

# Valuation of Startup and Early-Stage Companies

by Michael Goldman, MBA, CPA, CVA, CFE

I was asked to value a startup company that deals in specialty coffee and gourmet foods. The company's sales, which have been going on for only the past five months, total no more than a few hundred thousand dollars. Book equity is massively negative, reflecting three years of product development that has yet to manifest itself as revenue. Since most of the operations (warehousing, logistics, fulfillment, order-taking, etc.) have been outsourced, there are very few tangible assets. Inventory is at minimal levels because the product is natural and preservative-free, and therefore prone to spoilage. Perishable inventory tends not to have much liquidation value anyway, because it may not last long enough to be liquidated in an orderly fashion.

I was thinking that by many of the traditional valuation measures, there is no value to this company. The barely existent revenues, negative operating income, lack of operating history, possibly few comparable firms, and very limited information do not fit in the standard business valuation templates. Then the owner of the company served me a cup of his coffee.

My practice focuses on litigation support, forensic accounting, business valuation, and matters relating to insolvency. Some of the things these practice areas have in common are intense bursts of work that must be done at the speed of crisis, totally unpredictable schedules, and lots of travel. In other words, I often require huge amounts of caffeine. If a product has caffeine in it, I've probably tasted it. I've had coffee from retailers, office services, wealthy individuals, restaurants, kiosks, and hotels in all parts of North America and some parts of Europe. I've traveled with coffee snobs who've had us drive many miles out of the way to get a particular brand of coffee. This coffee that I was just served at this startup company was like nothing I've ever tasted before.

This coffee was grown on one specific side of a mountain in a country that most people have never heard of. The company has five different coffees in all, and all are incredible—smooth, intriguing tastes with none of the acidity that sometimes does a better job of keeping you awake at night than the caffeine itself. Clearly there had to be some value to having the ability to sell these unique coffees in the United States.

I left the company with a portfolio of information that was interesting but speculative and again, not the type of material that easily fits into our standard valuation models. I wished I could just pour a cup of this wonderful coffee into the computer where I operate my business valuation software and have it spit out a number for me. I also had two shopping bags full of premium and specialty foods that the company is going to roll out over the coming months. Everything in those bags tasted fantastic, almost sinful. It helped to ease my family's conscience, while eating food that delicious, to know that it all came from natural sources in under-developed countries and was grown with fair labor and environmentally friendly procedures. There is undoubtedly value in these products, and hence in the company that developed them and brought them to this country; but how do you measure it?

## Characteristics of Startups

It is helpful to step back and think of a typical startup. A startup begins with an opportunity. Opportunities are economically viable ideas that are attractive, durable, and timely. The opportunity must have sufficient resources (financing, management, etc.) behind it to survive in a competitive and risky environment.

It seems reasonable that high-potential opportunities

would be more valuable than low-potential opportunities. High-potential opportunities tend to have reachable customers, high value-added components, durability, and recurring purchasers in a large, highly fragmented and rapidly growing market. They would offer positive cash flow and high rates of return on investment, have low capital requirements, and feature barriers of entry that would close after the initial company has entered the market.

A growth opportunity in an established industry using time-tested methods, such as opening a McDonald's franchise in a new market, is a type of startup that would be fairly easy to value, because much is already known about the business—what operating principles will be successful, what types of profit margins to expect, how different customer demographics will respond to the new store, etc.

More typically, a startup has no history, an unfathomable market, untested products, unknown cost structures, unknown implementation timing, unknown market acceptance, untested market channels, unknown competition, unsophisticated management, and unrealistic expectations. This list is not meant to detract from entrepreneurs or fledgling companies, many of whom succeeded admirably, but this very often is the nature of the beast. This great sea of unknowns excites the entrepreneur, but can give nightmares to the business valuator.

The valuator needs to understand the size of the markets being served, the probability of successfully entering those markets, and the time needed to achieve the projected market share. Also to be considered are the costs of product development, bringing the product to market, and making subsequent improvements to the product, service, or technology.

## Evaluate Management Team

In many cases, only broad assessments of the above factors are available, and the valuation must consider wide ranges of possibilities. Estimates of the company's growth potential are often based on the valuator's assessment of the competence of the management team and their ability to successfully exploit their opportunities. The best place to start, therefore, is with a critical look at the management team. Management traits needed for a successful startup venture include:

- Strong focus and attention to cash flow
- Willingness to admit mistakes and adjust
- Adherence to a clearly defined action plan with timetables and performance benchmarks
- Clearly defined responsibility and authority
- Ability to communicate timely and effectively with employees, customers, suppliers, advisors, lenders, and investors
- Ability to design effective information systems and use them for decision making
- Creativity and "can do" attitude. Start-up managers will

usually be more optimistic than those we usually see in more staid organizations

- Understanding of and reliance on risk analysis
- Leadership skills that provide guidance, motivate behavior, and set standards of conduct
- Organizational skills that blend team skills and maintain high productivity
- Clear goals and objectives, and a desire to seek new opportunities
- Strong functional and technical competencies
- Relevant experience and contacts. The network of advisors, potential customers, potential suppliers, and people who know people can be an invaluable asset to the management team.

The importance of strong management cannot be over-emphasized. Last year I worked on the insolvency case of a group of companies, each market leaders in their territories, that had been rolled up into one company controlled by an investment group. These companies had had different management cultures, different systems, and different ways of rewarding top performers. One size of management did not fit all, and performance of all of the companies deteriorated significantly and simultaneously when new senior management was brought in to standardize operations. Stronger management control only made the problems worse. When some of the larger subsidiaries were given back their ability to self-manage, their performance improved quickly and dramatically.

## Analyze Financial Projections

Any market-based valuation approach or discounted cash flow analysis depends on the reasonableness of financial projections. Projections must be analyzed in light of the market potential, resources of the business, management team, financial characteristics of the guideline public companies, and other factors. Startups that do not grow quickly enough to become cash-flow-positive before investor fatigue sets in will not survive. Startups that do grow quickly usually have operating expenses and investment needs that exceed revenues, at least until the growth starts to slow down and the resource needs of more people, more money, and more physical assets begin to stabilize. This means that long-term projections, all the way out to the time when the business has sustainable positive operating margins and cash flows, need to be prepared. These projections will depend on the assumptions made about growth.

Growth in operating income is a function of management's investment decisions: how much a company reinvests and how well it reinvests. Examples of this reinvestment include research and development, expansion of distribution and manufacturing capacity, human resource development to attract new talent, product pricing to undercut competitors, and development of new markets, products, or techniques.

Growth also depends on market acceptance of the product, the skill of the company's execution, competition, finance, and risk. Of course, all of these factors are interrelated.

### How to project growth

There are basically three ways of estimating growth: extrapolation (if the company already has history), industry projections from securities analysts (not a source acclaimed for accuracy and objectivity), and qualitative evaluation of the company's management, marketing strengths, and level of investment. Obviously, the results of this analysis will highly depend on the assumptions made, and good judgment is critical.

### Valuation Methods

The basic theories and methods of business valuation hold just as well for startups as for established firms. The problem with startups is that their concept, or their ability to capitalize on the concept, has not yet been proven. Negative earnings, lack of history, and limited comparables make the task more difficult but not impossible. The value of the company is still the present value of the expected cash flows from its assets and operations.

### Asset-based methods

Since growth is the primary attraction of startup firms, you might think the asset values would have little relationship to company valuation. Startups tend to have little if any land, buildings, or other fixed assets. It is the growth opportunity that generates the value. In turbulent markets, however, the level of cash and the liquidity of the company may be primary drivers of value.

At the beginning of the dot-com crash, I prepared a valuation of a high-tech company in the telecom market, and was surprised to find that none of the traditional value drivers showed a strong relationship to the market caps of companies in the industry. After regressing nine different variables against the market caps for 72 different companies, I found that the only variables having a decent correlation to value were working capital and debt-to-equity ratios. Even the size of the company didn't matter—recent startups flush with IPO cash but with minimal sales were selling at much stronger valuation ratios than industry giants such as Lucent, Nortel, Ericsson, and Solectron. The market was stating at that time that liquidity was more valuable than technology, management, markets served, or other variables typically associated with the valuation of high-tech companies. The same concept is evident today in stocks of junior mining companies, whose share prices reflect their liquidity and project burn rates more than their potential for a significant ore discovery.

Conventional wisdom says that high-tech startups are almost always purchased by strategic investors. Entrepreneurs do not usually go out and buy biotech or microelectronic startups.

Strategic investors may be focusing very heavily on asset values, particularly of intellectual property and other intangibles. These factors apply whether the intangible asset is a patent, a license, a new technique for making fast food, or the exclusive relationships that guarantee a unique product. Intangible assets can be valued using an income, cost, or market approach.

Factors that cause intangible assets to have value include:

- Exclusivity of product, service, or business process
- Ability to enforce ownership rights
- Degree of development
- Competition, costs of substitution
- Lack of dependence on special owner/operator skills, location, or circumstances
- Ability to generate revenues or reduce costs

Development, startup, and research costs may be capitalized, expensed, or some of each on the startup's books. These costs may or may not be significant to the value of the company. A good way of looking at this is to consider the purchase of a ticket to your state's lottery.

I can buy a ticket today for my state's mega-million dollar lottery for one dollar. What is the value of that ticket? Both the cost and the market methods of valuation would say the value is approximately \$1. I can probably sell the ticket for \$1 to the person behind me in line, sell it for a little more to a person who is unable or unwilling to go to the store themselves just to buy a ticket, or sell it for a little less if I really decide I don't want it anymore and need to entice someone to take it off my hands. If I conduct a study of similar lotto ticket sales across the country, the data will probably indicate that \$1 is a good market value to use.

To value my lottery ticket using the income method, I would calculate my expected return using the following formula:

$$\text{Value} = [\text{Potential winning amount} \times \text{Probability of winning}] - [\text{Potential cost} \times \text{Probability of losing}]$$

If there are 40 balls and six are chosen, there are 40 possible numbers that can come up first, leaving 39 that can come up second, then 38, 37, 36, and finally 35 on the final number. To find out how many numbers that is, you multiply  $40 \times 39 \times 38 \times 37 \times 36 \times 35 = 2,763,633,600$ , making the odds roughly two-and-a-half billion to one. Luckily the order of the balls does not matter, so we can divide this number by how many ways these numbers can be arranged. There are six possibilities for the first ball, five for the second, four for the third, three, two, and one left over. That is  $6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$ . Therefore, the odds against winning the grand prize are  $2,763,633,600 \div 720 = 3,838,380$  to one.

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The probability of me winning the grand prize in my state's lotto is the inverse of the odds, or 0.000002605. When you plug this into the above formula, the math makes my ticket virtually worthless under the income method of valuation. If the grand prize is \$4 million, then the expected value of the ticket that I just paid \$1 for is around four cents. (That was calculated by plugging the following numbers into the above valuation formula: \$4 million potential winning amount  $\times$  .000002605 probability of winning = \$1.04; minus the cost of the ticket, \$1.00  $\times$  the .999997395 probability of losing.)

If I wait a week and then value my lotto ticket, I will know the certain value. It will either be the amount of the grand prize, the amount of one of the minor prizes, or zero. Consequently, there is no possible outcome in which the value of the ticket will have any relationship to the cost of the ticket. Technology startups are in a similar situation—either the technology is successful (grand prize or minor prize) or it never catches on. The millions of dollars that Sony spent developing and promoting Beta format video recorders ended up having no value, even though the technology was widely believed to be superior to the VHS format that the market did accept.

For other types of startups, however, this issue is not so cut and dried. In the case of my premium coffee and gourmet food client, he spent three years and \$2 million traveling to remote parts of the world building relationships, sourcing products, developing processes, designing packaging, obtaining licenses and permits, etc. This has value to a hypothetical buyer who wants to get into this business but does not want to perform all of those start-from-scratch activities. One way to determine this value may be to look at costs avoided—trips to Africa, expenses to live in Africa for weeks at a time building relationships with the growers, fees for export permits, lawyers to

navigate through the importing and food regulations of the United States, graphic artists to design product packaging, etc., all have identifiable costs.

Intuitively, it makes sense that if I wanted to buy a turn-key operation in this business, I would consider the costs of creating what is there myself, and then apply either a discount or a premium to those costs, depending on my risk tolerance. The more risk-averse I was, the greater the premium I would consider to avoid having to incur those same costs on my own but possibly not get started as well as the original entrepreneur did. On the other hand, the more confident I was that I could do better than the person who already blazed the trail, the more I would discount the amounts he spent getting the results he has achieved so far. Either way, the costs of performing those activities that go into the startup are relevant to what I'd consider paying for it.

A cost-based approach may be appropriate, but it ignores the growth opportunities in startups, and it is in the growth that most of the value often lies.

### Income-based Methods

The income approach to valuation is based on the premise that the value of a business is equal to the present value of the expected future cash flows that the business will generate. Very simply, value is the expected cash flows discounted for the time to obtain them and the uncertainty as to whether or not they will ever actually materialize. In the valuation of emerging growth companies, the analyst uses company business plans, empirical market-derived data, macroeconomic and industry evidence, and the underlying prospects for the subject company to estimate the value of the future benefit stream. The factors to consider are many, and include:

- How reachable the customers are, how loyal they are likely to be, and

the prospects for repeat business

- The degree of value added and the attractiveness to the customer of the product or service
- The size, growth rate, and degree of competitiveness of the market
- Capital requirements, barriers to entry in the target market
- Efficiency and other advantages of the subject company compared with its competitors
- Resources available to the company—management, finances, labor pool, etc.
- Expected time to first sale and to profitability
- Seasonality and cyclicalities
- Technology, regulatory, tax environments, labor unions, economic conditions
- Concentration of customers or suppliers

Since all of these factors are constantly influencing and changing each other, the equations can become quite complex. The first key variable to be estimated is revenue. Revenue projections built with a bottoms-up approach tend to be easier to understand, and hence inspire more confidence, than unsupported linear progressions or parabolic curves that can only be imagined with great leaps of faith. Revenue levels and growth must be consistent with capital investment—a company cannot sell anything unless it has product to sell and infrastructure to support it. Probably the most common flaw I see in startup business plans is revenue that is projected to grow at much greater rates than the assets and expenses needed to generate that revenue.

After the factors that drive revenue are determined, the remaining economics of the business should fall into place. This assumes of course that the commensurate balance sheets and statements of cash flow remain articulated. The operating margin of the business cannot be considered sus-



tainable until growth has stabilized from the initial bursts. The projections must be internally consistent. In internally consistent projections the margins are driven from the bottom up with known cost factors and the fixed, variable, and semi-variable costs have all been accounted for. The volume of costs and expenses is consistent with the volume of product or service being sold. Once tight, consistent projections are made, all that remains is to assess their risk.

Analysts estimating the value of emerging growth companies must be able to successfully gauge the degree of risk associated with factors especially critical to the success of the company. Risk levels are determined both by analysis of other companies in the industry or similar circumstance, and by assessment of management and the other economic factors listed above. There are two risk factors to consider: the risk that is a component of the discount rate, and the probability of success. For example, I valued a semiconductor venture firm in the telecommunications market at the beginning of the technology/telecom market crash. Firms in the market that had valuations did not have particularly high discount rates, but many of them (including my client) did have a frighteningly high probability of bankruptcy.

Business valuers are knowledgeable in deriving discount rates for firms. Some factor in the probability of failure as a company-specific risk factor. For startups I prefer to calculate the discount rate without the sword of failure hanging over the company's head, and then look at the probability of success separately. An appropriate formula to use in the value of a startup is similar to the formula used earlier in this article to value lottery tickets:

$$\text{Value of startup} = [\text{Discounted cash flow value of firm if it survives} \times \text{probability of surviving as a going concern}] + [\text{Liquidation value or distress sale value} \times \text{probability of failure}]$$

The first portion of this formula takes the value of the firm, assuming it meets its plans, times the probability of it meeting those plans. This is where the startup specific risk is recognized, and the asset-related values of a successful firm are included in this result. The second portion of the formula considers the value of what is left if the firm fails, which is the liquidation value of the assets times the probability of having to liquidate the failed firm.

In addition to personally evaluating the factors that could lead to success or failure in a specific business, the valuator has access to services such as BizMiner (bizminer.com), which provide three-year failure rates for small businesses by industry segment and by geographic region.

### Market-based Methods

The market approach to valuation also presents special problems for startups. This valuation process involves finding other companies, usually sold through private transactions, that are at a similar stage of development and that focus on existing or proposed products similar to those of the company being valued. Generally a good source of information is press releases providing acquisition details of startup companies by publicly held acquirers. Complicating factors include comparability problems, differences in fair market value from value paid by strategic acquirers, lack of disclosed information about acquired companies, and the fact that there usually are no earnings or revenues to apply pricing ratios to.

In cases where revenues do not yet exist, valuation under the market method is typically done using licensing or royalty rates for similar technologies, products, or services.

Depending on the industry of your subject company, there may be a wealth of market information available. A search using 10k Wizard (10kwizard.com) found 29 compa-

nies that had significant comparability to my gourmet food and coffee client. The Management Discussion and Analysis of these companies provided excellent industry information, and the footnotes to the financial statements often provided detailed information about the valuation of intangible assets such as recipes, trademarks, formulas, customer relationships, supplier relationships, and licenses. I found Forms 10k-SB and 10q-SB for comparable companies as small as \$295,000 in annual revenue. Other forms, such as REGDEX, provide information on initial securities registrations for emerging firms, even if the securities are being sold to certain individual private investors.

Information in forms 10k-SB (SB for small business) and REGDEX can be timelier, much more detailed, and more on point than that found in the databases that valuation analysts commonly use for market transaction information. Be aware, though, that prices for penny stocks are extremely volatile, and many of the stock prices of the comparables to my coffee client fluctuated by a factor of 10 times or more over just a couple of quarters.

In some cases, pre-registered shell companies buy a startup company as a back-door way of going public. The transaction may not be arms-length, but the purchase accounting requirements mandate significant levels of disclosure than can assist in valuing intangible assets as well as the entire company.

### Other Methods

Valuers should be aware of the "venture capital method" of valuation, which is commonly used for financing startups. In this method, a company's net income is projected out into the future based on a "success scenario," i.e., where the company attains the projections in its business plan. A price-to-earnings or price-to-cash-flow ratio is decided upon based on the

market pricing of companies in the same or similar industry. The multiple is applied to the projected income or cash-flow to obtain a terminal value, which is then discounted back to present value using a very high discount rate that represents the required rate of return of the venture investor. This method is commonly used in financings, but does not meet professional valuation standards.

### How Not to Do It

The above discussion highlights the issues surrounding startups and suggests many possible ways to value startup companies. One thing you must not do is value a startup as if it were an established company.

I was asked to consult in a divorce case in a state where the court appoints a neutral valuation expert. The subject company, a bio-tech startup, had spent seven years and over \$40 million but didn't have a single dollar of revenue to show for it. A patent lawyer estimated that the patents held by the company were worth more than \$90 million, but the court-appointed expert valued the company at zero.

The valuation expert's report highlighted a multi-year history of losses, lack of revenue, inability to forecast the success of the technology being developed, the technical insolvency of the company, and an inability to find market sale data on any other company working to develop similar technology. In fact, he could not find any companies at all exploring the avenues this company was going down. His capstone piece of evidence of the worthlessness of the company was three consecutive years of going-concern qualifications from the company's auditors.

My comments on the expert's report included the following observations:

- Going concern qualifications are prepared under audit standards that have a totally different perspective

and purpose from the standards used in a business valuation. For example, auditors often do not consider the value of intangible assets, unrecorded assets, or self-created assets in the decision process as to whether or not to qualify their opinions.

- Valuations of early-stage technologies are usually done by estimating what license or royalty fees are likely to be earned by the technology, the degree of completion of the technology, industry practices and conditions, market trends, competition, and evaluations of other companies in the same or similar industry. The expert in this case relied only on historical-cost financial statements.
- The expert did not evaluate the management team, a crucial component of startup valuation. He does not appear to have inquired as to why talented and in-demand managers, scientists, and researchers would be joining and staying at a company he considers to have no value or future.
- A key component of value is the expected future benefit stream. Growth in income is a function of management and its competently executed decisions, market acceptance of the product, and other factors that are usually detailed in the company's business plan. The expert didn't appear to have even read the subject company's business plan.
- The expert's solvency analysis and liquidation analysis were both based on historical cost and book values, and did not consider intangible or unrecorded assets. In startup technology firms the bulk of the market value is in the intangible investment opportunities that were self-created, and hence not on the balance sheet.
- The expert did not evaluate the probability of future funding, or

sale of the company, based on the progress it had made up to then.

The expert's report was disregarded by the court. The case, which had been stuck in court for two years, settled for an undisclosed amount. Three months after settlement, the company was sold for an amount close to the patent lawyer's valuation of the intellectual property. I live halfway across the country from where this all happened, so I don't know the impact on the expert's reputation, but I don't imagine that ignoring the special qualities and characteristics of startups generated a good outcome for him.

### Growth is Easy, Profits Not

Successful entrepreneurs know that a good idea alone does not equal positive cash flow, and technical success does not equal commercial success. It is not just growth that creates value, but profitable growth. Businesses need to earn more than their cost of capital, or their growth will be more detrimental than positive.

Increasing growth is often easy—doing it profitably is not. When it comes down to it, even after all of the formulas, comparables, and forecasts, the valuation of a startup very often depends on the company's managers and their ability to perform.

Keep in mind that the valuation of a startup is still the valuation of a business, and the basic tenets of value still hold. The value of the business is the present value of the expected cash flows from the business. The valuator's views about the company, its management, its value drivers, and its growth potential are implicit in the calculation of both the expected cash flows and the discount rate that gets applied to them. Since growth potential is a larger component of value in startups than in established firms, the valuator's expectations of probable outcomes

looms much more important in startup valuations. These expectations should be fully documented and explained in the report—not all readers will agree with them, but a well documented thought process will definitely help the report users in assessing the value possibilities of the subject company. **VE**



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## From the Editor

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You don't have to plunge in head-first to join the Web 2.0 conversation. Start by reading a few industry- or profession-related blogs each week, and look for opportunities to contribute comments. Join a social networking site like LinkedIn or even Facebook, and participate (don't just wait for something to happen). Don't be surprised if you start having fun with it and find it necessary to impose limits on the time you spend networking online.

We'll say more about Web 2.0 practice development strategies in the next issue of the *Examiner*. **VE**



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