

Get real!

By Kathleen Dahlberg and Benjamin S. Porter

Traditional corporate finance techniques are not up to evaluating the new risk/reward dynamics of investing in eCommerce. So what are you supposed to do with all those proposals sitting on your desk? Begin thinking about these investments in an entirely different way by using real options theory. It can take much of the guesswork out of eVenture opportunities.

Recently BP Amoco evaluated a business opportunity that would save the company money. Managers understood the risks and rewards associated with the project—which involved creating a new service—and believed they had the necessary analytical tools to make an informed decision. Using discounted cash-flow analysis, they determined the project would produce a savings of \$20 million per year.

Managers also suspected that the service could be sold externally, but they did not know how to evaluate this added benefit. The eCommerce-related project had no fixed assets. Like so many ventures in the fast-changing Internet space, there was a great deal of uncertainty about it.

If management had used only discounted cash-flow analysis to evaluate the eCommerce opportunity, the project would have been penalized for the uncertainty, and the valua-

tion would have been so low that the company probably would not have chosen to invest in selling the service.

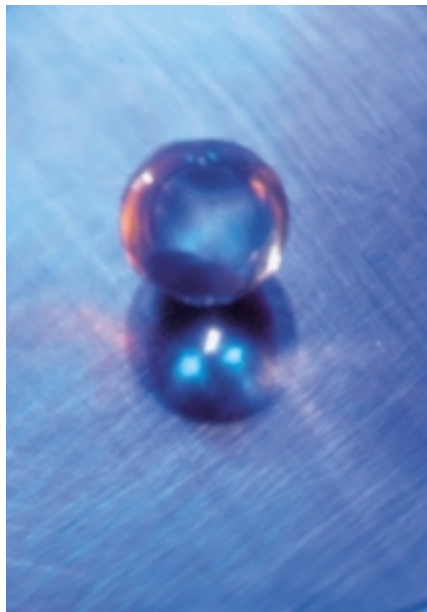
Instead, managers supplemented the analysis by using real options theory to value the investment. The value of the option turned out to be several hundred million dollars. So BP Amoco decided to invest in the eCommerce aspect of the project.

Culture clash

What managers at BP Amoco used was a way of making investment decisions more appropriate to eCommerce ventures than discounted cash-flow analysis, the tried-and-true measuring stick that is as much a part of most corporate cultures as blue suits and wing-tip shoes used to be.

Indeed, the rise of eCommerce poses a serious challenge for “old economy” corporations faced with myriad investment opportunities in an arena

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they are struggling to understand. The very nature of the new economy—its dynamic, ever-changing complexion and high degree of risk—requires a different way of analyzing potential eCommerce ventures. It also calls for new tools and techniques with which a company can create new business models in response to ever-changing opportunities.

A new and effective approach does, in fact, exist: Use real options theory, which was first introduced by former Thunderbird professor Timothy Luehrman as a tool for valuing corporate investments, as a starting point for changing the mind-set.

The risk penalty

The traditional approach to corporate investments could be described as Think Big, Act Big and Don't Fail. *Think Big* means finding the big idea that defines a number of projects or programs. *Act Big* means taking on a large project or program that usually has a multimillion-dollar price tag. *Don't Fail* means eliminating the project's risk.

Discounted cash-flow analysis has a built-in bias for large, capital-inten-

sive projects for which the risks are predictable and manageable, and the nature of the venture will not change during its life. However, for high-risk eCommerce ventures, there is a higher discount rate and, consequently, a lower projected value of the project.

An example of a typical old economy venture is a large offshore drilling platform, where the anticipated benefits can be reasonably quantified through a rigorous budgeting process, and where the expected risks are already known and have been factored into the company's analysis. This is Think Big and Act Big, with a risk profile that the company can become very good at managing.

The dilemma facing many managers confronted with an eCommerce opportunity is the necessity of making an all-or-nothing decision: Either commit substantial funds to a highly speculative venture where many of the risks are unknown, or forgo the project altogether. There appears to be no middle ground.

That's where the options pricing approach comes in.

As Luehrman pointed out in a *Harvard Business Review* article ("Investment Opportunities as Real Options: Getting Started on the Numbers," May/June 1997), a prospective corporate investment is like a call option in that a company has the right, but not the obligation, to purchase the operating assets of a new venture.

The options pricing approach does a better job than discounted cash-flow analysis of valuing possible eVentures because it is more accommodating of the new economy's volatility. Many Internet companies are in a constant state of refining

or modifying their business plans in response to new competitive thrusts.

Uncertainty versus risk

In such an environment, of course, much of the risk of a new eVenture is not known ahead of time. Discounted cash-flow analysis penalizes dot-com companies for this volatility far more than it does traditional ventures, in which the anticipated benefit might be smaller but is easier to predict.

The options pricing method considers uncertainty rather than just risk. This uncertainty is expressed in the variability of the project's anticipated benefits rather than, say, the risk that the project may blow up.

The greater the potential payoff, the higher the value of the option. That is because with real options, the downside risk is minimized by having the ability to exit while the upside can still be exercised. eVentures are therefore not improperly penalized for their uncertainty, and the options pricing approach can enable managers to make informed decisions about whether to proceed with—or discontinue—a project.

BP Amoco is pioneering the use of options pricing theory to make these kinds of informed decisions. Indeed, the company is beginning to embrace the technique as one of the tools to change the mind-set that has grown up around the exclusive use of discounted cash-flow analysis and the way in which eBusiness opportunities are not only valued but managed and measured as well.

BP Amoco is working on several such opportunities, including initiatives in the human resources and new business areas. It also has created an eLaboratory, where its members work with the company's

line managers on developing these projects.

The computations derived from the basic options pricing model are not intended to yield a definitive answer but rather to provide BP's decision makers with the basis for an ongoing dialogue about the company's various eCommerce ventures.

Allowing for judgment

The key is not to get too caught up in the numbers, and instead to allow judgment to play an important role in these investment decisions. Many of the risks are still unknown, and the financial projections are too fluid for any computation to be definitive.

Not that computations are irrelevant. They remain as important in considering the new opportunities as they do in more traditional business ventures. But their unique value lies in helping managers to think about potential projects as staged investment opportunities and to evaluate these projects using a variety of assumptions.

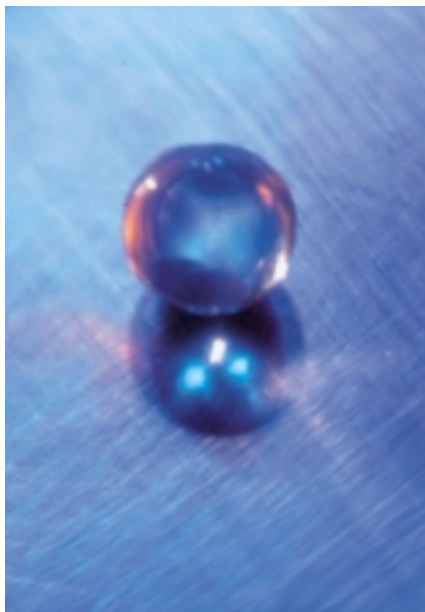
BP Amoco is essentially beginning to create a new language in which managers at the giant oil company can have meaningful dialogues about their eInvestments. Throughout a project's execution, managers make a series of scale-up-or-out evaluations not unlike the multiphase reviews at most venture capital firms.

With a more traditional project, reviews would be conducted to make sure it stayed on time and on budget. No one would anticipate that the essential nature of the project would change. Any actions taken would be to keep the project on track.

The kinetic nature of the new economy makes this fire-your-missile-and-forget-it approach impractical. Instead, managers need to adopt a

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project review process in which the ongoing evaluation is structured around key decision points. Each decision is fundamentally different and may, for example, provide more funding, completely modify the project or kill it altogether.

This evaluation approach is quite similar to the way in which venture capital firms manage their investments, where the initial funding might be just enough to help a new company flesh out its business plan. A second level of funding would allow the company to develop an important technology. A third might enable it to respond to a new opportunity in a highly dynamic marketplace.

At each decision point, corporate managers at BP Amoco are beginning to apply the options pricing model to a project under review to provide a measure of valuation guidance. In this sense, the company has the option of continuing the venture or killing it. This new approach to eVentures might be described as Think Big, Act Small—but Scale Fast, Learn and Adapt.

Finding your prince

Traditional companies that are mov-

ing into eCommerce also need to think differently about success and failure. With a more traditional project, the determination of success is pretty straightforward: Was it completed on time? Did it meet its revenue projections?

But in the eCommerce arena, with its dynamic character, success might be defined as gaining a better understanding of customer behavior or developing a new technology for application elsewhere in the company.

As with more traditional ventures, the ultimate objective is still to build significant businesses that will augment the corporation's profitability and create shareholder value. But if the traditional metrics for valuing corporate investments are inappropriate for most eVentures, so, too, is the traditional yardstick for measuring their success.

Indeed, a small "failure" might actually be a success if it prevents a larger failure later on, or if it creates knowledge that can be applied in an emerging sector where much is still unknown.

For example, authentication—the ability to positively identify the individual performing an eCommerce transaction—is a critical technology in the eEconomy. A new venture may not meet its business objective but may gain some key insight into how to authenticate customers.

Again, there may be something to be learned from venture capitalists. According to conventional wisdom, 6 out of 10 venture capital investments will break even, and 3 will be failures. But 1 investment in 10—the so-called prince—will more than pay for the other 9 combined.

Venture capitalists like to say that you have to kiss a lot of frogs to find a prince. Clearly, traditional corporations need a more effective approach to building lasting relationships with the princes of the new economy. ■

The writers would like to thank Shashank Tripathi, a London-based senior manager in the Accenture Strategic Services practice, for his help with this article.



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