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Three Major Hurdles in Financial Due Diligence for Computer Software Companies

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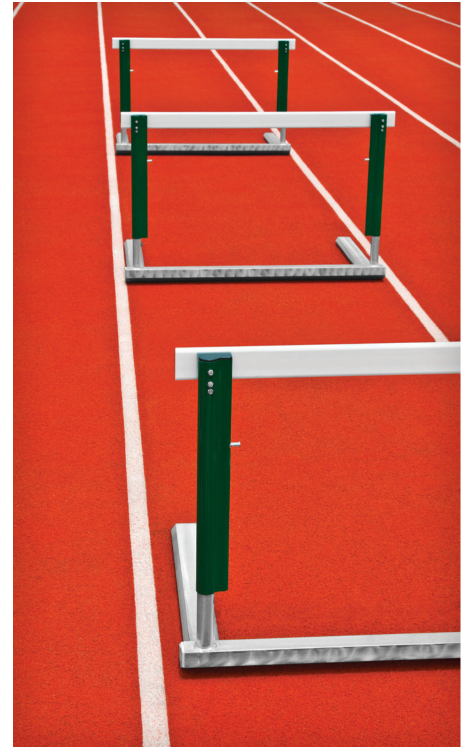

When Hewlett-Packard (HP) announced last fall that it was taking an $8.8 billion write-off (80 percent of the purchase price) on its acquisition of software company Autonomy Corporation (Autonomy), it made headlines. The write-off also drew renewed attention to some of the accounting issues that can arise when acquiring a company in the software industry.

The unprecedented growth in the industry in the 1980s and 1990s led to the development of new accounting standards to normalize the treatment of certain issues, but complexities unique to software companies continue to make it risky to accept financial statements on their face. Those performing due diligence must consider three issues in particular that are vulnerable to earnings manipulation.

Issue 1: Revenue Recognition

Revenue recognition should be closely examined when evaluating any company, but software companies, with their bundling of products and services into single contracts (known as multideliverables), are especially susceptible to earnings manipulation through revenue recognition. Bundled services could include software that requires additional hardware, annual upgrade or support fees, licensing arrangements, or the need for customization.

The primary authority for software revenue recognition is the American Institute of CPAs (AICPA) Statement of Position (SOP) 97-2, "Software Revenue Recognition," which applies to entities that sell, lease, or market computer software.[1] Under SOP 97-2, revenue recognition generally occurs at delivery if a four-part test is met:

1. Persuasive evidence of an arrangement exists (for example, a signed contract or job order).
2. Delivery has occurred (title has transferred, and the buyer has no unconditional return right).
3. The company's fee is fixed or determinable.
4. Collectibility is probable.

SOP 97-2, however, fails to adequately address a common characteristic of software contracts – multiple deliverables. As a result, in 2000 the Financial Accounting Standards Board (FASB) released "Revenue Arrangements With Multiple Deliverables."[2] This paper defines how to determine whether an arrangement involving multiple deliverables contains more than one unit of accounting and how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. But the paper doesn't address when the criteria for revenue recognition are met or provide guidance on the appropriate revenue recognition convention for a given unit of accounting. In addition, the four-part test under SOP 97-2 is not the only accounting

guidance to consider for software that requires significant production, modification, or customization. For this type of software, AICPA Accounting Research Bulletin (ARB) No. 45, "Long-Term Construction-Type Contracts," which normally is associated with construction accounting, must be considered in conjunction with SOP 97-2.

As HP learned the hard way, these complicated rules can make it difficult to rely on software companies' reported earnings. Autonomy, for example, accelerated revenue by bundling software and support services and allocating a larger percentage of the contract to software so that more revenue was recognized upfront, while the associated expenses were recognized over the life of the contract. This practice artificially accelerated revenue and profit-margin growth and made the company a more attractive takeover target. HP did not discover the problem until it eventually noticed the appearance of expenses on financial statements without the matching revenues – after the acquisition was consummated.

Many software contracts have similar multiple deliverables, typically including an upfront software sale and then recurring maintenance fees. Because these contracts reflect a single sale but different revenue streams, the revenue streams must be allocated to the various elements of the contract based on vendor-specific objective evidence (VSOE) of fair value for each element. VSOE value is limited to the price charged by the vendor for each element when it is sold separately. This requires revenue to be deferred until VSOE can be established for each element in the arrangement or, if VSOE cannot be established for one or more elements, until all elements have been delivered.

A company might manipulate its earnings by restructuring its contracts as Autonomy did. For example, if the original bid was for $1 million for software and $3 million in maintenance fees, the actual customer contract could be structured to represent $3 million for software and $1 million for maintenance. The company would then recognize the $3 million upfront without the matching expenses that would come later from performing the maintenance, making the front end more profitable and the back end less so.

A software company also could recognize revenue it is never going to receive. For an engagement during which Crowe Horwath LLP performed due diligence on a public video management software and services company, we noted that the company was marketing itself as a rapidly growing, high-margin software entity, but it also sold hardware and provided professional and consulting services.

Crowe noticed a growing gap between the software company's net income and cash from operations, as well as an increase in the aging of accounts receivable. It was discovered that the company was bundling products and not collecting payments on more than $20 million in so-called software revenue on a new platform product that it attributed to revenue growth. In addition, more than $10 million of restructuring cost pro forma add-backs were found that were actually just operating expenses that should have been recognized as incurred. After the accounting fraud was publicized, the company fired its external auditors and was delisted from Nasdaq. It recently announced that it is considering filing for Chapter 11 bankruptcy.

The Takeaway

It's critical that due diligence results confirm that the timing of a software company's revenue recognition is correct, that expenses are being matched to the revenue recognized, and that the revenue is actually collectible.

Due diligence should include consultation with an industry specialist.

Bundling might be used to disguise improper acceleration of revenue recognition, so due diligence should include a reading of the company's significant contracts to determine the terms and proper revenue streams. Large variances between net income and cash from operations could signal collectibility issues. The age of accounts receivable also can be a sign of collectibility problems.

Issue 2: R&D Expenses and Internal Cost Capitalization

Cost capitalization and the expensing of research and development (R&D) costs provide another avenue for earnings manipulation by software companies.

Under the FASB's Statement of Financial Accounting Standards (FAS) No. 86, "Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed," R&D costs can be capitalized, rather than expensed as incurred, once "technological feasibility" is established and costs are determined to be recoverable. Technological feasibility is established upon completion of a detailed program design or, in its absence, completion of a working model. Capitalization ends and amortization begins when the product is available for general release to customers.

Software programs can be developed quickly, which allows for manipulation. A company could, for example, create a flowchart in a few hours and claim the flowchart is a working model – but that doesn't mean the company could really make the program happen. To address this concern, due diligence should include discussion with an industry specialist to determine if software was indeed technologically feasible when capitalization occurred and where the capitalized costs can be recovered in the commercial market.

Due diligence also calls for analysis of internal cost capitalizations, especially salary allocations, which might be proper under U.S. generally accepted accounting principles but can mask the true incurred operating cost spend. A software company could play games by capitalizing internal costs and running them through amortization expense – which isn't included in earnings before interest, taxes, depreciation, and amortization (EBITDA) – when amortizing the costs. If an employee will be with the company for the long run, rather than only for that project, his or her salary should be considered as a recurring operating expense on a pro forma basis – not as a capitalized cost.

Amortization also warrants scrutiny. Software costs should be amortized over the greater of 1) the ratio of current revenues to current and anticipated revenues, or 2) the straight-line method over the remaining use life of the asset. Those performing due diligence should consider the company's amortization policies and check for consistency. If the company changes its capitalization rules, that's a red flag that it's manipulating earnings to increase the value of the company.

What about software developed for internal use? SOP 98-1[3] states that costs to develop software for internal use should be capitalized during the application development stage (costs for training and application maintenance are not internal-use software development costs and should be expensed as incurred). Due diligence should include consultation with an industry specialist to determine the boundaries of the application development stage.

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The Takeaway

Due diligence should investigate fluctuations in R&D expenses. A drop in R&D expense could indicate that expenses are not being properly reported as incurred, which can inflate the company's value. It could also simply mean less innovation and, in turn, less revenue in the future.

Check that the company's accounting policies and procedures for development costs have been consistent. If, for example, the company changed its policy for capitalization of development costs shortly before going on the market, it might be necessary to retroactively apply the new policies to historical data to obtain an accurate picture of the company's earnings history. Retain industry specialists to assist with some of the gray areas, like technological feasibility.

Issue 3: Margin Trends

A software company might have different revenue streams with vastly different profit margins. Software sales, for example, generally have higher margins than hardware sales or professional services because the costs associated with software going forward from development are lower. If a company's revenue growth is coming from a lower-margin segment, the growth could be offset by the greater expenses associated with that segment and thus produce lower profit margins than if the growth came from software sales – as the Autonomy incident demonstrates.

Our diligence findings regarding a certain video management software and services company showed even more fraud. The company was not collecting payments for its high-margin software revenues, which raised the question of whether the company was truly a software company. Upon investigation, Crowe found that the target operated more as a provider of hardware and professional services and consulting, meaning that it generated much lower profit margins.

The Takeaway

For companies with multiple revenue streams, those performing due diligence should analyze the company's margins using historical and projected revenue stream, as opposed to looking only at top-line revenue growth. Significant increases in software revenue must be substantiated, and capitalized software development costs must be matched against the corresponding revenue to amortize development costs across the revenue stream unless the developed software has a long commercial market life.

Proceed With Caution

The areas discussed here are only a few of the items to consider when performing due diligence on a software company. SOP 97-2 is much more complicated than detailed in this article. Moreover, litigation in the industry is on the rise, which could affect profit margins. Industry, accounting, and legal specialists all play a crucial role in effective due diligence.

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[1] SOP 97-2, its related amendments, and related AICPA Technical Practice Aids have been codified in FASB Accounting Standards Codification (ASC) 985-605, "Revenue Recognition."

[2] Emerging Issues Task Force (EITF) Issue No. 00-21, "Revenue Arrangements With Multiple Deliverables."

[3] SOP 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use," has been codified into ASC 350-40, "Internal-Use Software."

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