Is It Time for New Accounting of R&D Costs?

Anne M. Clem  
*Iowa State University, aclem@iastate.edu*

Cynthia G. Jeffrey  
*Iowa State University, cjeffrey@iastate.edu*

Follow this and additional works at: [http://lib.dr.iastate.edu/acct_pubs](http://lib.dr.iastate.edu/acct_pubs)

Part of the Accounting Commons, Business Administration, Management, and Operations Commons, Management Information Systems Commons, and the Technology and Innovation Commons

Recommended Citation

[http://lib.dr.iastate.edu/acct_pubs/9](http://lib.dr.iastate.edu/acct_pubs/9)

This Article is brought to you for free and open access by the Accounting at Iowa State University Digital Repository. It has been accepted for inclusion in Accounting Publications by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Is It Time for New Accounting of R&D Costs?

Abstract
The mismatch between today’s "high-tech economy" and the double-entry accounting system has raised serious questions about the quality of earnings. The Securities and Exchange Commission (SEC) has targeted overly aggressive earnings management, focusing on acquired in-process research and development (IPR&D). Some people are concerned that the SEC crackdown on IPR&D valuations has the potential to slow the pace of mergers and acquisitions significantly, hamper the formation of new companies, and decrease the value of a company’s stock. Financial managers on either side of the debate will need a clear understanding of the issues when evaluating potential acquisitions.

Disciplines
Accounting | Business Administration, Management, and Operations | Management Information Systems | Technology and Innovation

Comments
This article is published as Clem, A. and C. Jeffrey. 2001. Is It Time for New Accounting of R&D Costs? Strategic Finance, August, 83(2); 50-55. Posted with permission.
Is it time for a new accounting of R&D costs?

Clem, Anne M; Jeffrey, Cynthia G

Strategic Finance; Aug 2001; 83, 2; ABI/INFORM Global
pg. 50
IS IT TIME FOR A NEW ACCOUNTING OF R&D COSTS?

BY ANNE M. CLEM, CPA, AND CYNTHIA G. JEFFREY, CPA

Soaring charges of acquired in-process research and development call for better accounting and valuation methods.

For over 500 years, the double-entry accounting system has remained virtually unchanged. It was designed to account primarily for tangible assets. But today the value of many firms is largely composed of intangible assets such as R&D, intellectual assets, brand names, and services. This mismatch between today's "high-tech economy" and a centuries-old accounting model has raised serious questions about the quality of earnings. Former Securities & Exchange Commission (SEC) Chairman Arthur Levitt lamented the "erosion in the quality of earnings, and, therefore, the quality of financial reporting." The SEC has targeted overly aggressive earnings management, focusing on acquired in-process research and development (IPR&D).
Although accounting guidance on IPR&D has remained unchanged since the early 1970s, the number and magnitude of acquired IPR&D charges have skyrocketed recently. In 1998, acquired IPR&D charges of S&P 500 technology companies reached $11.1 billion, nearly as much as the previous eight years combined. This was due to soaring merger activity, technology firms rising to nearly 20% of the total stock market value, and escalating R&D costs.

But the charges were also due to the immediate expensing of IPR&D and the current methods of valuing it. The models used for measuring the value of IPR&D are inadequate and raise concern that charges are being abused, are distorting earnings, and are making financial statements misleading.

Some people are concerned that the SEC crackdown on IPR&D valuations has the potential to slow the pace of mergers and acquisitions significantly, hamper the formation of new companies, and decrease the value of a company’s stock. Financial managers on either side of the debate will need a clear understanding of the issues when evaluating potential acquisitions.

**MAGIC ACCOUNTING OF IPR&D**

In-process research and development charges can stem from R&D acquired singly, as part of a group of assets, or in a business combination. These charges are often a significant portion of the value of a deal. For example, when Adobe Systems acquired Ares Software in 1996, 95% of the purchase price was written off as IPR&D.

Here’s a scenario illustrating how such a large portion of the purchase price can result from IPR&D:

A start-up biotech company’s only tangible assets are five computers with a fair market value of $4,000 each. They develop a computer simulation that a medical device maker wants to use. The computer simulation is not yet a marketable product, nor is it likely the biotech company can bring the simulation to market by themselves. The medical device maker can use the simulation to complete the design of a current product. How much would the medical device maker pay for the start-up firm? Despite the risk that this project may not yield a marketable product, the medical device maker is willing to pay $1 million because time-to-market in this industry is critical. But the identifiable assets are only $20,000. The $980,000 difference between the purchase price and the value of identifiable assets is the value of IPR&D, or 98% of the total purchase price.

Determining this IPR&D value is straightforward. In more complex mergers, such a determination is rarely clear-cut. Allocation of a portion of the purchase price to goodwill and a portion to IPR&D is often highly subjective.

The current accounting practice is based on the Financial Accounting Standards Board’s (FASB) Interpretation No. 4, “Applicability of FASB Statement No. 2 to Purchase Business Combinations,” adopted in 1975. It specifies that part of the acquisition price be allocated to any incomplete R&D projects and expensed on the date the acquisition is consummated if those projects had no alternative future use. Immediate expensing is consistent with the treatment of internal research and development expenditures under the FASB’s Statement of Financial Accounting Standards (SFAS) No. 2, “Accounting for Research and Development Costs,” issued in 1974. The FASB based this policy on its belief that a direct relationship between R&D costs and specific future revenue generally has not been demonstrated, even with the benefit of hindsight.

Although immediate expensing of IPR&D has been required since 1975, prior to 1990 there were only three cases of such expensing. The use of this technique accelerated when IBM bought Lotus Development Corp. in 1995 and immediately wrote off $1.8 billion, or 57.5% of the total purchase price. Since 1995, both the frequency and size of IPR&D charges have increased (see Figure 1).

**SEC TARGETS IPR&D**

On September 28, 1998, Arthur Levitt fired the opening salvo in an SEC initiative aimed at curting perceived corporate accounting abuses through inappropriate earn-
Figure 1: Charges for in-process research and development of S&P 500 technology firms, 1990-1998

1998 charges are nearly as much as the previous eight years combined.


ings management practices. The SEC is challenging the costs allocated to IPR&D, questioning both valuation methodologies and the value assigned to core technologies and IPR&D. The SEC has expressed concern that the increasing size of IPR&D charges may indicate that other intangibles—not just R&D—are being included with IPR&D so they can be expensed immediately.

In January 1999, the SEC's Division of Corporation Finance sent letters to 150 public companies, reminding officials of required disclosures applicable to asset write-downs, restructuring activities, acquired in-process research and development, and similar issues. Further, these companies were informed that their forthcoming annual reports and 10-K filings might be subject to SEC review because of news reports indicating significant charges taken in 1998.

The SEC cited at least three recurring flaws in the way some companies were valuing purchased R&D:

- Failure to rigorously isolate the R&D project from other valuable assets acquired;
- Appraisals lacking analysis of the project's stage of development or the complexity and uniqueness of the seller's achievements relative to the complexity and uniqueness of efforts the purchaser must undertake to complete it; and
- Appraisals that computed an "investment value" for the R&D project rather than its "fair value."

In response to SEC concerns, a number of firms reduced current estimates or revised prior charges. For example, in Dionex Corporation's acquisition of Softcon, $10 million of the $20.7 million purchase price was initially allocated to purchased in-process research and development. But after receiving one of the SEC's letters, Dionex reduced the charge to $5 million, noting that the charge was lower than initially anticipated in response to new guidance from the SEC.

In 2000, a total of roughly $10 billion of purchased research and development charges were slashed to $5 bil-
lion by companies the SEC scrutinized. These revisions are consistent with the SEC's concerns that initial estimates significantly overstated the amount of the deal value attributed to IPR&D.

In May 1999, the FASB initially decided that IPR&D should be recognized as an asset, along with subsequent costs to complete the IPR&D project, and amortized over its economic life. In July 1999, the Board concluded that it wasn't possible to address purchased IPR&D costs separately from other R&D costs. The Board didn't want to create two different accounting approaches to R&D that would be predicated on whether the project was initiated internally or obtained in an acquisition. They believed the result would be inconsistent accounting practices and investor confusion. The FASB decided to further deliberate the change, a process that could take up to three years.

Because the FASB recently approved the elimination of the pooling method of accounting for business combinations, all transactions will now be accounted for under the purchase method. Under this method, the acquisition price is allocated to identifiable tangible and intangible assets, including IPR&D, where the basis of allocation is the fair market value of the assets. Any unallocated amount is then assigned to goodwill. This means that IPR&D valuation will be an issue in any acquisition of a company. Thus, IPR&D is likely to be at the forefront of deliberation in the future, resulting in discussion of such issues as the trade-off between relevance and reliability as well as more basic issues related to how well the current accounting model captures the value of R&D-intensive firms.

**WHAT IF IPR&D WERE AMORTIZED?**

If the FASB were to change the current practice of immediate expensing IPR&D to capitalizing and amortizing it, how would that affect the income statement? We offer the following scenario and Figure 2.

The scenario is built on the following assumptions:
- Revenues equal $100 in the year of acquisition.
- Top line revenue growth of 20%.
- Operating expenses are 70% of top line revenue.
- Assumes a tax-free world.
- IPR&D is 20% of revenue of the acquiring company.
- Amortization lives of three, five, and 10 years.
Figure 2 illustrates the impact of alternative amortization periods on earnings growth rates. While amortizing over some useful life eliminates a large one-time hit to earnings, it still results in large fluctuations in earnings growth rates. As useful life decreases (or the relative size of the IPR&D amount increases), changes in earnings become more rather than less prevalent. While a one-time charge would result in one earnings growth rate peak, amortization, especially over a shorter period, results in several of these fluctuations.

RESOLVING IPR&D ACCOUNTING

In trying to resolve the issues surrounding IPR&D, a key question in the conceptual framework as we see it is whether R&D meets the definition of an asset, and, if so, whether information about that asset has relevance for financial statement users. R&D is undertaken with the expectation that it will provide future benefit to the firm. While not every R&D project initiated generates benefits, the expectation is that on average some will, resulting in assets for the firm.

Yet meeting the definition of an asset and demonstrated relevance aren’t adequate for recognition in the financial statements. To be recognized, an item must have a relevant attribute that is reliably measurable. Widely accepted valuation models for R&D haven’t been developed, and questions about valuation approaches are critical to current deliberation.

Even if a value can be established, a useful life must also be determined for amortization. As shown in Figure 2, alternative choices of amortization period result in dramatically different income figures and earnings growth rates. Thus, determination of a range for the useful life of IPR&D is an important component of any discussion of capitalization.

Assuming the issues of valuation and measurability can be answered satisfactorily for purchased R&D assets, consistency is also an issue. SFAS No. 2 requires all internal R&D to be expensed as incurred. This raises the question of how to account for costs required to complete a purchased R&D program after it is acquired. To be consistent with SFAS No. 2, additional costs to complete the project should be expensed as incurred. At the same time, it makes little sense to capitalize and amortize the acquisition costs of R&D while expensing the subsequent costs of completion. The lack of consistency is likely to cause confusion among investors.

This conceptual framework also identifies comparability between enterprises as a desirable quality of account-