonable to expense all software costs, and it’s unreasonable to capitalize all software costs,” said IBM’s director of financial reporting. “If you subscribe to those two statements, then it follows that there is somewhere in between where development
ends and capitalization begins. Now you have to define that point.” The FASB defined that point as “technological feasibility,” which is established upon completion of a detailed program design or working model.

The difficulty of applying this criterion to software is that “there is no such thing as a real, specific, baseline design. But you could make it look like you have one as early or as late as you like,” says Osman Erlop of Hambrecht & Quist. That is, if you wish to capitalize, draw up a detailed program design quickly. If you want to expense lots of development costs, simply hold off writing a detailed program design. And, once capitalized, the costs are amortized over the useful life specified by the developer, which because of either constant redesign or supersession is generally quite short (2 to 4 years).

As another example, some companies “manage by the numbers.” That is, they are very careful to identify projects that are worthwhile and capitalize the computer software costs associated with them. They believe that good projects must be capitalized and amortized in the future; otherwise, the concept of properly matching expense and revenues is abused.

Other companies choose not to manage by the numbers and simply expense all these costs. Companies that expense all these costs have no use for a standard that requires capitalization. In their view, it would mean only that a more complex, more expensive cost accounting system would be required, one that would provide little if any benefit.

Financial analysts have reacted almost uniformly against any capitalization. They believe software costs should be expensed because of the rapid obsolescence of software and the potential for abuse that may result from capitalizing costs inappropriately. As Donald Kirk, a former chairman of the FASB, stated, “The Board is now faced with the problem of balancing what it thought was good theory with the costs for some companies of implementing a new accounting system with the concerns of users about the potential for abuse of the standard.”

Resolving the software accounting problem again demonstrates the difficulty of establishing reporting standards.

**SUMMARY OF LEARNING OBJECTIVE FOR APPENDIX 12A**

1. **Understand the accounting treatment for computer software costs.** Costs incurred in creating a software product should be charged to R & D expense when incurred until technological feasibility has been established for the product. Subsequent costs should be capitalized and amortized to current and future periods. Software that is purchased for sale or lease to third parties and has alternative future uses may be capitalized and amortized using the greater of the percent of revenue approach or the straight-line approach.

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Questions

1. What are the two main characteristics of intangible assets?
2. If intangibles are acquired for stock, how is the cost of the intangible determined?
3. Intangibles have either a limited useful life or an indefinite useful life. How should these two different types of intangibles be amortized?
4. Why does the accounting profession make a distinction between internally created intangibles and purchased intangibles?
5. In 2003, Sheila Wright Corp. spent $420,000 for “goodwill” visits by sales personnel to key customers. The purpose of these visits was to build a solid, friendly relationship for the future and to gain insight into the problems and needs of the companies served. How should this expenditure be reported?
6. What factors are to be considered in estimating the useful life of an intangible asset?
7. What should be the pattern of amortization for a limited-life intangible?
8. Marcy Co. acquired a trademark that is helpful in distinguishing one of its new products. The trademark is renewable every 10 years at minimal cost. All evidence indicates that this trademark product will generate cash flows for an indefinite period of time. How should this trademark be amortized?
9. Alonzo Mourning Company spent $190,000 developing a new process, $45,000 in legal fees to obtain a patent, and $91,000 to market the process that was patented, all in the year 2003. How should these costs be accounted for in 2003?
10. Yellow 3 purchased a patent for $450,000 which has an estimated useful life of 10 years. Its pattern of use or consumption cannot be reliably determined. Prepare the entry to record the amortization of the patent in its first year of use.
11. Explain the difference between artistic-related intangible assets and contract-related intangible assets.
12. What is goodwill? What is negative goodwill?
13. Under what circumstances is it appropriate to record goodwill in the accounts? How should goodwill, properly recorded on the books, be written off in order to conform with generally accepted accounting principles?
14. In examining financial statements, financial analysts often write off goodwill immediately. Evaluate this procedure.
15. Astaire Inc. is considering the write-off of a limited life intangible because of its lack of profitability. Explain to the management of Astaire how to determine whether a write-off is permitted.
16. Last year Wilde Company recorded an impairment on an intangible asset held for use. Recent appraisals indicate that the asset has increased in value. Should Wilde record this recovery in value?
17. Explain how losses on impaired intangible assets should be reported in income.
18. Logan Company determines that its goodwill is impaired. It finds that its implied goodwill is $380,000 and its recorded goodwill is $400,000. The fair value of its identifiable assets is $1,450,000. What is the amount of goodwill impaired?
19. What is the nature of research and development costs?
20. Research and development activities may include (a) personnel costs, (b) materials and equipment costs, and (c) indirect costs. What is the recommended accounting treatment for these three types of R & D costs?
21. Which of the following activities should be expensed currently as R & D costs?
   (a) Testing in search for or evaluation of product or process alternatives.
   (b) Engineering follow-through in an early phase of commercial production.
   (c) Legal work in connection with patent applications or litigation, and the sale or licensing of patents.
22. Indicate the proper accounting for the following items.
   (a) Organization costs.
   (b) Advertising costs.
   (c) Operating losses.
23. In 2002, Cassie Logan Corporation developed a new product that will be marketed in 2003. In connection with the development of this product, the following costs were incurred in 2002: research and development costs $420,000; materials and supplies consumed $60,000; and compensation paid to research consultants $125,000. It is anticipated that these costs will be recovered in 2005. What is the amount of research and development costs that Cassie Logan should record in 2002 as a charge to expense?
24. Recently, a group of university students decided to incorporate for the purposes of selling a process to recycle the waste product from manufacturing cheese. Some of the initial costs involved were legal fees and office expenses incurred in starting the business, state incorporation fees, and stamp taxes. One student wishes to charge these costs against revenue in the current period. Another wishes to
defer these costs and amortize them in the future. Which student is correct?

25. An intangible asset with an estimated useful life of 30 years was acquired on January 1, 1993, for $450,000. On January 1, 2003, a review was made of intangible assets and their expected service lives, and it was determined that this asset had an estimated useful life of 30 more years from the date of the review. What is the amount of amortization for this intangible in 2003?

26. An article in the financial press stated, “More than half of software maker Conserves’s net worth is in a pile of tapes and ring-bound books. That raises some accountants’ eyebrows.” What is the profession’s position regarding the incurrence of costs for computer software that will be sold?

27. Matt Antonio, Inc. has incurred $6 million in developing a computer software product for sale to third parties. Of the $6 million costs incurred, $4 million is capitalized. The product produced from this development work has generated $2 million in 2004 and is anticipated to generate another $8 million in future years. The estimated useful life of the project is 4 years. How much of the capitalized costs should be amortized in 2004?

28. In 2004, U-Learn Software developed a software package for assisting calculus instruction in business colleges, at a cost of $2,000,000. Although there are tens of thousands of calculus students in the market, college instructors seem to change their minds frequently on the use of teaching aids. Not one package has yet been ordered or delivered. Prepare an argument to advocate expensing the development cost in the current year. Offer an argument for capitalizing the development cost over its estimated useful life. Which stakeholders are harmed or benefited by either approach?
600 · Chapter 12 Intangible Assets

BE12-9  Dorsett Corporation incurred the following costs in 2004.

- Cost of laboratory research aimed at discovery of new knowledge $140,000
- Cost of testing in search for product alternatives 100,000
- Cost of engineering activity required to advance the design of a product to the manufacturing stage 210,000

$450,000

Prepare the necessary 2004 journal entry or entries for Dorsett.

BE12-10  Indicate whether the following items are capitalized or expensed in the current year.

(a) Purchase cost of a patent from a competitor.
(b) Research and development costs.
(c) Organizational costs.
(d) Costs incurred internally to create goodwill.

BE12-11  Langer Industries had one patent recorded on its books as of January 1, 2004. This patent had a book value of $240,000 and a remaining useful life of 8 years. During 2004, Langer incurred research and development costs of $96,000 and brought a patent infringement suit against a competitor. On December 1, 2004, Langer received the good news that its patent was valid and that its competitor could not use the process Langer had patented. The company incurred $85,000 to defend this patent. At what amount should patent(s) be reported on the December 31, 2004, balance sheet, assuming monthly amortization of patents?

BE12-12  Wiggens Industries acquired two copyrights during 2004. One copyright related to a textbook that was developed internally at a cost of $9,900. This textbook is estimated to have a useful life of 3 years from September 1, 2004, the date it was published. The second copyright (a history research textbook) was purchased from University Press on December 1, 2004, for $19,200. This textbook has an indefinite useful life. How should these two copyrights be reported on Wiggens’ balance sheet as of December 31, 2004?

*BE12-13  Earthworm Jim Corporation has capitalized software costs of $700,000, and sales of this product the first year totaled $420,000. Earthworm Jim anticipates earning $980,000 in additional future revenues from this product, which is estimated to have an economic life of 4 years. Compute the amount of software cost amortization for the first year.

EXERCISES

E12-1  (Classification Issues—Intangibles)  Presented below is a list of items that could be included in the intangible assets section of the balance sheet.

1. Investment in a subsidiary company.
2. Timberland.
3. Cost of engineering activity required to advance the design of a product to the manufacturing stage.
4. Lease prepayment (6 months’ rent paid in advance).
5. Cost of equipment obtained.
6. Cost of searching for applications of new research findings.
7. Costs incurred in the formation of a corporation.
8. Operating losses incurred in the start-up of a business.
9. Training costs incurred in start-up of new operation.
12. Cost of testing in search for product alternatives.
15. Cost of purchasing a patent from an inventor.
16. Legal costs incurred in securing a patent.
17. Unrecovered costs of a successful legal suit to protect the patent.
18. Cost of conceptual formulation of possible product alternatives.
19. Cost of purchasing a copyright.
20. Research and development costs.
22. Cost of developing a trademark.
23. Cost of purchasing a trademark.

Instructions
(a) Indicate which items on the list above would generally be reported as intangible assets in the balance sheet.
(b) Indicate how, if at all, the items not reportable as intangible assets would be reported in the financial statements.

E12-2 (Classification Issues—Intangibles) Presented below is selected account information related to Martin Burke Inc. as of December 21, 2003. All these accounts have debit balances.

- Cable television franchises
- Film contract rights
- Music copyrights
- Customer lists
- Research and development costs
- Prepaid expenses
- Goodwill
- Covenants not to compete
- Cash
- Brand names
- Discount on notes payable
- Notes receivable
- Accounts receivable
- Investments in affiliated companies
- Property, plant, and equipment
- Organization costs
- Internet domain name
- Land

Instructions
Identify which items should be classified as an intangible asset. For those items not classified as an intangible asset, indicate where they would be reported in the financial statements.

E12-3 (Classification Issues—Intangible Asset) Joni Hyde Inc. has the following amounts included in its general ledger at December 31, 2003.

- Organization costs $24,000
- Trademarks 15,000
- Discount on bonds payable 35,000
- Excess of cost over fair value of net identifiable assets of acquired subsidiary 75,000
- Cost of equipment acquired for research and development projects; the equipment has an alternative future use 90,000
- Costs of developing a secret formula for a product that is expected to be marketed for at least 20 years 80,000

Instructions
(a) On the basis of the information above, compute the total amount to be reported by Hyde for intangible assets on its balance sheet at December 31, 2003. Equipment has alternative future use.
(b) If an item is not to be included in intangible assets, explain its proper treatment for reporting purposes.

E12-4 (Intangible Amortization) Presented below is selected information for Alatorre Company.

1. Alatorre purchased a patent from Vania Co. for $1,000,000 on January 1, 2002. The patent is being amortized over its remaining legal life of 10 years, expiring on January 1, 2012. During 2004, Alatorre determined that the economic benefits of the patent would not last longer than 6 years from the date of acquisition. What amount should be reported in the balance sheet for the patent, net of accumulated amortization, at December 31, 2004?

2. Alatorre bought a franchise from Alexander Co. on January 1, 2003, for $400,000. The carrying amount of the franchise on Alexander’s books on January 1, 2003, was $500,000. The franchise agreement had an estimated useful life of 30 years. Because Alatorre must enter a competitive bidding at the end of 2012, it is unlikely that the franchise will be retained beyond 2012. What amount should be amortized for the year ended December 31, 2004?

3. On January 1, 2000, Alatorre incurred organization costs of $275,000. What amount of organization expense should be reported in 2004?

4. Alatorre purchased the license for distribution of a popular consumer product on January 1, 2004, for $150,000. It is expected that this product will generate cash flows for an indefinite period of time. The license has an initial term of 5 years but by paying a nominal fee, Alatorre can renew the license indefinitely for successive 5-year terms. What amount should be amortized for the year ended December 31, 2004?
Chapter 12  Intangible Assets

Instructions
Answer the questions asked about each of the factual situations.

E12-5  (Correct Intangible Asset Account)  As the recently appointed auditor for William J. Bryan Corporation, you have been asked to examine selected accounts before the 6-month financial statements of June 30, 2003, are prepared. The controller for William J. Bryan Corporation mentions that only one account is kept for Intangible Assets. The account is shown below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 4</td>
<td>Research and development costs</td>
<td>940,000</td>
<td></td>
<td>940,000</td>
</tr>
<tr>
<td>Jan. 5</td>
<td>Legal costs to obtain patent</td>
<td>75,000</td>
<td></td>
<td>1,015,000</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>Payment of 7 months’ rent on property leased by Bryan</td>
<td>91,000</td>
<td></td>
<td>1,106,000</td>
</tr>
<tr>
<td>Feb. 11</td>
<td>Premium on common stock</td>
<td></td>
<td>250,000</td>
<td>856,000</td>
</tr>
<tr>
<td>March 31</td>
<td>Unamortized bond discount on bonds due March 31, 2023</td>
<td>84,000</td>
<td></td>
<td>940,000</td>
</tr>
<tr>
<td>April 30</td>
<td>Promotional expenses related to start-up of business</td>
<td>207,000</td>
<td></td>
<td>1,147,000</td>
</tr>
<tr>
<td>June 30</td>
<td>Operating losses for first 6 months</td>
<td>241,000</td>
<td></td>
<td>1,388,000</td>
</tr>
</tbody>
</table>

Instructions
Prepare the entry or entries necessary to correct this account. Assume that the patent has a useful life of 10 years.

E12-6  (Recording and Amortization of Intangibles)  Rolanda Marshall Company, organized in 2003, has set up a single account for all intangible assets. The following summary discloses the debit entries that have been recorded during 2004.

1/2/04  Purchased patent (8-year life) $350,000
4/1/04  Purchased goodwill (indefinite life) 360,000
7/1/04  Purchased franchise with 10-year life; expiration date 7/1/14 450,000
8/1/04  Payment of copyright (5-year life) 156,000
9/1/04  Research and development costs 215,000

$1,531,000

Instructions
Prepare the necessary entries to clear the Intangible Assets account and to set up separate accounts for distinct types of intangibles. Make the entries as of December 31, 2004, recording any necessary amortization and reflecting all balances accurately as of that date (straight-line amortization).

E12-7  (Accounting for Trade Name)  In early January 2003, Gayle Crystal Corporation applied for a trade name, incurring legal costs of $16,000. In January of 2004, Gayle Crystal inurred $7,800 of legal fees in a successful defense of its trade name.

Instructions
(a) Compute 2003 amortization, 12/31/03 book value, 2004 amortization, and 12/31/04 book value if the company amortizes the trade name over 10 years.
(b) Compute the 2004 amortization and the 12/31/04 book value, assuming that at the beginning of 2004, Crystal determines that the trade name will provide no future benefits beyond December 31, 2007.
(c) Ignoring the response for part (b), compute the 2005 amortization and the 12/31/05 book value, assuming that at the beginning of 2005, based on new market research, Crystal determines that the fair value of the trade name is $15,000. Estimated total future cash flows from the trade name is $16,000 on January 3, 2005.

E12-8  (Accounting for Organization Costs)  Horace Greeley Corporation was organized in 2002 and began operations at the beginning of 2003. The company is involved in interior design consulting services. The following costs were incurred prior to the start of operations.

Attorney’s fees in connection with organization of the company $15,000
Purchase of drafting and design equipment 10,000
Costs of meetings of incorporators to discuss organizational activities 7,000
State filing fees to incorporate 1,000

$33,000
Instructions
(a) Compute the total amount of organization costs incurred by Greeley.
(b) Prepare the journal entry to record organization costs for 2003.

E12-9 (Accounting for Patents, Franchises, and R & D) Jimmy Carter Company has provided information on intangible assets as follows.

A patent was purchased from Gerald Ford Company for $2,000,000 on January 1, 2003. Carter estimated the remaining useful life of the patent to be 10 years. The patent was carried in Ford's accounting records at a net book value of $2,000,000 when Ford sold it to Carter.

During 2004, a franchise was purchased from Ronald Reagan Company for $480,000. In addition, 5% of revenue from the franchise must be paid to Reagan. Revenue from the franchise for 2004 was $2,500,000. Carter estimates the useful life of the franchise to be 10 years and takes a full year's amortization in the year of purchase.

Carter incurred research and development costs in 2004 as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials and equipment</td>
<td>$142,000</td>
</tr>
<tr>
<td>Personnel</td>
<td>$189,000</td>
</tr>
<tr>
<td>Indirect costs</td>
<td>$102,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$433,000</strong></td>
</tr>
</tbody>
</table>

Carter estimates that these costs will be recouped by December 31, 2007. The materials and equipment purchased have no alternative uses.

On January 1, 2004, because of recent events in the field, Carter estimates that the remaining life of the patent purchased on January 1, 2003, is only 5 years from January 1, 2004.

Instructions
(a) Prepare a schedule showing the intangibles section of Carter's balance sheet at December 31, 2004. Show supporting computations in good form.
(b) Prepare a schedule showing the income statement effect for the year ended December 31, 2004, as a result of the facts above. Show supporting computations in good form.

(AICPA adapted)

E12-10 (Accounting for Patents) During 2000, George Winston Corporation spent $170,000 in research and development costs. As a result, a new product called the New Age Piano was patented. The patent was obtained on October 1, 2000, and had a legal life of 20 years and a useful life of 10 years. Legal costs of $18,000 related to the patent were incurred as of October 1, 2000.

Instructions
(a) Prepare all journal entries required in 2000 and 2001 as a result of the transactions above.
(b) On June 1, 2002, Winston spent $9,480 to successfully prosecute a patent infringement. As a result, the estimate of useful life was extended to 12 years from June 1, 2002. Prepare all journal entries required in 2002 and 2003.

E12-11 (Accounting for Patents) Tones Industries has the following patents on its December 31, 2005, balance sheet.

<table>
<thead>
<tr>
<th>Patent Item</th>
<th>Initial Cost</th>
<th>Date Acquired</th>
<th>Useful Life at Date Acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent A</td>
<td>$30,600</td>
<td>3/1/02</td>
<td>17 years</td>
</tr>
<tr>
<td>Patent B</td>
<td>$15,000</td>
<td>7/1/03</td>
<td>10 years</td>
</tr>
<tr>
<td>Patent C</td>
<td>$14,400</td>
<td>9/1/04</td>
<td>4 years</td>
</tr>
</tbody>
</table>

The following events occurred during the year ended December 31, 2006.
1. Research and development costs of $245,700 were incurred during the year.
2. Patent D was purchased on July 1 for $36,480. This patent has a useful life of 9½ years.
3. As a result of reduced demands for certain products protected by Patent B, a possible impairment of Patent B's value may have occurred at December 31, 2006. The controller for Tones estimates the future cash flows from Patent B will be as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Future Cash Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$2,000</td>
</tr>
<tr>
<td>2008</td>
<td>2,000</td>
</tr>
<tr>
<td>2009</td>
<td>2,000</td>
</tr>
</tbody>
</table>
The proper discount rate to be used for these flows is 8%. (Assume that the cash flows occur at the end of the year.)

**Instructions**

(a) Compute the total carrying amount of Tones' patents on its December 31, 2005, balance sheet.
(b) Compute the total carrying amount of Tones' patents on its December 31, 2006, balance sheet.

---

**E12-12 (Accounting for Goodwill)**

Fred Moss, owner of Moss Interiors, is negotiating for the purchase of Zweifel Galleries. The balance sheet of Zweifel is given in an abbreviated form below.

**ZWEIFEL GALLERIES**

**BALANCE SHEET**

**AS OF DECEMBER 31, 2004**

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Stockholders’ Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash $100,000</td>
<td>Accounts payable $50,000</td>
</tr>
<tr>
<td>Land 70,000</td>
<td>Long-term notes payable 300,000</td>
</tr>
<tr>
<td>Building (net) 200,000</td>
<td>Total liabilities 350,000</td>
</tr>
<tr>
<td>Equipment (net) 175,000</td>
<td>Common stock $200,000</td>
</tr>
<tr>
<td>Copyright (net) 30,000</td>
<td>Retained earnings 25,000</td>
</tr>
<tr>
<td>Total assets $575,000</td>
<td>Total liabilities and stockholders’ equity $575,000</td>
</tr>
</tbody>
</table>

Moss and Zweifel agree that:

1. Land is undervalued by $30,000.
2. Equipment is overvalued by $5,000.

Zweifel agrees to sell the gallery to Moss for $350,000.

**Instructions**

Prepare the entry to record the purchase of Zweifel Galleries on Moss’s books.

---

**E12-13 (Accounting for Goodwill)**

On July 1, 2003, Brigham Corporation purchased Young Company by paying $250,000 cash and issuing a $100,000 note payable to Steve Young. At July 1, 2003, the balance sheet of Young Company was as follows.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash $ 50,000</td>
<td>Accounts payable $200,000</td>
</tr>
<tr>
<td>Receivables 90,000</td>
<td>Stockholders’ equity 235,000</td>
</tr>
<tr>
<td>Inventory 100,000</td>
<td></td>
</tr>
<tr>
<td>Land 40,000</td>
<td>Stockholders’ equity 235,000</td>
</tr>
<tr>
<td>Buildings (net) 75,000</td>
<td></td>
</tr>
<tr>
<td>Equipment (net) 70,000</td>
<td></td>
</tr>
<tr>
<td>Trademarks 10,000</td>
<td></td>
</tr>
<tr>
<td>Total assets $435,000</td>
<td></td>
</tr>
</tbody>
</table>

The recorded amounts all approximate current values except for land (worth $60,000), inventory (worth $125,000), and trademarks (worth $15,000).

**Instructions**

(a) Prepare the July 1 entry for Brigham Corporation to record the purchase.
(b) Prepare the December 31 entry for Brigham Corporation to record amortization of intangibles.

The trademark has an estimated useful life of 4 years with a residual value of $3,000.

---

**E12-14 (Copyright Impairment)**

Presented below is information related to copyrights owned by Walter de la Mare Company at December 31, 2004.

| Cost $8,600,000 | Carrying amount $4,300,000 | Expected future net cash flows $4,000,000 | Fair value $3,200,000 |

Assume that Walter de la Mare Company will continue to use this copyright in the future. As of December 31, 2004, the copyright is estimated to have a remaining useful life of 10 years.

**Instructions**

(a) Prepare the journal entry (if any) to record the impairment of the asset at December 31, 2004. The company does not use accumulated amortization accounts.
(b) Prepare the journal entry to record amortization expense for 2005 related to the copyrights.
(c) The fair value of the copyright at December 31, 2005, is $3,400,000. Prepare the journal entry (if any) necessary to record the increase in fair value.
E12-15 (Goodwill Impairment)  Presented below is net asset information related to the Carlos Division of Santana, Inc.

<table>
<thead>
<tr>
<th>CARLOS DIVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NET ASSETS</strong></td>
</tr>
<tr>
<td><strong>AS OF DECEMBER 31, 2004</strong></td>
</tr>
<tr>
<td><strong>(IN MILLIONS)</strong></td>
</tr>
<tr>
<td>Cash</td>
</tr>
<tr>
<td>Receivables</td>
</tr>
<tr>
<td>Property, plant, and equipment (net)</td>
</tr>
<tr>
<td>Goodwill</td>
</tr>
<tr>
<td>Less: Notes payable</td>
</tr>
<tr>
<td><strong>Net assets</strong></td>
</tr>
</tbody>
</table>

The purpose of the Carlos division is to develop a nuclear-powered aircraft. If successful, traveling delays associated with refueling could be substantially reduced. Many other benefits would also occur. To date, management has not had much success and is deciding whether a write-down at this time is appropriate. Management estimated its future net cash flows from the project to be $400 million. Management has also received an offer to purchase the division for $335 million. All identifiable assets’ and liabilities’ book and fair value amounts are the same.

**Instructions**
(a) Prepare the journal entry (if any) to record the impairment at December 31, 2004.
(b) At December 31, 2005, it is estimated that the division’s fair value increased to $345 million. Prepare the journal entry (if any) to record this increase in fair value.

E12-16 (Accounting for R & D Costs)  Leontyne Price Company from time to time embarks on a research program when a special project seems to offer possibilities. In 2003 the company expends $325,000 on a research project, but by the end of 2003 it is impossible to determine whether any benefit will be derived from it.

**Instructions**
(a) What account should be charged for the $325,000, and how should it be shown in the financial statements?
(b) The project is completed in 2004, and a successful patent is obtained. The R & D costs to complete the project are $110,000. The administrative and legal expenses incurred in obtaining patent number 472-1001-84 in 2004 total $16,000. The patent has an expected useful life of 5 years. Record these costs in journal entry form. Also, record patent amortization (full year) in 2004.
(c) In 2005, the company successfully defends the patent in extended litigation at a cost of $47,200, thereby extending the patent life to December 31, 2012. What is the proper way to account for this cost? Also, record patent amortization (full year) in 2005.
(d) Additional engineering and consulting costs incurred in 2005 required to advance the design of a product to the manufacturing stage total $60,000. These costs enhance the design of the product considerably. Discuss the proper accounting treatment for this cost.

E12-17 (Accounting for R & D Costs)  Thomas More Company incurred the following costs during 2003 in connection with its research and development activities.

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of equipment acquired that will have alternative uses in future research and development projects over the next 5 years (uses straight-line depreciation)</td>
<td>$280,000</td>
</tr>
<tr>
<td>Materials consumed in research and development projects</td>
<td>59,000</td>
</tr>
<tr>
<td>Consulting fees paid to outsiders for research and development projects</td>
<td>100,000</td>
</tr>
<tr>
<td>Personnel costs of persons involved in research and development projects</td>
<td>128,000</td>
</tr>
<tr>
<td>Indirect costs reasonably allocable to research and development projects</td>
<td>50,000</td>
</tr>
<tr>
<td>Materials purchased for future research and development projects</td>
<td>34,000</td>
</tr>
</tbody>
</table>

**Instructions**
Compute the amount to be reported as research and development expense by More on its income statement for 2003. Assume equipment is purchased at beginning of year.
**E12-18** (Accounting for Computer Software Costs) New Jersey Inc. has capitalized computer software costs of $3,600,000 on its new “Trenton” software package. Revenues from 2003 (first year) sales are $2,000,000. Additional future revenues from “Trenton” for the remainder of its economic life, through 2007, are estimated to be $10,000,000.

**Instructions**
(a) What method or methods of amortization are to be applied in the write-off of capitalized computer software costs?
(b) Compute the amount of amortization for 2003 for “Trenton.”

**E12-19** (Accounting for Computer Software Costs) During 2003, Delaware Enterprises Inc. spent $5,000,000 developing its new “Dover” software package. Of this amount, $2,200,000 was spent before technological feasibility was established for the product, which is to be marketed to third parties. The package was completed at December 31, 2003. Delaware expects a useful life of 8 years for this product with total revenues of $16,000,000. During the first year (2004), Delaware realizes revenues of $3,200,000.

**Instructions**
(a) Prepare journal entries required in 2003 for the foregoing facts.
(b) Prepare the entry to record amortization at December 31, 2004.
(c) At what amount should the computer software costs be reported in the December 31, 2004, balance sheet? Could the net realizable value of this asset affect your answer?
(d) What disclosures are required in the December 31, 2004, financial statements for the computer software costs?
(e) How would your answers for (a), (b), and (c) be different if the computer software was developed for internal use?

**PROBLEMS**

**P12-1** (Correct Intangible Asset Account) Esplanade Co., organized in 2002, has set up a single account for all intangible assets. The following summary discloses the debit entries that have been recorded during 2002 and 2003.

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/02</td>
<td>8-year franchise; expiration date 6/30/10</td>
<td>$42,000</td>
</tr>
<tr>
<td>10/1/02</td>
<td>Advance payment on laboratory space (2-year lease)</td>
<td>28,000</td>
</tr>
<tr>
<td>12/31/02</td>
<td>Net loss for 2002 including state incorporation fee, $1,000, and related legal fees of organizing, $5,000 (all fees incurred in 2002)</td>
<td>$16,000</td>
</tr>
<tr>
<td>1/2/03</td>
<td>Patent purchased (10-year life)</td>
<td>74,000</td>
</tr>
<tr>
<td>3/1/03</td>
<td>Cost of developing a secret formula (indefinite life)</td>
<td>75,000</td>
</tr>
<tr>
<td>4/1/03</td>
<td>Goodwill purchased (indefinite life)</td>
<td>278,400</td>
</tr>
<tr>
<td>6/1/03</td>
<td>Legal fee for successful defense of patent purchased above</td>
<td>12,650</td>
</tr>
<tr>
<td>9/1/03</td>
<td>Research and development costs</td>
<td>160,000</td>
</tr>
</tbody>
</table>

**Instructions**
Prepare the necessary entries to clear the Intangible Assets account and to set up separate accounts for distinct types of intangibles. Make the entries as of December 31, 2003, recording any necessary amortization and reflecting all balances accurately as of that date. (Ignore income tax effects.)

**P12-2** (Accounting for Patents) Ankara Laboratories holds a valuable patent (No. 758-6002-1A) on a precipitator that prevents certain types of air pollution. Ankara does not manufacture or sell the products and processes it develops. Instead, it conducts research and develops products and processes which it patents, and then assigns the patents to manufacturers on a royalty basis. Occasionally it sells a patent. The history of Ankara patent number 758-6002-1A is as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993–1994</td>
<td>Research conducted to develop precipitator</td>
<td>$384,000</td>
</tr>
<tr>
<td>Jan. 1995</td>
<td>Design and construction of a prototype</td>
<td>87,600</td>
</tr>
<tr>
<td>March 1995</td>
<td>Testing of models</td>
<td>42,000</td>
</tr>
<tr>
<td>Jan. 1996</td>
<td>Fees paid engineers and lawyers to prepare patent application; patent granted June 30, 1996</td>
<td>62,050</td>
</tr>
<tr>
<td>Nov. 1997</td>
<td>Engineering activity necessary to advance the design of the precipitator to the manufacturing stage</td>
<td>81,500</td>
</tr>
</tbody>
</table>
Dec. 1998 Legal fees paid to successfully defend precipitator patent 35,700
April 1999 Research aimed at modifying the design of the patented precipitator 43,000
July 2003 Legal fees paid in unsuccessful patent infringement suit against a competitor 34,000

Ankara assumed a useful life of 17 years when it received the initial precipitator patent. On January 1, 2001, it revised its useful life estimate downward to 5 remaining years. Amortization is computed for a full year if the cost is incurred prior to July 1, and no amortization for the year if the cost is incurred after June 30. The company’s year ends December 31.

Instructions
Compute the carrying value of patent No. 758-6002-1A on each of the following dates:
(a) December 31, 1996.
(b) December 31, 2000.
(c) December 31, 2003.

P12-3 (Accounting for Franchise, Patents, and Trade Name) Information concerning Haerhpın Corporation’s intangible assets is as follows.
1. On January 1, 2004, Haerhpın signed an agreement to operate as a franchisee of Hsian Copy Service, Inc. for an initial franchise fee of $75,000. Of this amount, $15,000 was paid when the agreement was signed, and the balance is payable in 4 annual payments of $15,000 each, beginning January 1, 2005. The agreement provides that the down payment is not refundable and no future services are required of the franchisor. The present value at January 1, 2004, of the 4 annual payments discounted at 14% (the implicit rate for a loan of this type) is $43,700. The agreement also provides that 5% of the revenue from the franchise must be paid to the franchisor annually. Haerhpın’s revenue from the franchise for 2004 was $950,000. Haerhpın estimates the useful life of the franchise to be 10 years. (Hint: You may want to refer to Appendix 18A to determine the proper accounting treatment for the franchise fee and payments.)
2. Haerhpın incurred $65,000 of experimental and development costs in its laboratory to develop a patent that was granted on January 2, 2004. Legal fees and other costs associated with registration of the patent totaled $13,600. Haerhpın estimates that the useful life of the patent will be 8 years.
3. A trademark was purchased from Shanghai Company for $32,000 on July 1, 2001. Expenditures for successful litigation in defense of the trademark totaling $8,160 were paid on July 1, 2004. Haerhpın estimates that the useful life of the trademark will be 20 years from the date of acquisition.

Instructions
(a) Prepare a schedule showing the intangible section of Haerhpın’s balance sheet at December 31, 2004. Show supporting computations in good form.
(b) Prepare a schedule showing all expenses resulting from the transactions that would appear on Haerhpın’s income statement for the year ended December 31, 2004. Show supporting computations in good form.

P12-4 (Accounting for R & D Costs) During 2001, Florence Nightingale Tool Company purchased a building site for its proposed research and development laboratory at a cost of $60,000. Construction of the building was started in 2001. The building was completed on December 31, 2002, at a cost of $280,000 and was placed in service on January 2, 2003. The estimated useful life of the building for depreciation purposes was 20 years. The straight-line method of depreciation was to be employed, and there was no estimated net salvage value.

Management estimates that about 50% of the projects of the research and development group will result in long-term benefits (i.e., at least 10 years) to the corporation. The remaining projects either benefit the current period or are abandoned before completion. A summary of the number of projects and the direct costs incurred in conjunction with the research and development activities for 2003 appears below.

<table>
<thead>
<tr>
<th>Number of Projects</th>
<th>Salaries and Employee Benefits</th>
<th>Other Expenses (excluding Building Depreciation Charges)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed projects with long-term benefits</td>
<td>15</td>
<td>$90,000</td>
</tr>
<tr>
<td>Abandoned projects or projects that benefit the current period</td>
<td>10</td>
<td>65,000</td>
</tr>
<tr>
<td>Projects in process—results indeterminate</td>
<td>5</td>
<td>40,000</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>$195,000</td>
</tr>
</tbody>
</table>

Problems
Upon recommendation of the research and development group, Florence Nightingale Tool Company acquired a patent for manufacturing rights at a cost of $80,000. The patent was acquired on April 1, 2002, and has an economic life of 10 years.

**Instructions**
If generally accepted accounting principles were followed, how would the items above relating to research and development activities be reported on the following financial statements?

(a) The company’s income statement for 2003.
(b) The company’s balance sheet as of December 31, 2003.

Be sure to give account titles and amounts, and briefly justify your presentation.

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**P12-5 (Goodwill, Impairment)** On July 31, 2003, Postera Company paid $3,000,000 to acquire all of the common stock of Mendota Incorporated, which became a division of Postera. Mendota reported the following balance sheet at the time of the acquisition.

<table>
<thead>
<tr>
<th>Current assets</th>
<th>$ 800,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noncurrent assets</td>
<td>2,700,000</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$3,500,000</strong></td>
</tr>
</tbody>
</table>

- Current liabilities | $ 600,000 |
- Long-term liabilities | 500,000 |
- **Total liabilities and stockholders’ equity** | **$3,500,000**

It was determined at the date of the purchase that the fair value of the identifiable net assets of Mendota was $2,650,000. Over the next 6 months of operations, the newly purchased division experienced operating losses. In addition, it now appears that it will generate substantial losses for the foreseeable future. At December 31, 2003, Mendota reports the following balance sheet information.

<table>
<thead>
<tr>
<th>Current assets</th>
<th>$ 450,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noncurrent assets (including goodwill recognized in purchase)</td>
<td>2,400,000</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>(700,000)</td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>(500,000)</td>
</tr>
<tr>
<td><strong>Net assets</strong></td>
<td><strong>$1,650,000</strong></td>
</tr>
</tbody>
</table>

It is determined that the fair value of the Mendota Division is $1,850,000. The recorded amount for Mendota’s net assets (excluding goodwill) is the same as fair value, except for property, plant, and equipment, which has a fair value $150,000 above the carrying value.

**Instructions**
(a) Compute the amount of goodwill recognized, if any, on July 31, 2003.
(b) Determine the impairment loss, if any, to be recorded on December 31, 2003.
(c) Assume that fair value of the Mendota Division is $1,500,000 instead of $1,850,000. Determine the impairment loss, if any, to be recorded on December 31, 2003.
(d) Prepare the journal entry to record the impairment loss, if any, and indicate where the loss would be reported in the income statement.

---

**CONCEPTUAL CASES**

**C12-1 (Accounting for Pollution Expenditure)** Phil Mickelson Company operates several plants at which limestone is processed into quicklime and hydrated lime. The Eagle Ridge plant, where most of the equipment was installed many years ago, continually deposits a dusty white substance over the surrounding countryside. Citing the unsanitary condition of the neighboring community of Scales Mound, the pollution of the Galena River, and the high incidence of lung disease among workers at Eagle Ridge, the state’s Pollution Control Agency has ordered the installation of air pollution control equipment. Also, the Agency has assessed a substantial penalty, which will be used to clean up Scales Mound.

After considering the costs involved (which could not have been reasonably estimated prior to the Agency’s action), Phil Mickelson Company decides to comply with the Agency’s orders, the alternative being to cease operations at Eagle Ridge at the end of the current fiscal year. The officers of Mickelson agree that the air pollution control equipment should be capitalized and depreciated over its useful life, but they disagree over the period(s) to which the penalty should be charged.

**Instructions**
Discuss the conceptual merits and reporting requirements of accounting for the penalty in each of the following ways.
(a) As a charge to the current period.
(b) As a correction of prior periods.
(c) As a capitalizable item to be amortized over future periods.

C12-2 (Accounting for Pre-Opening Costs) After securing lease commitments from several major stores, Lobo Shopping Center, Inc. was organized and built a shopping center in a growing suburb.

The shopping center would have opened on schedule on January 1, 2003, if it had not been struck by a severe tornado in December. Instead, it opened for business on October 1, 2003. All of the additional construction costs that were incurred as a result of the tornado were covered by insurance.

In July 2002, in anticipation of the scheduled January opening, a permanent staff had been hired to promote the shopping center, obtain tenants for the uncommitted space, and manage the property.

A summary of some of the costs incurred in 2002 and the first nine months of 2003 follows.

<table>
<thead>
<tr>
<th>January 1, 2003 through September 30, 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest on mortgage bonds $720,000</td>
</tr>
<tr>
<td>Cost of obtaining tenants $300,000</td>
</tr>
<tr>
<td>Promotional advertising $540,000</td>
</tr>
<tr>
<td>Total cost: $1,560,000</td>
</tr>
</tbody>
</table>

The promotional advertising campaign was designed to familiarize shoppers with the center. Had it been known in time that the center would not open until October 2003, the 2002 expenditure for promotional advertising would not have been made. The advertising had to be repeated in 2003.

All of the tenants who had leased space in the shopping center at the time of the tornado accepted the October occupancy date on condition that the monthly rental charges for the first 9 months of 2003 be canceled.

Instructions
Explain how each of the costs for 2002 and the first 9 months of 2003 should be treated in the accounts of the shopping center corporation. Give the reasons for each treatment.

C12-3 (Accounting for Patents) On June 30, 2003, your client, Bearcat Company, was granted two patents covering plastic cartons that it had been producing and marketing profitably for the past 3 years. One patent covers the manufacturing process, and the other covers the related products.

Bearcat executives tell you that these patents represent the most significant breakthrough in the industry in the past 30 years. The products have been marketed under the registered trademarks Evertight, Duratainer, and Sealrite. Licenses under the patents have already been granted by your client to other manufacturers in the United States and abroad and are producing substantial royalties.

On July 1, Bearcat commenced patent infringement actions against several companies whose names you recognize as those of substantial and prominent competitors. Bearcat’s management is optimistic that these suits will result in a permanent injunction against the manufacture and sale of the infringing products as well as collection of damages for loss of profits caused by the alleged infringement.

The financial vice-president has suggested that the patents be recorded at the discounted value of expected net royalty receipts.

Instructions
(a) What is the meaning of “discounted value of expected net receipts”? Explain.
(b) How would such a value be calculated for net royalty receipts?
(c) What basis of valuation for Bearcat’s patents would be generally accepted in accounting? Give supporting reasons for this basis.
(d) Assuming no practical problems of implementation, and ignoring generally accepted accounting principles, what is the preferable basis of valuation for patents? Explain.
(e) What would be the preferable theoretical basis of amortization? Explain.
(f) What recognition, if any, should be made of the infringement litigation in the financial statements for the year ending September 30, 2003? Discuss.

C12-4 (Accounting for Research and Development Costs) Indiana Jones Co. is in the process of developing a revolutionary new product. A new division of the company was formed to develop, manufacture, and market this new product. As of year-end (December 31, 2003), the new product has not been manufactured for resale. However, a prototype unit was built and is in operation.

Throughout 2003 the new division incurred certain costs. These costs include design and engineering studies, prototype manufacturing costs, administrative expenses (including salaries of administrative
personnel), and market research costs. In addition, approximately $900,000 in equipment (with an estimated useful life of 10 years) was purchased for use in developing and manufacturing the new product. Approximately $315,000 of this equipment was built specifically for the design development of the new product. The remaining $585,000 of equipment was used to manufacture the pre-production prototype and will be used to manufacture the new product once it is in commercial production.

Instructions
(a) How are “research” and “development” defined in Statement of Financial Accounting Standards No. 2?
(b) Briefly indicate the practical and conceptual reasons for the conclusion reached by the Financial Accounting Standards Board on accounting and reporting practices for research and development costs.
(c) In accordance with Statement of Financial Accounting Standards No. 2, how should the various costs of Indiana Jones described above be recorded on the financial statements for the year ended December 31, 2003?

(AICPA adapted)

C12-5 (Accounting for Research and Development Costs) Waveland Corporation’s research and development department has an idea for a project it believes will culminate in a new product that would be very profitable for the company. Because the project will be very expensive, the department requests approval from the company’s controller, Ron Santo.

Santo recognizes that corporate profits have been down lately and is hesitant to approve a project that will incur significant expenses that cannot be capitalized due to the requirement of FASB Statement No. 2. He knows that if they hire an outside firm that does the work and obtains a patent for the process, Waveland Corporation can purchase the patent from the outside firm and record the expenditure as an asset. Santo knows that the company’s own R & D department is first-rate, and he is confident they can do the work well.

Instructions
Answer the following questions.
(a) Who are the stakeholders in this situation?
(b) What are the ethical issues involved?
(c) What should Santo do?

USING YOUR JUDGMENT

FINANCIAL REPORTING PROBLEM

3M Company
The financial statements of 3M are presented in Appendix 5B or can be accessed on the Take Action! CD.

Instructions
Refer to 3M’s financial statements and the accompanying notes to answer the following questions.
(a) Does 3M report any intangible assets, especially goodwill, in its 2001 financial statements and accompanying notes?
(b) How much research and development (R & D) cost was expensed by 3M in 2001 and 2000? What percentage of sales revenue and net income did 3M spend on R & D in 2001 and 2000?
Merck and Johnson & Johnson

Merck & Co., Inc. and Johnson & Johnson are two leading producers of health care products. Each has considerable assets, and each expends considerable funds each year toward the development of new products. The development of a new health care product is often very expensive, and risky. New products frequently must undergo considerable testing before approval for distribution to the public. For example, it took Johnson & Johnson 4 years and $200 million to develop its 1-DAY ACUVUE contact lenses. Below are some basic data compiled from the financial statements of these two companies.

(all dollars in millions)

<table>
<thead>
<tr>
<th></th>
<th>Johnson &amp; Johnson</th>
<th>Merck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>$15,668</td>
<td>$21,857</td>
</tr>
<tr>
<td>Total revenue</td>
<td>$15,734</td>
<td>$14,970</td>
</tr>
<tr>
<td>Net income</td>
<td>$2,006</td>
<td>$2,997</td>
</tr>
<tr>
<td>Research and development expense</td>
<td>$1,278</td>
<td>$1,230</td>
</tr>
<tr>
<td>Intangible assets</td>
<td>$2,403</td>
<td>$7,212</td>
</tr>
</tbody>
</table>

Instructions

(a) What kinds of intangible assets might a health care products company have? Does the composition of these intangibles matter to investors—that is, would it be perceived differently if all of Merck’s intangibles were goodwill, than if all of its intangibles were patents?

(b) Suppose the president of Merck has come to you for advice. He has noted that by eliminating research and development expenditures the company could have reported $1.3 billion more in net income. He is frustrated because much of the research never results in a product, or the products take years to develop. He says shareholders are eager for higher returns, so he is considering eliminating research and development expenditures for at least a couple of years. What would you advise?

(c) The notes to Merck’s financial statements note that Merck has goodwill of $4.1 billion. Where does recorded goodwill come from? Is it necessarily a good thing to have a lot of goodwill on your books?

The Coca-Cola Company and PepsiCo, Inc.

Instructions

Go to the Take Action! CD and use information found there to answer the following questions related to The Coca-Cola Company and PepsiCo, Inc.

(a) (1) What amounts for intangible assets were reported in their respective balance sheets by Coca-Cola and PepsiCo?
(2) What percentage of total assets is each of these reported amounts?
(3) What was the change in the amount of intangibles from 2000 to 2001 for Coca-Cola and PepsiCo?

(b) (1) On what basis and over what periods of time did Coca-Cola and PepsiCo amortize their intangible assets?
(2) What were the amounts of accumulated amortization reported by Coca-Cola and PepsiCo at the end of 2001 and 2000?
(3) What was the composition of the identifiable and unidentifiable intangible assets reported by Coca-Cola and PepsiCo at the end of 2001?

(c) What caused the significant increase in Coca-Cola’s intangible assets in 2001?

Research Case

The online edition of the March 5, 2002, Wall Street Journal includes an article by John Carreyrou entitled “Vivendi May Reveal Write-Down of Up to $13 Billion for Goodwill.”
Instructions
Read the story and answer the following questions. (Subscribers to Business Extra can access the article at that site.)

(a) Vivendi currently prepares its financial statements using French GAAP. As revealed in the story, how do French and U.S. GAAP differ in the accounting for goodwill impairments? Does the story reveal other areas in which U.S. and French GAAP differ? Explain.

(b) Why are some analysts warning against reading too much negativity into Vivendi’s expected goodwill write-down? Do you agree? Explain.

(c) What measure of profitability is used in the media business? Explain how, if at all, this measure of profitability might be affected by Vivendi’s changes in accounting, as discussed in the story.

INTERNATIONAL REPORTING CASE
Bayer, Smithkline Beecham, and Merck
Presented below are data and accounting policy notes for the goodwill of three international drug companies. Bayer, a German company, prepares its statements in accordance with International Accounting Standards (IAS); Smithkline Beecham follows United Kingdom (U.K.) rules; and Merck, a U.S. company, prepares its financial statements in accordance with U.S. GAAP:

<table>
<thead>
<tr>
<th>Related Information</th>
<th>Bayer (DM millions)</th>
<th>Smithkline Beecham (£ millions)</th>
<th>Merck ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amortization expense</td>
<td>136</td>
<td>69</td>
<td>0</td>
</tr>
<tr>
<td>Net income</td>
<td>3,157</td>
<td>606</td>
<td>5,248</td>
</tr>
<tr>
<td>Accumulated goodwill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>amortization</td>
<td>306</td>
<td>313</td>
<td>0</td>
</tr>
<tr>
<td>Stockholders’ equity</td>
<td>24,991</td>
<td>1,747</td>
<td>31,853</td>
</tr>
</tbody>
</table>

The following accounting policy notes related to goodwill appeared with the companies’ financial statements.

**Bayer**
Intangible assets that have been acquired are recognized at cost and amortized over their estimated useful lives. Goodwill, including that resulting from capital consolidation, is capitalized in accordance with IAS 22 (Business Combinations) and normally is amortized over a period of 5 or at most 20 years.

**Smithkline Beecham**
Goodwill, representing the excess of the purchase consideration over the fair value of the net separable assets acquired, is capitalised and amortised over an appropriate period not exceeding 20 years.

**Merck**
Goodwill represents the excess of acquisition costs over the fair value of net assets of businesses purchased and is not amortized.

Instructions
(a) Compute the return on equity for each of these companies, and use this analysis to briefly discuss the relative profitability of the three companies.

(b) Assume that each of the companies uses the maximum allowable amortization period for goodwill. Discuss how these companies’ goodwill amortization policies affect your ability to compare their amortization expense and income.

(c) Some analysts believe that the only valid way to compare companies that follow different goodwill accounting practices is to treat all goodwill as an asset and record expense only if the goodwill is impaired.* Using the data above, make these adjustments as appropriate, and compare the profitability of the three drug companies, comparing this information to your analysis in (a).

PROFESSIONAL SIMULATION

Accounting for Intangibles

Directions
In this simulation, you will be asked various questions related to intangible assets and similar costs. Prepare responses to all parts.

Situation
Argot Co., organized in 2003, provided you with the following information.
1. Purchased a franchise for $42,000 on July 1, 2003. The rights to the franchise will expire on July 1, 2011.
2. Incurred a net loss of $33,000 in 2003, including a state incorporation fee of $2,000 and related legal fees of organizing, $5,000. (All fees were incurred in 2003.)
3. Purchased a patent on January 2, 2004, for $80,000. It is estimated to have a 10-year life.
4. Costs incurred to develop a secret formula as of March 1, 2004, were $90,000. The secret formula has an indefinite life.
5. On April 1, 2004, Argot Co. purchased a small manufacturing concern for $700,000. Goodwill recorded in the transaction was $180,000.
6. On July 1, 2004, legal fees for successful defense of the patent purchased on January 2, 2004, were $11,400.
7. Research and development costs incurred as of September 1, 2004, were $110,000.

Journal Entries
Prepare the journal entries to record all the entries related to the patent during 2004.

Measurement
At December 31, 2004, an impairment test is performed on the franchise purchased in 2003. It is estimated that the net cash flows to be received from the franchise will be $25,000, and its fair value is $13,000. Compute the amount of impairment, if any, to be recorded on December 31, 2004.

Financial Statements
What is the amount to be reported for intangible assets on the balance sheet at December 31, 2003? At December 31, 2004?

Remember to check the Take Action! CD and the book's companion Web site to find additional resources for this chapter.