

HOW TO DETERMINE THE VALUE OF A PROJECT

HOW MUCH INFLUENCE WILL A PROPOSED IT project have on your company's share price? It's impossible to say exactly, but the technique presented in this whiteboard can help you get an approximate answer that is close enough. It's what's known as a discounted cash flow model, and it sizes up the value today of a proposed project: how much the project is expected to bring in for the company in revenues over the lifetime of its use minus its total cost over time, including any taxes paid on benefits to the company from the project. This technique, used for decades to evaluate all kinds of business assets, is now being applied to IT.

Put simply, the technique asks a relatively straightforward question: "What would the money I'm expecting over the life of the project be worth to me if I had it all right now?" Of course, money you're expecting in the future isn't the same thing as money in the bank right now: Inflation will eat away at its value over time, and money you risk is worth less than money you have in hand. The future benefits of an expensive grid-computing project are significantly less assured than the benefits from a faster Web page server, and projects taken on by early adopters are typically riskier than those cautiously embarked on by technology laggards.

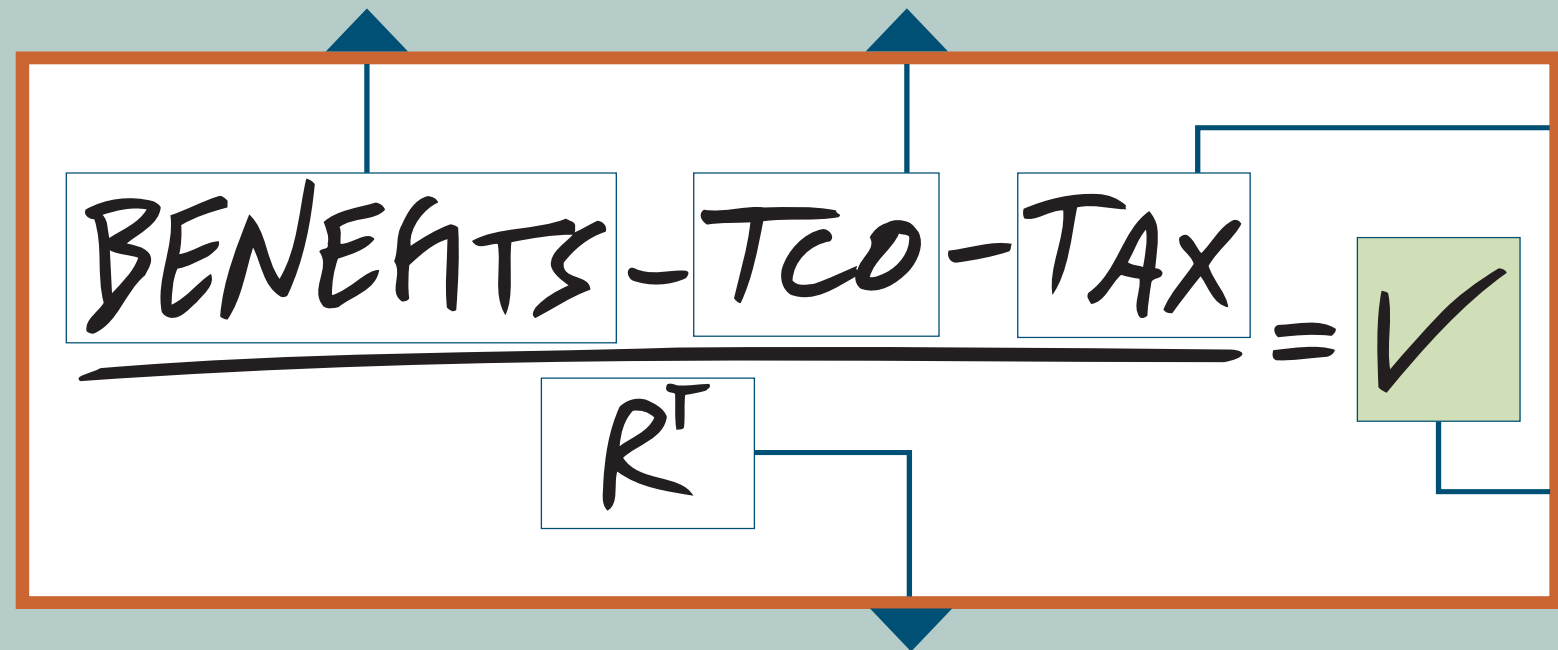
What to do? Determine the value of the future cash flow from the project by taking into account both the time and risk involved in going forward with the project, and then translate that discounted cash flow into a potential change in the share price. Here's how to do the calculations:

1

BENEFITS

In the framework of this model, consider the benefits of an IT project to include all of its potential sources of cash, such as sales from a Web site, for instance, or reductions in the cost of labor. Other examples might include increased productivity that allows you to avoid hiring additional call-center employees. Accurately calculating a project's benefit stream involves getting a sense of who your potential customers—both internal and external—are and how effective the technology you're using is likely to be over time. And remember that while the benefit stream of an IT initiative is finite, sometimes it is quite short, and sometimes very long.

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TIME AND RISK

The key to this valuation method is that you must adjust the cash flow you expect from the project in the future for both time and risk in order to be able to analyze what it's worth to you right now. The time factor is straightforward: Thanks to inflation and opportunity costs, money you receive in the future isn't worth as much as money in your pocket now.

The risk factor is a bit more complicated. While every investment entails some risk, some are more risky than others. The goal here is to assess just how risky the project you're considering is, and then to adjust the cash flow you're expecting from the project for that risk. The effect of the calculation, when put in present terms, is to discount the cash you're expecting in the future.

The risk factor referred to, called the annual discount rate, is an adjustment you make to compensate yourself for taking a risk. If you feel the risk of the project is high, then you may assign a discount rate of 50% or more on the total value of the project. That's a rate commonly used by venture capitalists when assessing start-up investments. If your risk is low, you may assign a discount rate of 10%—about the rate you would assume if you bought a building to house your corporate offices. The further out in time a project's useful life has to run, the larger the discount must be, since the risk compounds. Your company's CFO can help you determine the appropriate discount rate based on your company's cost of capital—the minimum return needed to compensate a company for making an investment in new corporate assets—and other corporate investments.

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CASE IN POINT amalgamated widgets

AMALGAMATED WIDGETS, A FICTITIOUS MANUFACTURING COMPANY WITH \$500 MILLION IN ANNUAL REVENUES, was under pressure from its shareholders and from Wall Street to increase its profitability. One possibility considered by top management: Install an online procurement system to cut purchasing costs for just about everything the company buys, from raw materials for its widgets to such commoditized items as safety helmets, work gloves and office supplies, on which the company spends a total of about \$225 million a year. There's been a lot of hype surrounding e-purchasing, and the company's executives, ordinarily a pretty conservative bunch, were uneasy about making a significant investment in a new—and, in their minds, unproven—technology. So they asked their CIO and CFO a simple question: How much actual value might such a system bring to Amalgamated's shareholders?

To answer that question, Amalgamated's CIO and CFO began by estimating the life of such an online purchasing system to be about four years, given the rapid advance of such information technology. In addition, Amalgamated's new system would not be up and running for a year because of the time it would take to build and install the system, train the company's purchasing employees, connect the system to suppliers and educate them in its use.

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VALUE

The value of an IT project can be found by adding up all annual cash flows after annual cash flows after annual cash flows minus total cost of ownership (TCO) and taxes. Multiply gross earnings by the tax rate. Then, factor in annual tax deductions that can help minimize the tax bite, such as depreciation and amortization. The total tax is the difference between the tax on gross earnings and the tax benefit.

BENEFITS

The goal of the system was to boost Amalgamated's ability to drive higher discounts on bulk purchases. Even though the firm spends about \$225 million on such buys, the team estimated it would save just 3% to 5% of the total spent using the system—far less than the amount estimated by Amalgamated's potential IT vendors, who assumed 100% adoption by both employees and suppliers.

(For more information about how Amalgamated calculated the benefits attributable to changing its procurement processes, click here.)

On the upside, the system would give Amalgamated new data about its buying patterns, which in turn would give Amalgamated more negotiating leverage over its suppliers. But the savings wouldn't start until Amalgamated could cut new purchasing contracts with them, so there would be a lag in realizing the benefits. The result: Amalgamated felt it would realize no savings the first year, \$850,000 in year two, \$3.5 million in year three and \$7.4 million in year four.

TOTAL COST OF OWNERSHIP

Amalgamated decided to outsource the system to an Application Service Provider (ASP), a move it felt would minimize the investment costs for the system to \$1.2 million. The ASP quoted the operating costs at about \$610,000 per year, a sure figure since the contract was written so that the ASP had to assume all other costs, including any incurred after year four, such as exit and migration costs.

TAXES

Amalgamated's corporate tax rate is 32% of earnings, and the company can take a tax break of approximately \$96,000 each year of the life of the project from the non-cash charges generated from its investment costs. This assumes that Amalgamated spreads out the deduction it can take for the investment costs evenly over the four years.

TIME AND RISK

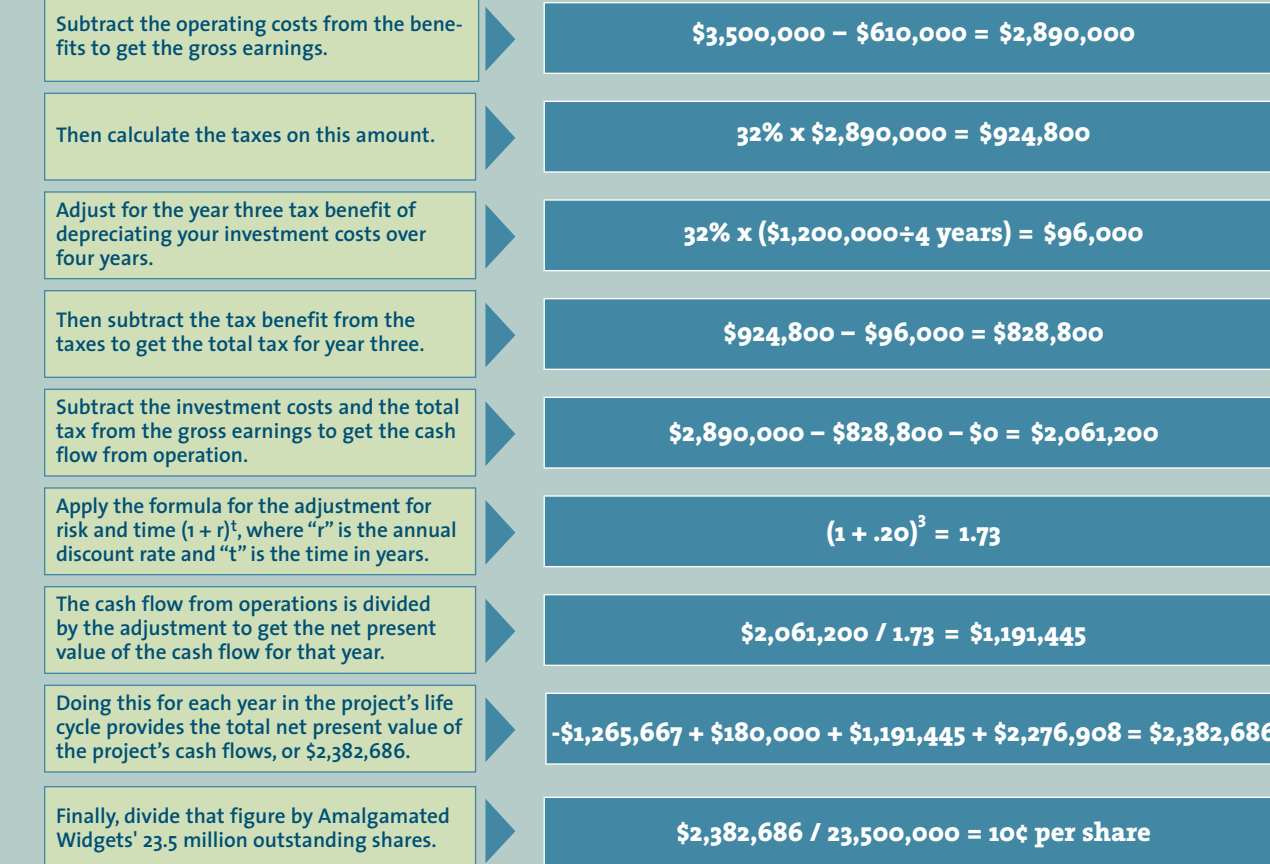
The cash flows Amalgamated's team expected from the system were adjusted using a discount rate of 20% based on a 10% benchmark (cost of capital) plus a 10% premium reflecting their analysis of the project's risk. The premium was selected because the history has been that only one in two IT projects at Amalgamated result in a return. The major risk: Would Amalgamated's employees and suppliers adopt the new system?

VALUE

Amalgamated's team calculated the value of the proposed e-procurement system by adding up the discounted cash flows for each year of the project, for a total of \$2,382,686. With 23.5 million shares outstanding, the figure represented an increase of 10 cents per share or a 1% increase on a single share price of \$10. Management, therefore, decided to approve this project.

RUNNING THE NUMBERS

Calculating the actual discounted cash flows from the project involves doing a separate calculation for each year in the life of the project. Here we use year three as an example:



For a downloadable, interactive spreadsheet that allows you to test what happens to the New Present Value for the third year when you vary the inputs, click here.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	
BENEFITS	\$0	\$850,000	\$3,500,000	\$7,400,000	
- OPERATING COSTS	\$610,000	\$610,000	\$610,000	\$610,000	
GROSS EARNINGS	-\$610,000	\$240,000	\$2,890,000	\$6,790,000	
- INVESTMENT COSTS	\$1,200,000				
- TAXES	-\$291,200	-\$19,200	\$828,800	\$2,076,800	
CASH FLOW	-\$1,518,800	\$259,200	\$2,061,200	\$4,713,200	
DISCOUNT RATE @ 20%	1.2	1.44	1.73	2.07	TOTAL
PRESENT VALUE	-\$1,265,667	\$180,000	\$1,191,445	\$2,276,908	\$2,382,686

THE RESULT

It is estimated that the project will lift Amalgamated's share price by 10¢ a share. And since the company's shares are selling for \$10, that's a **1% increase over its current value.**



For more discussion of some of the inputs that go into the value calculation presented here, please visit www.cioinsight.com.