Our economy is changing from a focus on manufacturing processes (tangible outputs) to a focus on information flow (intangible outputs). As a result, the accounting for computer software products becomes increasingly important. This appendix discusses the basic issues involved in accounting for computer software.

**DIVERSITY IN PRACTICE**

Companies can either purchase computer software or create it. They may purchase or create software for external use (such as spreadsheet applications like Excel or Lotus 1-2-3) or for internal use (e.g., to establish a better internal accounting system).

How should companies account for the costs of developing software? Should they expense such costs immediately or capitalize and amortize them in the future? At one time, some companies expensed all software costs, and others capitalized such costs. Still others differentiated such costs on the basis of whether the software was purchased or created, or whether it was used for external or internal purposes.

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

**THE PROFESSION’S POSITION**

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

1. Until a company has established technological feasibility for a software product, it should charge to R&D expense the costs incurred in creating the product.
2. Technological feasibility is established when the company has completed a detailed program design or a working model.

1 A major contributing factor was IBM’s decision in 1969 to “unbundle” its hardware and software—to state the cost of the hardware and software separately. Previously, computer companies provided most application software free with the hardware. This unbundling led to the creation of a whole new industry, the software industry, whose members began selling software to hardware users.

In short, the FASB has taken a conservative position in regard to computer software costs. For example, a company like Microsoft must expense all costs until it has completed the activities (planning, designing, coding, and testing) necessary to establish that it can produce the product to meet its design specifications. From that point on, Microsoft should capitalize subsequently incurred costs and amortize them to current and future periods.

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

The profession has also indicated how to account for software to be used internally. Activities performed during the preliminary project stage of development (e.g., conceptual formulation and evaluation of alternatives) are similar to R&D costs. Companies should expense such costs immediately. Once the software is at the application development stage (e.g., at the coding or installation stages), its future economic benefits become probable. At that point, companies must capitalize the software costs. Finally, subsequent to the application development stage, costs related to training and application maintenance should be expensed as incurred.3

ACCOUNTING FOR CAPITALIZED SOFTWARE COSTS

If companies are to capitalize software costs, then they must establish a proper amortization pattern for such costs. As a basis for amortization, one of two amounts is used: (1) the ratio of current revenues to current and anticipated revenues (the percent-of-revenue approach), or (2) the straight-line method over the remaining useful life of the asset (straight-line approach). A company must use whichever of those amounts is greater. This rule can result in the use of the percent-of-revenue method one year and the straight-line method in another.4

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

REPORTING SOFTWARE COSTS

Much concern exists about the reliability of an asset such as software. Therefore, the FASB indicated that companies should value capitalized software costs at the lower of unamortized cost (book value) or net realizable value. If net realizable value is lower, then companies should write down the capitalized software costs to this value. Once companies have written down the costs, they may not write them back up.

4Because there are no revenues associated with software developed for internal use, amortization of these internal-use capitalized costs is based on the straight-line approach.
In addition to the regular disclosures for R&D costs, companies should report in the
financial statements the following information relating to software.

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

Again, these accounting and reporting requirements apply only to software developed for external purposes.

Illustration F-1 presents an example of software development cost disclosure, taken from the annual report of Analogic Corporation.

<table>
<thead>
<tr>
<th>Analogic Corporation</th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in thousands)</td>
<td></td>
</tr>
<tr>
<td>Total current assets</td>
<td>$328,121</td>
<td>$335,903</td>
</tr>
<tr>
<td>Property, plant and equipment, net</td>
<td>91,077</td>
<td>83,926</td>
</tr>
<tr>
<td>Investments in and advances to affiliated companies</td>
<td>10,967</td>
<td>14,050</td>
</tr>
<tr>
<td>Capitalized software, net</td>
<td>9,502</td>
<td>6,339</td>
</tr>
<tr>
<td>Goodwill</td>
<td>1,565</td>
<td>2,306</td>
</tr>
<tr>
<td>Intangible assets, net</td>
<td>9,223</td>
<td>11,708</td>
</tr>
<tr>
<td>Other assets</td>
<td>1,616</td>
<td>3,185</td>
</tr>
<tr>
<td>Total assets</td>
<td>$452,071</td>
<td>$457,417</td>
</tr>
</tbody>
</table>

**Significant Accounting Policies**

**Capitalized Software Costs:** Software development costs incurred subsequent to establishing techn-
ological feasibility through general release of the software products are capitalized in accordance to
SFAS No. 86, “Accounting for the Costs of Computer Software to be Sold, Leased, or Otherwise Mar-
keted.” Capitalized costs are amortized on a straight-line basis over the economic lives of the related
products, generally three years. Amortization expense was $1,801, $1,813 and $1,772 in fiscal 2004,
2003, and 2002, respectively and is included in product cost of sales. The unamortized balance of cap-
talized software was $9,502 and $6,339 at July 31, 2004, and 2003, respectively.

**SETTING STANDARDS FOR SOFTWARE ACCOUNTING**

“It’s unreasonable to expense all software costs, and it’s unreasonable to capitalize all soft-
ware costs,” said IBM’s director of financial reporting. “If you subscribe to those two state-
ments, then it follows that there is somewhere in between where development ends and cap-
tilization begins. Now you have to define that point.”

The FASB defined that point as technological feasibility, which is established upon completion of a detailed program
design or a working model.

The difficulty of applying this criterion to software is that “there is no such thing as a real, specific, baseline design. But you could make it look like you have one as early or as late as you like,” says Osman Erlop of Hambrecht & Quist. That is, if a company wishes
to capitalize, it draws up a detailed program design quickly. If it wants to expense lots of de-
velopment costs, it simply holds off writing a detailed program design. And, once capitalized,
the costs are amortized over the useful life specified by the developer. Because of either constant redesign or supersession, software’s useful life is generally quite short (two to four years).

As another example, some companies “manage by the numbers.” That is, they are very
careful to identify projects that are worthwhile and capitalize the computer software costs

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6Ibid.
associated with them. They believe that good projects must be capitalized and amortized in the future; otherwise, the concept of properly matching expense and revenues is abused. In contrast, other companies choose not to manage by the numbers. They simply expense all development costs. Companies that expense all these costs have no use for a standard that requires capitalization. In their view, it would mean only that they would need a more complex, more expensive cost accounting system, which would provide little if any benefit.

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

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

Summary of Learning Objective for Appendix F

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

Exercises

**EF-1** (Accounting for Computer Software Costs) New Jersey Inc. has capitalized computer software costs of $3,600,000 on its new Trenton software package. Revenues from 2008 (first-year) sales are $2,000,000. Additional future revenues from “Trenton” for the remainder of its economic life, through 2012, are estimated to be $10,000,000.

**Instructions**

(a) What method or methods of amortization are to be applied in the write-off of capitalized computer software costs?

(b) Compute the amount of amortization for 2008 for “Trenton.”

**EF-2** (Accounting for Computer Software Costs) During 2008, Delaware Enterprises spent $5,000,000 developing its new Dover software package. Of this amount, $2,200,000 was spent before technological feasibility was established for the product, which is to be marketed to third parties. The package was completed at December 31, 2008. Delaware expects a useful life of 8 years for this product with total revenues of $16,000,000. During the first year (2009), Delaware realizes revenues of $3,200,000.

**Instructions**

(a) Prepare journal entries required in 2008 for the foregoing facts.

(b) Prepare the entry to record amortization at December 31, 2009.

(c) At what amount should the computer software costs be reported in the December 31, 2009, balance sheet? Could the net realizable value of this asset affect your answer?

(d) What disclosures are required in the December 31, 2009, financial statements for the computer software costs?

(e) How would your answers for (a), (b), and (c) be different if the computer software was developed for internal use?

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