

FIVE PRAGMATIC RULES FOR PERFORMING BELIEVABLE ROIs

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Five Pragmatic Rules for Performing Believable ROIs

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The topic of Return on Investment (ROI) analyses inspires fear and loathing on the part of IT professionals and vendors alike. Management requires them before funding projects or buying software and hardware, but no one is really sure how to do them, or knows where to get the right numbers. Many of the benefits are difficult to quantify in dollars and it is tough to meet the payback hurdles set by company policy. Besides, who really trusts an ROI analysis anyway? If the analysis comes from a vendor, it always seems to justify the product or service they are trying to sell you, and if it is internally created, it just matches its author's foregone conclusion. IT people have a way of making projects they don't want to do fail any payback test, while any spiffy new piece of equipment seems to generate enormous productivity returns. No wonder no one really believes ROI analyses.

But beneath these difficulties lies an extremely valuable management tool. And if properly produced, it actually accomplishes its intended purpose – directing a company's investment dollars to the places they will do the most good. Creating a useful and believable ROI analysis starts with an open mind and requires accurate numbers and reasonable assumptions. The goal is to use the ROI as a major input in the investment decision-making process, not as an after-the-fact justification for an already made (or desired) decision. While they take effort to perform, ROI analyses are not as difficult and frustrating to produce as they first seem. I recently spent a number of weeks training several hundred people at a large telecom company on how to do ROI analyses. We used a case study approach that required participants to develop their own set of costs, benefits and performance assumptions to generate proposals backed by ROI analyses. The class's biggest challenge was to translate theoretical ROI concepts into the real world where numbers are not handed out on silver platters and the details don't lend themselves to simple, cookie-cutter templates. Observing their efforts was enlightening on multiple levels and it pointed out misconceptions, areas of difficulty and common pitfalls. This article takes advantage of these observations to offer five pragmatic rules for creating believable ROI analyses in the real world. But before exploring how to do an ROI properly, it is important to learn how ***not*** to do an ROI.

How Not to Do an ROI

Part of the reason ROI analyses have a bad reputation is the prevalence of low value “white paper” ROI templates. These templates commonly appear in the white papers handed out by vendors to support their product and service pitches. Even when not used directly by buyers, these assumptions and calculations often find their way into internally generated analyses. The most attractive feature of these analyses is that they are easy to do. However, they have little practical value and their believability quotient is very low. To understand the weaknesses of these ROIs, let’s review the example “white paper” analysis shown in Figure 1.

XYZ Company Fabulous Application Justification

COST COMPONENTS	CALCULATIONS	NOTES
a. Deployment Costs	<i>\$500,000</i>	Estimated, provided by vendor
b. Year 1 service and usage expenses	<i>\$1,200,000</i>	Estimated, provided by vendor
c. Year 1 costs	\$1,700,000	a + b
d. Year 2 service and usage expenses	<i>\$1,250,000</i>	Estimated, provided by vendor
e. Average hourly cost/worker	<i>\$65</i>	Provided by company
f. Number of workers	<i>150</i>	Provided by company
g. Number of hours worked per year	<i>1920</i>	Provided by company
h. Total hourly cost/workers per year	\$18,720,000	e x f x g
PAYBACK ANALYSIS		
Year 1		
i. % Productivity gain per worker needed to achieve a cost payback for Year 1	9.1%	c / h
j. Minutes per hour per employee	5	i x 60
k. Minutes per day per employee	40	j x 8
Year 2		
l. % Productivity gain per worker needed to achieve a cost payback for Year 2	6.7%	d / h
m. Minutes per hour per employee	4	l x 60
n. Minutes per day per employee	32	m x 8

Figure 1 A White Paper ROI

This ROI calculates the increase in productivity needed to justify deploying XYZ Company’s Fabulous Application on a service basis. The notes explain the source of the data and the formulas used for the calculations. Numbers provided by the company or the vendor (XYZ) are italicized, the numbers in bold type are calculated. This ROI covers two years of use. The first year includes implementation costs and operational costs, while year two needs to include only operational costs. The results of this analysis are superficially impressive. The first year’s investment is paid back if each worker gains a 9.1% increase in productivity or only 5 minutes every hour or 40 minutes over the course of a day! Year two is even better. A mere 4 minutes of productivity per hour is good enough to break even! You can easily imagine a sales person emphasizing these figures. But no one takes it seriously.

Why? First, the source of the analysis has an obvious bias about the outcome (buy the product!). Next, the analysis focuses on reaching break even, not on the level of benefit my company should really get from the solution. How much productivity should I really expect? If it is only 5 minutes, why bother? What can I do with those 5 minutes? Will my employees take the time to make telephone calls or play one more round of solitaire or can they use the time to make and sell more widgets and thereby increase my revenues and profitability (the real benefit I care about)? The final issue is the credibility of the numbers. How were the estimates done? Are the costs real and complete? Can I explain and defend them and their supporting calculations to my boss? Do they reflect my company's assumptions and experience? Do I really believe we will get that productivity? If the vendor backs up its assertions with "industry studies," how do I know that those numbers are valid and will apply to my situation?

Few of us would want to defend this type of ROI in front of our CFO or the company's board of directors. While superficially interesting, it actually conveys very little information other than giving us an inkling that the solution may pay back provided we have some belief in the productivity assumptions. It doesn't really explain costs and it certainly doesn't cover benefits.

Five Rules for Creating Believable ROIs

The objective of most ROI analyses is to apply actual numbers to back up the "gut feeling" that a particular project or investment will really pay off. Most often companies conduct ROI analyses reactively for solutions that have already been selected. However, the best way to really drive high payback results for your company is to reverse the order and start evaluating ROI as part of opportunity identification well before solution selection. Seeking issues and opportunities that have the potential to generate significant value for your company if addressed, targets solution evaluation efforts to where they will do the most good and makes justification easy when the right solution is found. Understanding the value of the opportunity up front sets the parameters for what the company is willing to spend on the solution and prioritizes it against other opportunities

Of course, even when using a proactive approach to ROI, reactive situations will still arise. When analyzing the ROI of an already selected solution, honesty is critical. Remember, just like the stock market, all investment opportunities are not the same and some projects are not worth doing. An ROI must truthfully include all relevant costs and consider only benefits that are likely to be attained. Resist the temptation to drop costs or doctor benefits to make a proposed solution viable. Some projects/investment opportunities do, and should, fail ROI tests if you perform those tests honestly.

With these fundamentals in place, we can address how to create ROI analyses that are both useful and believable. The following five rules will help you reduce unnecessary effort and avoid the most common errors and pitfalls that sink typical ROIs.

Rule 1: You Get Only What You Put In

ROI analyses run the gamut from simple vendor provided “fill in the blanks” forms to highly complex linked spreadsheets with hundreds of calculations. Determining how much detail is required depends on the audience for the ROI, the size of the investment and the complexity of the solution. However, in all cases, avoid the temptation to cut corners or oversimplify especially in the early stages of set up. Time saved is quickly lost (along with your credibility) when your numbers and calculations are challenged and you are forced to strengthen your analysis later. The general guidance is to ensure that your ROI model is sufficiently detailed to handle likely questions on how costs were captured and benefits were calculated. Obviously, this level of detail is quite different for a \$ 10,000 hardware purchase than a multi-billion dollar ten-year outsourcing agreement.

Likewise, an ROI analysis is only as accurate as the data used to create it. Suspect numbers lead to suspect results. Focus foremost on identifying and accurately calculating business benefits (rule 2 expands on this topic). These benefits are the real value of the solution and their accuracy is a major driver of believability. When capturing costs, try to anticipate every possible cost in both the implementation and operation of the solution as well as possible side-effects (for example, short-term productivity loss while workers transition to the new solution). Include too many costs rather than too few to maximize believability. If actual costs prove less than your estimates, the final return on investment only gets better. If the extra costs sink the project, the solution was probably marginal anyway.

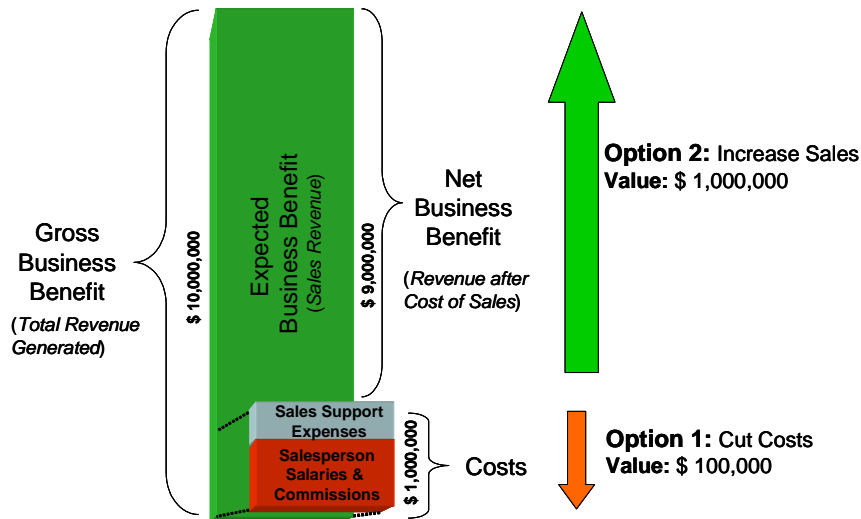
Use real numbers rather than estimates or assumptions wherever possible. For example, if available, use your company’s historical software defect rate rather than industry average defect rates as the basis for computing the value of a proposed testing solution. Industry studies, quotes, and numbers from analysts can be used judiciously, provided that the source is credible, the numbers are believable and they directly address the project at hand.

When assumptions are needed to create the ROI, their source makes a big difference to their credibility. Do not make assumptions on someone else’s behalf! Get the individuals responsible for meeting the number to provide it. If someone will be held accountable for training 100 sales people on the use of the solution, ask that person to supply the costs for that effort. Likewise, if the new solution is expected to improve assembly line production, do not use the vendor’s “industry” estimate of 10%, but instead get the anticipated level of improvement from the foreperson and line workers. Gathering assumptions from the responsible individuals gains buy-in and commitments to achieve those results when the solution is implemented.

Pilot projects are another good source of real numbers and a recommended place to test the accuracy of assumptions. Determine the most valuable measurements before starting the pilot and set up the pilot to collect those numbers as a by-product. Pilot numbers are especially believable as they result from company personnel actually using the proposed solution.

Rule 2: Benefits are more than just finding cost reductions

One of the biggest complaints about performing ROI analyses is the difficulty of finding and quantifying benefits. Benefits like improved morale and enhanced customer satisfaction sound great, but are in most cases impossible to quantify in financial terms. By far the simplest benefits to quantify are cost savings and many ROIs fall into the trap of relying entirely on this category of benefits to achieve their returns. While cost savings are a perfectly valid and valuable benefit, over-reliance on them misses other larger and potentially more valuable benefits and may focus solution efforts on solving the wrong problem. Figure 2 illustrates this point.



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Figure 2 The Relative Value of Benefits

For example, imagine a company with ten sales representatives, each averaging \$100K per year in salary, commission and support expenses for a total annual cost of \$1 million (**Costs**). The reps bring in an average \$1 million in sales to generate overall annual revenues of \$10 million (**Gross Business Benefit**) or \$9 million of cash for company operations and profits after sales expenses are subtracted (**Net Business Benefit**). If we find a magic sales tool that increases productivity by a little better than 10%, we have two choices: use the improvements to reduce costs (doing more for less) or apply the productivity towards increasing sales. If we cut back to 9 sales people, we save \$100K per year and still receive our \$10 million in revenue, improving Net Business Benefit to \$9.1 million. Conversely, we can retain the 10 sales people and use the added productivity to effectively create a new “virtual” sales person. Salary costs remain flat at \$1 million with this option, but we increase revenues to \$11 million per year and increase our net business value to \$10 million. Clearly, the second choice is the better one for the company.

Our simplistic example shows the importance of taking a big picture view of benefits rather than pursuing the easy option of cost reductions. Ultimately, all financial benefits come from either lowering costs or increasing revenues, but six broad categories to

explore for finding quantifiable benefits are: increasing sales (revenues), increasing productivity (revenue, cost savings), reducing operational costs (cost savings), improving customer satisfaction (revenue, possible cost savings), improving safety (cost savings), and enhancing competitiveness (revenue). Many potential investments will contain a mixture of these benefits in varying proportions. To evaluate which benefits to rely upon for your ROI, consider the following attributes.

- **Substance** – Is the benefit tangible and quantifiable? For example, increasing revenue by 10% is a tangible benefit. In contrast, improving employee satisfaction, while likely to be beneficial in the long run, is intangible as it is hard to measure and even harder to tie to bottom-line dollars.
- **Potential** – How large is the benefit if fully received? In our example, the cost savings potential is \$100K while the revenue potential is \$ 1M.
- **Certainty** – How likely is the company to receive the benefit? Replacing a telephone service plan that costs \$200K/year with an equivalent one at half the cost generates \$100K of highly certain benefits. Improving sales productivity by 10% should increase gross revenues by 10%, but there are no guarantees, therefore lowering the benefits certainty.
- **Beneficiary** – Who gets the value of the benefit? Is it the executive sponsor? Is it the company's customers? A benefit may look very different depending on the role of its recipient. A good ROI analysis concentrates on the benefits that are important to its sponsors for the financial analysis, but collects additional benefits to “pay off” other project constituents. For example, the sponsor in our example, the VP of sales, will want the 10% increase in sales. The sales people will give their support because our magic solution reduces undesirable paperwork and helps them earn more commissions. And the sales support staff buys in because it simplifies some of their administrative tasks. Ensuring that each constituent gets identifiable benefits is an important way to build support for a project. Use the most tangible benefits for the financial calculations of the ROI, but include the less tangible ones for the non-sponsor constituents.

Rule 3: Good Data is Important, But Don't Shortchange the Analysis

If you have good data, much of the battle has already been won. Don't lose it by shortchanging the analysis. A good set of analyses translates data into the concise information needed by executives to make informed investment decisions. Unfortunately, math phobia and/or lack of knowledge in statistics or the use of spreadsheets drives people to avoid important analyses or rely on overly simplistic vendor templates. There is no way to avoid math when producing ROI analyses, but using a spreadsheet tool such as Microsoft Excel eliminates most of the tedious work and handles the complexities of the calculations. If your company does not already have an ROI template (check with your finance department), there are many examples in text books and on the Internet that can serve as the foundation for creating a template of your own. Don't expect to create a template that works on a simple “fill in the numbers” approach for every investment opportunity -- each case is different -- but much time-saving commonality applies. Figure 3 shows the layout for a typical ROI worksheet template. Each box represents a separate, linked worksheet. Since they are unique on a case-by-case basis, the cost and benefit worksheets (shown in white) must be customized

for each investment opportunity, but the remaining worksheets (shown in gray) are relatively static and can be automatically populated by the data in the cost and benefit worksheets.

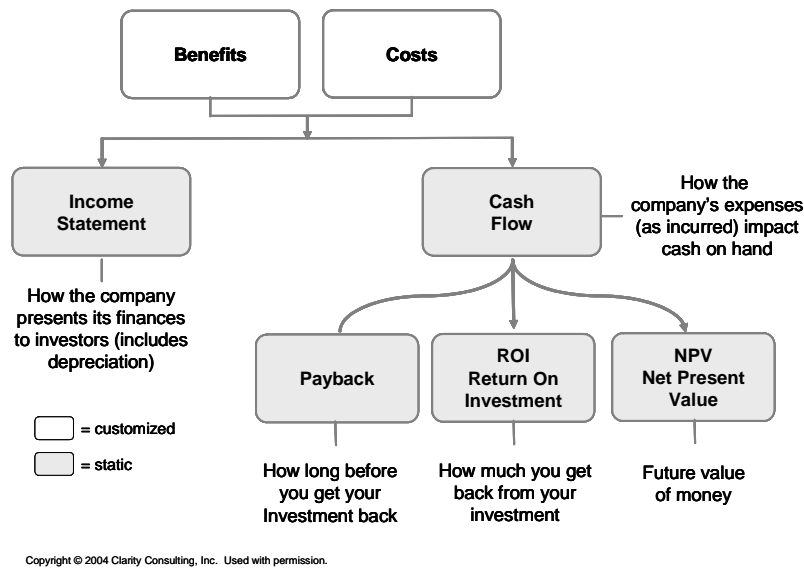


Figure 3 – Layout for a typical ROI workbook

All ROI analyses start with costs and benefits, which are combined and presented through a series of calculations and tables. They are typically calculated for a 3 to 5 year time period. Executives and finance professionals have their own favorite analyses, but the following list covers most needs.

- **Income statement** – Presents the benefits as financial income and costs as expenses with a bottom-line profit or loss. Capital expenses are depreciated.
- **Cash flow statement** – Similar in format to the income statement, it shows expenses as cash outflows (not depreciated) to illustrate an investment's impact on cash on hand. It also is the basis for the next three calculations.
- **Payback period** – Calculates the elapsed time before the initial investment is recouped. Companies often have a threshold time period during which an investment must pay back in order to be considered.
- **Net present value** – Calculates the value generated by the investment in discounted dollars. It assumes a dollar today is worth more than the same dollar tomorrow and is used to compare the long-term impact of an investment.
- **ROI** – Calculates the rate of return on the money invested. It is used to compare the returns of the proposed project/purchase against other investment options.

Rule 4: Tell the Story

A good ROI is much more than a set of analysis spreadsheets filled with numbers. While those numbers address the financial go/no go aspects of an investment decision, they are not sufficient to cover the human aspects of that decision. Unless they are brought on board and satisfied, peripheral players can sink an otherwise good ROI. The best way to “sell” a positive ROI is to build a story around the investment and its benefits. Write a justification report to introduce the investment and create a vision of the solution in operation along with the specific tangible and intangible benefits that will accrue to as many of the project’s constituents as possible. Think visually and create a presentation that shows the solution in action, and especially how its actions create specific benefits for project constituents. If the solution simplifies the sales administrator’s job, briefly show how it does so. This illustration will make its point more persuasively than the dry productivity calculation in the Benefits section of your spreadsheet. Use this approach to tie each piece of the cost/benefit analysis to a tangible aspect of the solution. Once the picture is firmly in the minds of the ROI evaluators, review the assumptions (and their sources) used during ROI calculations. Since these assumptions play a crucial role in arriving at the ROI’s recommendations, it is important to ensure that your audience is fully aligned and accepting of them. Finally, present the ROI analyses as financial proof points for the story’s recommendations. Conclude the presentation with your recommendations and proposed next steps.

When presenting an ROI to an audience, I like to link the live Excel spreadsheet into the presentation slides. If an assumption is challenged or changed, I can adjust it “on the fly” to show the audience how it impacts the calculations. If you have gathered your assumptions from the participants, they will assist you in defending them. As a first spreadsheet for displaying the financial aspects of the project, I recommend using the Cash Flow worksheet. It has the advantage of showing real cash impacts (the true amount of the investment) alongside the projected benefits. Seeing large benefits at the same time as the costs, lessens the level of objections that occur when cost is presented alone. On its own, a \$100,000 investment may seem large to an executive, but if it returns \$200,000/year in benefits over 5 years in a Cash Flow statement, that same investment looks more than reasonable.

Objections are part of an ROI presentation, but careful preparations will reduce their numbers and simplify the response to those that do arise. Typically, objections relate to the following areas: credibility of numbers (“who gave you the training costs?”), skepticism of benefits (“how do you arrive at a 10% increase in productivity?”), and completeness of analysis (“did you consider the productivity impact of taking the sales people out of the field during training?”). If you’ve cut corners during your analysis, you will pay the price here. But if you’ve followed the recommendations in this article, you will be prepared to handle any objection that comes your way.

Rule 5: Verify Results

The final step in the ROI process, verifying the results, is often forgotten or skipped out of fear of its outcome. Its goal is to validate that the ROI's cost assumptions were accurate and inclusive, and ascertain whether the expected benefits were actually achieved. Ideally, a good ROI will be based on a series of objective metrics and assumptions that can be captured and assessed as a project is implemented. For example, we could easily measure if our sales people in Figure 2 were able to apply their extra productivity to increase revenues by 10%.

Verifying the results of an ROI after the investment has been made is valuable for many reasons. First, it provides an opportunity to learn and continuously improve the ROI process. Capturing unexpected costs and benefits gathers data to fine-tune subsequent cost/benefit exercises and understanding the cause of inaccuracies provides the knowledge to avoid them in the future. Second, it can improve overall ROI by identifying and correcting problems. For example, if the anticipated benefits are falling short, was the solution implemented properly? Perhaps a simple tweak such as increasing user training could get the project back on track. Finally, it increases the credibility of your ROI approach. If your last five ROI analyses proved to be accurate upon project completion, wouldn't your management be more likely to believe analysis number 6? Even if the outcome of the current ROI proves to be wildly off in practice, understanding why and applying that knowledge to the next ROI analysis increases its credibility.

Bottom-line

If you follow these five simple rules, ROI analyses do not have to be a source of fear and loathing. Insightful and believable analyses are an enormously valuable tool for directing company funds to the best possible investments. And imagine how differently an executive will view you and your properly prepared analysis compared to the standard white paper versions he or she usually receives!

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Clarity Consulting, Inc. is a management consulting firm specializing in Information Technology strategies and emerging trends in areas such as outsourcing, process redesign, efficiency enhancement, productivity and service level metrics, service offering development, and IT product and service positioning..

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