Intangible Assets

Try to Grasp the Intangible

In 1494, a mathematically minded Venetian monk named Luca Pacioli published his Summa de Arithmetica, Geometrica, the first accounting textbook. It illustrated double-entry accounting, a system that makes the modern corporation manageable, even possible. Today, half a millennium later, Pacioli’s process, still pretty much intact, is being challenged like never before.

Pacioli’s accounting system lets businesses keep track of changes in their assets. But this system deals primarily with tangible assets such as cash, inventory, investments, receivables, and property, plant, and equipment. What go unrecorded are intangible assets such as quality of management, customer loyalty, information infrastructure, trade secrets, patents, goodwill, research, and, considered by some the ultimate intangible, knowledge—a company’s intellectual capital. As present FASB chairman Edmund Jenkins attests, “The components of cost in a product today are largely R & D, intellectual assets, and services. The old accounting system, which tells us the cost of material and labor, isn’t applicable.” Argues Professor James Quinn of Dartmouth College, “Even in manufacturing, perhaps three-fourths of the value added derives from knowledge.”

This refrain is echoed by the managing editor of Fortune magazine, Walter Kiechel, who says, “To be sure, there are still industries in which the factory confers a competitive advantage. But this is changing fast, as more and more companies realize that their edge derives less from their machines, bricks, and mortar than from what we used to think of as the intangibles, like the brainpower resident in the corporation.”

In this emerging economy of knowledge, even some banks have concluded that “soft” assets (like computer programming know-how and information infrastructure) can be a better credit risk than “hard” assets (like buildings). But how should the “soft assets” be valued? Accountants get little solace from former FASB chairman Donald Kirk, who acknowledges, “There are arguments that balance sheets ignore certain intangibles, but the reporting issues of trying to recognize them are, in my mind, insurmountable.” It appears that the assets that really count are the ones accountants can’t count—yet.

3Ibid.
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—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:

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 and derive their value from the right (claim) to receive cash or cash equivalents in the future.

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.)

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 use 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. The accounting for impairments is discussed below.

Indefinite-Life Intangibles

If no legal, regulatory, contractual, competitive, or other factors limit the useful life of an intangible asset, the useful life is considered indefinite. 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.
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.6

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. The right to use a trademark or trade name under common law, 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, so 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.

6This classification framework has been adopted from "Business Combinations," Statement of Financial Accounting Standards No. 141 (Norwalk, Conn.: FASB, 2001).
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.

To 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.

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 and paid over $250 million to corporate-identity consultants. Among these were Primerica (formerly American Can), Navistar (formerly International Harvester), Nissan (formerly Datsun), and USX (U.S. Steel).

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 entry to record the purchase of the customer list and the amortization of the customer list at the end of each year is as follows:

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

In the preceding example it was assumed that the customer list had no residual value. If We-Market determined that it could sell the list for $60,000 to another company at the end of 3 years, 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>
<tr>
<td>Amortization expense per period: $1,980,000 ($5,940,000 ÷ 3)</td>
<td></td>
</tr>
</tbody>
</table>

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.

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 50 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 a copyright is less than its legal life (life in being plus 50 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.

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 Toyota dealer, fill your tank at the corner Texaco station, eat lunch at McDonald’s, 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 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. 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. 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.9

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 15–19 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 a pharmacist’s shelves.

From bioengineering to software design to the Internet,10 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.

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:

9Consider 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 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.

January 1, 2003

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Patents</td>
<td>180,000</td>
</tr>
<tr>
<td>Cash</td>
<td>180,000</td>
</tr>
<tr>
<td><strong>(To record legal fees related to patent)</strong></td>
<td></td>
</tr>
</tbody>
</table>

December 31, 2003

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent Amortization Expense</td>
<td>9,000</td>
</tr>
<tr>
<td>Patents (or Accumulated Patent Amortization)</td>
<td></td>
</tr>
<tr>
<td><strong>(To record amortization of patent)</strong></td>
<td>9,000</td>
</tr>
</tbody>
</table>

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 553.

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. 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 produced, the asset should be written down or written off immediately to expense.

**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. 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, because 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.

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11 A good example is **Eli Lilly**’s drug Prozac (used to treat depression) which in 1998 accounted for 43% of its U.S. sales. The patent on Prozac is due to expire in 2001, but the company expects to get an additional 2 years of protection, to 2003, because the company has a second-use patent covering appetite disorders.

12 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 assets are not disclosed in its historical cost-based balance sheet. Suppose, though, that as the negotiations progressed, Multi-Diversified conducted an investigation of the underlying 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.

ILLUSTRATION 12-4
Fair Market Value of Tractorling’s Net Assets

<table>
<thead>
<tr>
<th>Fair Market Values</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>16,000</td>
</tr>
<tr>
<td>Liabilities</td>
<td>65,000</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 asset category. Cash obviously poses no problems, 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 appropriate. Careful analysis must be made to determine that no unrecorded liabilities are present.

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

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

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<tr>
<td>Liabilities</td>
<td>65,000</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 asset category. Cash obviously poses no problems, 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 appropriate. Careful analysis must be made to determine that no unrecorded liabilities are present.
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.

The $80,000 difference in inventories ($122,000 - $42,000) could result from a number of factors, the most likely being that Tractorling 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 equipment, 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 discovered 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 did Multi-Diversified pay $400,000? Undoubtedly, the seller pointed to an established 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 probably 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 assumed.”

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.

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.

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13The Board expressed concern about measuring goodwill as a residual but noted that there is no real measurement alternative, since goodwill is not separable from the enterprise as a whole.

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 is estimated that as a result of the new rules, earnings per share in 2001 will 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 nonamortization of goodwill combined with an adequate impairment test provides the most useful financial information to the investment community.

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. This 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.

IMPAIRMENT OF INTANGIBLE ASSETS

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 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. The impairment loss is the

---

The journal entry to record this loss is:

Loss on Impairment 40,000,000
Patents 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.

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.

ILLUSTRATION 12-7
Computation of Loss on Impairment of Broadcast License

| Carrying amount of broadcast license | $2,000,000 |
| Fair value of broadcast license | 1,500,000 |
| Loss on impairment | $ 500,000 |

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.
**Chapter 12  Intangible Assets**

**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.

**ILLUSTRATION 12-8  Net Assets of Pritt Division, Including Goodwill**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$200,000</td>
</tr>
<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 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.

**ILLUSTRATION 12-9  Determination of Implied Value of Goodwill**

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

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.

**ILLUSTRATION 12-10  Measurement of Goodwill Impairment**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrying amount of goodwill</td>
<td>$900,000</td>
</tr>
<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.

**ILLUSTRATION 12-11  Summary of Intangible Asset Impairment Tests**

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

The difficulties in accounting for these research and development (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 accounting practice in this area has been simplified by requiring that all research and development costs be charged to expense when incurred.\(^\text{15}\)

Identifying R & D Activities

To differentiate research and development costs from similar costs, the following definitions are used for research activities and development activities.\(^\text{16}\)

**Research Activities**
- Planned search or critical investigation aimed at discovery of new knowledge.
- Examples: Laboratory research aimed at discovery of new knowledge; searching for applications of new research findings.

**Development Activities**
- 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.
- Examples: Conceptual formulation and design of possible product or process alternatives; construction of prototypes and operation of pilot plants.

\(^{15}\)“Accounting for Research and Development Costs,” Statement of Financial Accounting Standards No. 2 (Stamford, Conn.: FASB, 1974), par. 12.

\(^{16}\)Ibid., par. 8.
Chapter 12  Intangible Assets

It should be emphasized that R & D activities do not include routine or periodic alternatives 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), then 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), then 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.\(^{17}\)

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 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.\(^{18}\)

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.\(^{19}\) The types of expenditures related to its laser machine activities, along with the recommended accounting treatment, are listed in Illustration 12-14.

17Ibid., par. 11.

18Costs 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:

- expensed as incurred,
- capitalized and either depreciated or amortized over an appropriate period of time, or
- 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.

19Sometimes 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. 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.20

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 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 these 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.

---

21“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. To evaluate the economic impact of applying the same accounting principles to development stage enterprises that apply to established operating enterprises, the FASB interviewed officers of 15 venture capital companies. The consensus was that whether a development stage enterprise defers or expenses preoperating costs has little effect on the amount of, or the terms under which, venture capital is provided. According to these officers, venture capital investors instead rely on an evaluation of potential cash flows resulting from an investigation of the technological, marketing, management, and financial aspects of the enterprise.
Research and Development Costs

Over the estimated useful life of the advertising.

In an appropriate fashion to each of the three periods identified above.

Over the period revenues are expected to result.

After much discussion, the profession has concluded that future benefits from advertising generally are not sufficiently defined or measurable with a degree of reliability that is required to recognize these costs as an asset. As a 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 use. Again the profession has taken a conservative approach to recording advertising costs because defining and measuring the future benefits are so difficult.22

Computer Software 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 an appendix (Appendix 12A, pages 623–626).

Conceptual Questions

The requirement that all R & D costs (and 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.

Defendants of immediate expensing contend that from an income statement standpoint, long-run application of this standard frequently makes little difference. They contend that 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 because of the ongoing nature of most companies’ R & D activities. 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.23

22"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.

23Recent 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 share- holder 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. In another study, it was 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.
Chapter 12  Intangible Assets

OBJECTIVE
Indicate the presentation of intangible assets and related items.

PRESENTATION OF INTANGIBLES AND RELATED ITEMS

Intangible Assets

The reporting of intangible assets 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 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 21 shows the type of disclosure made related to intangible assets in the financial statements and related notes for Harbaugh Company.

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 both internal and acquired research and development in its recent income statement.

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$26,898.2</td>
<td>$25,636.9</td>
<td>$19,828.7</td>
</tr>
<tr>
<td>Costs, expenses, and other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials and production</td>
<td>13,925.4</td>
<td>11,790.3</td>
<td>9,319.2</td>
</tr>
<tr>
<td>Marketing and administrative</td>
<td>4,511.4</td>
<td>4,299.2</td>
<td>3,841.3</td>
</tr>
<tr>
<td>Research and development</td>
<td>1,821.1</td>
<td>1,663.7</td>
<td>1,487.3</td>
</tr>
<tr>
<td>Acquired research</td>
<td>1,038.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Equity income from affiliates</td>
<td>(884.3)</td>
<td>(727.9)</td>
<td>(600.7)</td>
</tr>
<tr>
<td>Gains on sales of businesses</td>
<td>(2,147.7)</td>
<td>(213.4)</td>
<td>—</td>
</tr>
<tr>
<td>Other (income) expense, net</td>
<td>499.7</td>
<td>342.7</td>
<td>240.8</td>
</tr>
<tr>
<td></td>
<td>$18,765.1</td>
<td>$17,174.6</td>
<td>$14,287.9</td>
</tr>
</tbody>
</table>

In addition, Merck provides a discussion about R & D expenditures in its annual report, as shown in Illustration 12-17 on page 22.
Presentation of Intangibles and Related Items

ILLUSTRATION 12-15
Intangible Asset Disclosures

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>

<table>
<thead>
<tr>
<th>Income Statement (partial)</th>
<th>(in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>as part of continuing operations</td>
<td>$380</td>
</tr>
<tr>
<td>Amortization expense</td>
<td>46</td>
</tr>
</tbody>
</table>

Note C: Acquired Intangible Assets
As of December 31, 2003

<table>
<thead>
<tr>
<th>Gross Carrying Amount</th>
<th>Accumulated Amortization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amortized intangible assets</td>
<td></td>
</tr>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unamortized intangible assets</th>
<th></th>
</tr>
</thead>
<tbody>
<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>—</td>
<td>(46)</td>
<td>(46)</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.
Chapter 12  Intangible Assets

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 a long-term asset.

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 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.

3. 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

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 1989 to 1998, the compounded annual growth rate in research and development was 11%. Research and development expenses for 1999 are estimated to approximate $2.1 billion.

In 1998, in connection with the restructuring of AMI, the Company recorded a $1.04 billion charge for acquired research associated with 10 product candidates in Phase II or later stages of development and U.S. rights to future Astra products which have not yet entered Phase II, for which, at the acquisition date, commercial viability had not been established.
Summary of Learning Objectives

1. **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.

2. **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 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. Goodwill may exist even in the absence of specific costs to develop it.

3. **Describe the accounting procedures for recording goodwill.** To record goodwill, the fair market value of the net tangible and identifiable intangible assets is compared with the purchase price of the acquired business. The difference is considered goodwill. Goodwill is often identified on the balance sheet as the excess of cost over the fair value of the net assets acquired.

4. **Explain the accounting issues related to intangible asset impairments.** 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.

5. **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.

6. **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, then 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, then 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,
EXERCISES

UE12-1 (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 the 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.

UE12-2 (Classification Issues—Intangibles) Presented below is selected account information related to Martin Burke Inc. as of December 21, 2001. All these accounts have debit balances.

- Cable television franchises
- Film contract rights
- 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 cost
- Internet domain name
- Land

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.
Exercises

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.

Joni Hyde Inc. has the following amounts included in its general ledger at December 31, 2001:

- Organization costs: $24,000
- Trademarks: $15,000
- Discount on bonds payable: $35,000
- Deposits with advertising agency for ads to promote goodwill of company: $10,000
- Excess of cost over fair value of net identifiable assets of acquired subsidiary: $75,000
- Costs of developing a secret formula for a product that is expected to be marketed for at least 20 years: $90,000
- Cost of equipment acquired for research and development projects; the equipment has an alternative future use: $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, 2001. Equipment has alternative future use.

(b) If an item is not to be included in intangible assets, explain its proper treatment for reporting purposes.

Alatorre Company

1. Alatorre purchased a patent from Vania Co. for $1,000,000 on January 1, 2000. The patent is being amortized over its remaining legal life of 10 years, expiring on January 1, 2010. During 2002, 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, 2002?

2. Alatorre bought a franchise from Alexander Co. on January 1, 2001, for $400,000. The carrying amount of the franchise on Alexander’s books on January 1, 2001, 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 2010, it is unlikely that the franchise will be retained beyond 2010. What amount should be amortized for the year ended December 31, 2002?

3. On January 1, 1998, Alatorre incurred organization costs of $275,000. Alatorre is amortizing these costs over 5 years. What amount, if any, should be reported as unamortized organization costs as of December 31, 2002?

4. Alatorre purchased the license for distribution of a popular consumer product on January 1, 2002, 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, 2002?

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, 2001. Equipment has alternative future use.

(b) If an item is not to be included in intangible assets, explain its proper treatment for reporting purposes.

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, 2001, are prepared. The controller for William J. Bryan Corporation mentions that only one account (shown below) is kept for Intangible Assets.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 4</td>
<td>Research and development costs</td>
<td>$490,000</td>
<td></td>
<td>$940,000</td>
</tr>
<tr>
<td>January 5</td>
<td>Legal costs to obtain patent</td>
<td>75,000</td>
<td></td>
<td>940,000</td>
</tr>
<tr>
<td>January 31</td>
<td>Payment of 7 months' rent on property leased by Bryan</td>
<td>91,000</td>
<td>1,106,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>February 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, 2021</td>
<td>84,000</td>
<td>940,000</td>
<td></td>
</tr>
<tr>
<td>April 30</td>
<td>Promotional expenses related to start-up of business</td>
<td>207,000</td>
<td>1,147,000</td>
<td></td>
</tr>
<tr>
<td>June 30</td>
<td>Operating losses for first 6 months</td>
<td>241,000</td>
<td>1,388,000</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 12  Intangible Assets

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

Rolanda Marshall Company, organized in 2001, has set up a single account for all intangible assets. The following summary discloses the debit entries that have been recorded during 2002:

- 1/2/02 Purchased patent (8-year life) $ 350,000
- 4/1/02 Purchased goodwill 360,000
- 7/1/02 Purchased franchise with 10-year life; expiration date 7/1/12 450,000
- 8/1/02 Payment of copyright (5-year life) 156,000
- 9/1/02 Research and development costs 215,000

Total $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, 2002, recording any necessary amortization and reflecting all balances accurately as of that date (straight-line amortization).

Gayle Crystal Corporation applied for a trade name, incurring legal costs of $16,000. In January 2002, Gayle Crystal incurred $7,800 of legal fees in a successful defense of its trade name.

Instructions
(a) Compute 2001 amortization, 12/31/01 book value, 2002 amortization, and 12/31/02 book value if the company amortizes the trade name over 10 years.
(b) Compute the 2002 amortization and the 12/31/02 book value, assuming that at the beginning of 2002, Crystal determines that the trade name will provide no future benefits beyond 12/31/05.
(c) Ignoring the response for part (b), compute the 2003 amortization and the 12/31/03 book value, assuming that at the beginning of 2003, based on new market research, Crystal determines that the fair value of the trade name is $15,000. Estimated total cash flow from the trade name is $16,000 on January 3, 2003.

Horace Greeley Corporation was organized in 2000 and began operations at the beginning of 2001. 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

Total $33,000

Instructions
(a) Compute the total amount of organization costs incurred by Greeley.
(b) Prepare the journal entry to record organization costs for 2001.

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, 2001. 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 2002, a franchise was purchased from the Ronald Reagan Company for $480,000. In addition, 5% of revenue from the franchise must be paid to Reagan. Revenue from the franchise for 2002 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 2002 as follows:

Materials and equipment $142,000
Personnel 189,000
Indirect costs 102,000
$433,000

Carter estimates that these costs will be recouped by December 31, 2005. The materials and equipment purchased have no alternative uses.

On January 1, 2002, because of recent events in the field, Carter estimates that the remaining life of the patent purchased on January 1, 2001, is only 5 years from January 1, 2002.

**Instructions**

(a) Prepare a schedule showing the intangibles section of Carter’s balance sheet at December 31, 2002. Show supporting computations in good form.

(b) Prepare a schedule showing the income statement effect for the year ended December 31, 2002, as a result of the facts above. Show supporting computations in good form.

UE12-10 (Accounting for Patents) During 1998, 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, 1998, 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, 1998.

**Instructions**

(a) Prepare all journal entries required in 1998 and 1999 as a result of the transactions above.

(b) On June 1, 2000, 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, 2000. Prepare all journal entries required in 2000 and 2001.


UE12-11 (Accounting for Patents) Tones Industries has the following patents on its December 31, 2003, 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>3/1/00</td>
<td>17 years</td>
</tr>
<tr>
<td>Patent B</td>
<td>$15,000</td>
<td>7/1/01</td>
<td>15 years</td>
</tr>
<tr>
<td>Patent C</td>
<td>$14,400</td>
<td>9/1/02</td>
<td>4 years</td>
</tr>
</tbody>
</table>

The following events occurred during the year ended December 31, 2004:

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 9 1/2 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, 2004. The controller for Tones estimates the future cash flows from Patent B will be as follows:

<table>
<thead>
<tr>
<th>For the Year Ended</th>
<th>Future Cash Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2005</td>
<td>$2,000</td>
</tr>
<tr>
<td>December 31, 2006</td>
<td>$2,000</td>
</tr>
<tr>
<td>December 31, 2007</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, 2003, balance sheet.

(b) Compute the total carrying amount of Tones’ patents on its December 31, 2004, balance sheet.

UE12-12 (Accounting for Goodwill) Fred Moss, owner of Moss Interiors, is negotiating for the purchase of Zweifel Galleries. The condensed balance sheet of Zweifel is given in an abbreviated form at the top of the next page.
ZWEIFEL GALLERIES
Balance Sheet
As of December 31, 2002

<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 gallery on Moss’s books.

UE12-13 (Accounting for Goodwill)
On July 1, 2001, Brigham Corporation purchased Young Company by paying $250,000 cash and issuing a $100,000 note payable to Steve Young. At July 1, 2001, the balance sheet of Young Company was as follows:

- Cash $ 50,000
- Receivables 90,000
- Inventory 100,000
- Land 40,000
- Buildings (net) 75,000
- Equipment (net) 70,000
- Trademarks 10,000

$435,000

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.

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

UE12-14 (Intangible Impairment)
Presented below is information related to copyrights owned by Walter de la Mare Company at December 31, 2002.

<table>
<thead>
<tr>
<th>Copyright</th>
<th>Cost $8,600,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrying amount</td>
<td>4,300,000</td>
</tr>
<tr>
<td>Expected future net cash flows</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Fair value</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

Assume that Walter de la Mare Company will continue to use this copyright in the future. As of December 31, 2002, 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, 2002. The company does not use accumulated amortization accounts.
(b) Prepare the journal entry to record amortization expense for 2003 related to the copyrights.
(c) The fair value of the copyright at December 31, 2003, is $3,400,000. Prepare the journal entry (if any) necessary to record the increase in fair value.

UE12-15 (Goodwill Impairment)
Presented below is net asset information (including associated goodwill of $200 million) related to the Carlos Division of Santana, Inc.
CARLOS DIVISION
Net Assets
as of December 31, 2002
(in millions)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$ 50</td>
</tr>
<tr>
<td>Receivables</td>
<td>200</td>
</tr>
<tr>
<td>Property, plant, and equipment (net)</td>
<td>2,600</td>
</tr>
<tr>
<td>Goodwill</td>
<td>200</td>
</tr>
<tr>
<td>Less: Notes payable</td>
<td>(2,700)</td>
</tr>
<tr>
<td>Net assets</td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>

The purpose of this 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 writedown 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, 2002.
(b) At December 31, 2003, 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.

UE12-16 (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 2001 the company expends $325,000 on a research project, but by the end of 2001 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 2002, 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 472-1801-84 in 2002 total $16,000. Record these costs in journal entry form. Also, record patent amortization (full year) in 2002.
(c) In 2003, the company successfully defends the patent in extended litigation at a cost of $47,200, thereby extending the patent life to 12/31/10. What is the proper way to account for this cost? Also, record patent amortization (full year) in 2003.
(d) Additional engineering and consulting costs incurred in 2003 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.

UE12-17 (Accounting for R & D Costs) Thomas More Company incurred the following costs during 2001 in connection with its research and development activities:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</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>Personal 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 2001. Assume equipment is purchased at beginning of year.
Chapter 12  Intangible Assets

PROBLEMS

UP12-1 (Correct Intangible Asset Account)  Esplanade Co., organized in 2000, has set up a single account for all intangible assets. The following summary discloses the debit entries that have been recorded during 2000 and 2001:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/00</td>
<td>8-year franchise; expiration date 6/30/08</td>
<td>$42,000</td>
</tr>
<tr>
<td>10/1/00</td>
<td>Advance payment on laboratory space (2-year lease)</td>
<td>$28,000</td>
</tr>
<tr>
<td>12/31/00</td>
<td>Net loss for 2000 including state incorporation fee, $1,000, and related legal fees of organizing, $5,000 (all fees incurred in 2000)</td>
<td>$16,000</td>
</tr>
<tr>
<td>10/01</td>
<td>Patent purchased (10-year life)</td>
<td>$76,000</td>
</tr>
<tr>
<td>3/1/01</td>
<td>Cost of developing a secret formula (indefinite life)</td>
<td>$75,000</td>
</tr>
<tr>
<td>4/1/01</td>
<td>Goodwill purchased (indefinite life)</td>
<td>$278,400</td>
</tr>
<tr>
<td>6/1/01</td>
<td>Legal fee for successful defense of patent purchased above</td>
<td>$12,650</td>
</tr>
<tr>
<td>9/1/01</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, 2001, recording any necessary amortization and reflecting all balances accurately as of that date. (Ignore income tax effects.)

UP12-2 (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; 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>1991–1992</td>
<td>Research conducted to develop precipitator</td>
<td>$384,000</td>
</tr>
<tr>
<td>Jan. 1993</td>
<td>Design and construction of a prototype</td>
<td>$87,600</td>
</tr>
<tr>
<td>March 1993</td>
<td>Testing of models</td>
<td>$42,000</td>
</tr>
<tr>
<td>Jan. 1994</td>
<td>Fees paid engineers and lawyers to prepare patent application; patent granted July 1, 1994</td>
<td>$62,050</td>
</tr>
<tr>
<td>Nov. 1995</td>
<td>Engineering activity necessary to advance the design of the precipitator to the manufacturing stage</td>
<td>$81,500</td>
</tr>
<tr>
<td>Dec. 1996</td>
<td>Legal fees paid to successfully defend precipitator patent</td>
<td>$35,700</td>
</tr>
<tr>
<td>April 1997</td>
<td>Research aimed at modifying the design of the patented precipitator</td>
<td>$43,000</td>
</tr>
<tr>
<td>July 2001</td>
<td>Legal fees paid in unsuccessful patent infringement suit against a competitor</td>
<td>$34,000</td>
</tr>
</tbody>
</table>

Ankara assumed a useful life of 17 years when it received the initial precipitator patent. On January 1, 1999, 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, 1994.
(b) December 31, 1998.
(c) December 31, 2001.

UP12-3 (Accounting for Franchise, Patents, and Trade Name)  Information concerning Haerhpin Corporation’s intangible assets is as follows:

1. On January 1, 2002, Haerhpin 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, 2003. 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, 2002, 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. Haerhpin’s
Problems

2. Haerhpin incurred $65,000 of experimental and development costs in its laboratory to develop a patent which was granted on January 2, 2002. Legal fees and other costs associated with registration of the patent totaled $13,600. Haerhpin 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, 1999. Expenditures for successful litigation in defense of the trademark totaling $8,160 were paid on July 1, 2002. Haerhpin 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 Haerhpin’s balance sheet at December 31, 2002. Show supporting computations in good form.

(b) Prepare a schedule showing all expenses resulting from the transactions that would appear on Haerhpin’s income statement for the year ended December 31, 2002. Show supporting computations in good form.

UP12-4 (Accounting for R & D Costs)

During 1999, 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 1999. The building was completed on December 31, 2000, at a cost of $280,000 and was placed in service on January 2, 2001. 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 2001 appears below.

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, 2000, 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 company’s

(a) Income statement for 2001?

(b) Balance sheet as of December 31, 2001?

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

UP12-5 (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.

Current assets $ 800,000 Current liabilities $ 600,000
Noncurrent assets 2,700,000 Long-term liabilities 500,000
Stockholders’ equity 2,400,000 Total liabilities and Stockholders’ equity $3,500,000
Total assets $3,600,000
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.

| Current assets | $450,000 |
| Noncurrent assets (including goodwill recognized in purchase) | $2,400,000 |
| Current liabilities | $700,000 |
| Long-term liabilities | $500,000 |
| **Net assets** | **$1,650,000** |

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.