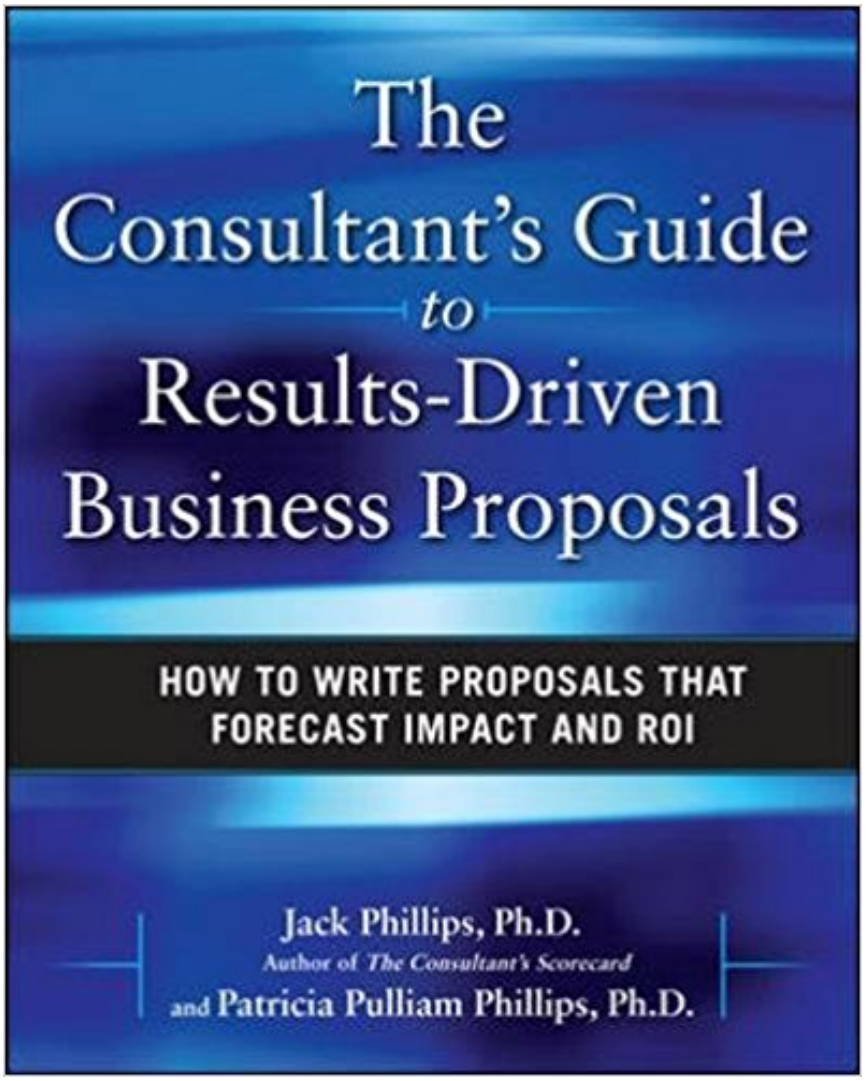
The
Consultant's Guide
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Results-Driven
Business Proposals
HOW TO WRITE PROPOSALS THAT
FORECAST IMPACT AND ROI
Jack Phillips, Ph.D.
Author of The Consultant's Scorecard
and Patricia Pulliam Phillips, Ph.D.

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JACK PHILLIPS
AND PATTI PHILLIPS

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CHAPTER

10

Forecasting ROI and Intangibles

Looking into a crystal ball certainly isn't the norm for a business proposal, but if you could tell your client the future, what would you say? This final forecasting chapter is perhaps the most important one, as it shows how to forecast the ROI, the financial return on investment. For some executives, project sponsors, donors, funders, and key clients, this is the most essential data set. It's the ultimate level of accountability: comparing the project benefits in monetary terms to the estimated cost of the project.

This chapter also covers the treatment of intangibles, which are those measures that cannot be converted to monetary value. These occur either because the conversion process is not credible or would cost too much to convert to money credibly. These data sets, although not in financial terms, are still very important data sets. The key is to ensure that they are connected to the project, and forecast to the extent to which the project will influence the intangibles. When combined, financial ROI and intangibles are probably the top two measures for projects.

WHY FORECAST ROI?

Although ROI calculations based on postproject data provide the most accurate analysis, it is important to know the forecast before the

project is initiated. Several critical issues drive the need for an ROI forecast before the project is pursued.

Expensive projects

In addition to reducing uncertainty, forecasting may be appropriate for costly projects. In these cases, implementation is not practical until the project has been analyzed to determine the potential ROI. For example, if the project involves a significant amount of effort in design, development, and implementation, a client may not want to expend the resources—not even for a pilot test—unless some assurance of a positive ROI can be given. In another example, an expensive equipment purchase may be necessary to launch a process or system. An ROI may be necessary prior to purchase, to ensure that the monetary value of the project outcomes outweighs the cost of equipment and implementation. While there may be trade-offs of deploying a lower-profile, lower-cost pilot, the preproject ROI is still important, and may prompt some clients to stand firm until an ROI forecast is produced.

High risks and uncertainty

Project sponsors want to remove as much uncertainty as possible from the project and act on the best data available. This concern sometimes necessitates a forecast ROI, even before any resources are expended to design and implement it. Some projects are high-risk opportunities or solutions. In addition to being expensive, they may represent critical initiatives that can make or break an organization. Or the situation may be one where failure would be disastrous, and there is only one chance to get it right. In these cases, the decision maker must have the best data possible, and the best data possible often include a forecast ROI.

For example, one large restaurant chain developed an unfortunate reputation for racial insensitivity and discrimination. The fallout

brought many lawsuits and caused a public relations nightmare. The company undertook a major project to transform the organization—changing its image, attitudes, and actions. Because of the project's high stakes and critical nature, company executives requested a forecast before pursuing the project. They needed to know not only whether this major project would be worthwhile financially, but also what specifically would change, and how the project would work. This request required a comprehensive forecast involving various levels of data, up to and including the ROI.

Strategic advantage

Perhaps one of the most important reasons to develop a forecast is for the strategic advantage. The purpose of this book is to show how to make the business case in unmistakable terms, and that often leads to impact and ROI forecasted upfront before the project is initiated. Making ROI and forecasting a significant and routine part of the proposal process will provide a strategic advantage and set the consultant or consulting organization apart from others. Only a few organizations are willing to take this extra step, while at the same time, executives are requiring and demanding it be done. In sum, it's best to be proactive to and learn how to forecast before it becomes a requirement.

Postproject comparison

An important reason for forecasting ROI is to see how well the forecast holds up under the scrutiny of postproject analysis. An ROI forecast will stimulate interest in a postproject analysis. In an ideal world, a forecast ROI would have a defined relationship with the actual ROI—or at least one would lead to the other, after adjustments. The forecast is often an inexpensive process because it involves estimates and assumptions. If the forecast becomes a reliable predictor of the postproject analysis, then the forecast ROI might

substitute for the actual ROI calculation in the future. This could save money on the use of postproject analysis.

Compliance

By policy, more than ever, organizations are requiring a forecast ROI before they undertake major projects. For example, one organization requires any project with a budget exceeding $500,000 to have a forecast ROI before it grants project approval. Some governmental units have enacted legislation that requires project forecasts. With increasing frequency, formal policy and legal structures are reasons to develop ROI forecasts.

Collectively, these reasons are leading more organizations to develop ROI forecasts so their sponsors will have an estimate of projects' expected payoff.

BASIC ROI ISSUES

Before presenting the formulas for calculating the ROI, a few basic issues are described and explored. An adequate understanding of these issues is necessary to complete an ROI forecast.

Definition

The term *return on investment* is occasionally misused, sometimes intentionally. In this misuse, a very broad definition for ROI is offered to include any benefit from the project. ROI becomes a vague concept in which even subjective data linked to a project are included in the concept. In this book, the return on investment is more precise and is meant to represent financial value by comparing project costs to benefits. The two most common measures are the benefit/cost ratio (BCR) and the ROI formula. Both are presented.

For many years, project leaders sought to calculate the actual return on investment for projects. If the project is considered an investment, then it is appropriate to place it in the same funding process as other investments, such as the investment in equipment and facilities. Although the other investments may be quite different, executives and administrators often view them in the same way. Developing specific values that reflect the return on the investment is critical for the success of projects. An ROI forecast as part of a project proposal can make it more profitable.

Annualized values: a fundamental concept

All the formulas presented in this chapter use annualized values so that the first-year impact of the project investment can be calculated for short-term projects. Using annualized values is becoming an accepted practice for developing the ROI in many organizations. This approach is a conservative way to develop the ROI, since many short-term projects have added value in the second or third year. For long-term projects, longer time frames are used. For example, in an ROI forecast of a project involving new technology in a retail store chain, a three-year time frame was used. The important issue is to decide on the time frame in the proposal process and be conservative.

BCR/ROI calculations

When forecasting ROI, communicating to the target audience the formula used and the assumptions made in arriving at the value are important. This helps avoid misunderstandings and confusion surrounding how the ROI value was actually developed. Although several approaches are described in this chapter, two stand out as preferred methods: the benefit/cost ratio and the basic ROI formula.

Benefit/Cost Ratio

One of the earliest methods for evaluating projects was the benefit/cost ratio. This method compares the benefits of the project to the costs, using a simple ratio. In formula form, the ratio is:

$$\text{BCR} = \text{Project Benefits} / \text{Project Costs}$$

In simple terms, the BCR compares the annual economic benefits of the project to the costs of the project. A BCR of 1 means that the benefits equal the costs. A BCR of 2, usually written as 2:1,indicates that for each dollar spent on the project, two dollars are returned in benefits. An example will illustrate the calculation.

A simple, Six Sigma quality improvement project was implemented for a medium-size organization. The expected costs of the project (from the consultant's perspective and the organization's perspective) totaled $235,000. The monetary benefits expected to be derived through improvements in quality measures were $710,000. Thus, the ratio was:

$$\text{BCR} = \$710{,}000 / \$235{,}000 = 3.02{:}1$$

For every dollar invested in this project, three dollars in benefits were expected. This avoids the traditional financial measure of ROI calculation. Some project leaders prefer not to use benefits/cost ratio.

ROI formula

Perhaps the most appropriate formula for evaluating project investments is net project benefits divided by cost. This is the traditional financial ROI and is directly related to the BCR. The ratio is usually

expressed as a percentage when the fractional values are multiplied by100. In formula form, the ROI becomes:

$$\text{ROI (\%)} = \text{Net Project Benefits} / \text{Project Costs} \times 100$$

Net benefits are project benefits minus costs. The ROI value is related to the BCR by a factor of 1. Subtract 1 from the BCR and multiply by 100 to get the ROI percentage. For example, a BCR of 2.45 is the same as an ROI value of 145 percent (1.45 × 100%). This formula is essentially the same as the ROI for capital investments. For example, when a firm builds a new plant or purchases new equipment, the ROI is developed by dividing annual earnings by the investment for projects. The annual earnings are comparable to net benefits (annual benefits minus the cost). The investment is comparable to fully loaded project costs, which represent the investment in the program.

An ROI of 50 percent means that the costs are recovered and an additional 50 percent of the costs are returned as "earnings." An ROI of 150 percent indicates that the costs have been recovered and an additional 1.5 times the costs are returned as "earnings."

Using the Six-Sigma quality example presented earlier will illustrate the ROI calculation. The return on investment was:

$$\text{ROI (\%)} = \$710{,}000 - \$235{,}000 / \$235{,}000 \times 100 = 202\%$$

For each dollar invested, $2.02 will be returned after the costs of the consulting project have been recovered.

Using the ROI formula essentially places project investments on a level playing field with other investments using the same formula and similar concepts. Key management and financial executives who regularly use ROI with other investments easily understand the ROI calculation.

ROI INSIGHTS

Of all of the measures forecasted in this book, the ROI forecast is the most misused, misunderstood, and emotional element in a project. Project team members have a fear of negative ROI, while sponsors often give the ROI a disproportionate amount of weight in making a decision. The challenge is to be able to keep emotions out of the decision making and continually remind the audience that the ROI forecast is only one of several data measures.

Basis for monetary value

Perhaps it's helpful to review the basis for projecting monetary benefits. They are based on profits or on cost reduction or cost avoidance. Profits can be generated through increased sales or cost savings. In practice, more opportunities for cost savings occur than for profits. Cost savings can be generated when improvement in productivity, quality, efficiency, cycle time, or actual cost reductions occur. The vast majority (85 percent) of the almost 500 studies in which we have been directly involved were based on cost savings achieved with improvements in output, quality, efficiency, time, or direct cost reduction. The others had a payoff based on revenue increases, where the earnings were derived from the profit margin. This situation is important for nonprofits and public sector organizations for which the profit opportunity is often unavailable. Most projects will be connected directly to cost savings; ROI values can still be developed in those settings.

ROI history

Financiers have used the ROI approach for centuries. Still, this technique did not become widespread in industry for evaluating operating performance until the early 1960s. Conceptually, ROI has innate appeal because it blends all the major ingredients of profitability in one number; the ROI statistic by itself can be compared with opportunities elsewhere (both inside and outside). Practically, however,

ROI is an imperfect measurement that should be used in conjunction with other performance measurements.

ROI misuse

The chief financial officer (CFO) and the finance and accounting staff should become partners in project implementation where ROI is used. Without their support, involvement, and commitment, using ROI on a wide scale basis is difficult. Because of this relationship, the same financial terms must be used as those used and expected by the CFO.

Misuse of abbreviations can create confusion. Using the abbreviation ROI for return on intelligence or return on information, the abbreviation ROE for return on expectations or return on event, the abbreviation ROA for return on anticipation, or the abbreviation ROCE for return on client expectations will confuse those who are thinking return on investment, return on equity, return on assets, and return on capital employed, respectively. Use of these abbreviations in the calculation of a payback of a project will do nothing but confuse others and perhaps cause you to lose the support of the finance and accounting staff. Other terms such as return on people, return on objectives, return on resources, return on technology, return on Web, and return on value can often be used with almost no financial equivalents. The bottom line: Spell out exactly what you mean.

ROI Is not for every project

ROI should not be used with every project. Creating a credible ROI forecast will take additional resources, and when an ROI forecast is used, it should be followed by a postproject ROI analysis. ROI is appropriate for projects that:

- *Are very important to the organization in meeting its operating goals.* These projects are designed to add value. ROI may be helpful to show that value.

- *Are closely linked to the strategic initiatives.* Anything this important needs a high level of accountability.
- *Are very expensive to implement.* An expensive project, expending large amounts of resources, should be subjected to this level of accountability.
- *Are highly visible and sometimes controversial.* These projects often require this level of accountability to satisfy the critics.
- *Have a large target audience.* If a project is designed for a large number of participants, it may be a candidate for ROI.
- *Command the interest of top executives and administrators.* If top executives are interested in knowing the impact and ROI, the ROI should be pursued.

These are only guidelines and should be considered within the context of the situation, the organization, and the proposal opportunity. Other criteria may also be appropriate. These criteria can be used in a scheme to sort out those most appropriate for this level of accountability.

It is also helpful to consider the projects for which the ROI methodology is not appropriate. ROI is seldom appropriate for projects that:

- Have a very brief duration
- Are very inexpensive
- Are legislated or required by regulation and would be difficult to change anything as a result of the project forecast and evaluation
- Are required by senior management; project will continue regardless of the findings

This is not meant to imply that the ROI methodology cannot be implemented for these types of projects. However, careful use of resources and time will result in forecasting more strategic types of projects.

OTHER ROI MEASURES

In addition to the traditional ROI formula, several other measures can be used under the general heading of return on investment. These measures are designed for evaluating other types of financial measures but sometimes work their way into project evaluations.

Payback period

The payback period is another common method for evaluating capital expenditures. With this approach, the annual cash proceeds (savings) produced by an investment are equated to the original cash outlay required by the investment to arrive at some multiple of cash proceeds equal to the original investment. Measurement is usually in terms of years and months. For example, if the cost savings generated from a program are constant each year, the payback period is determined by dividing the total original cash investment (development costs, expenses, etc.) by the amount of the expected annual or actual savings. The savings represent the net savings after the project expenses are subtracted.

To illustrate this calculation, assume that an initial project cost is $100,000 with a three-year useful life. The annual net savings from the project are expected to be $40,000. Thus, the payback period becomes:

Payback Period = Total Investment / Annual Savings = $100,000 / $40,000 = 2.5 Years

The program will "pay back" the original investment in 2.5 years.

The payback period is simple to use but has the limitation of ignoring the time value of money. It has not enjoyed widespread use in evaluating project investments.

Discounted cash flow

Discounted cash flow is a method of evaluating investment opportunities in which certain values are assigned to the timing of the proceeds from the investment. The assumption, based on interest rates, is that money earned today is more valuable than money earned a year from now.

There are several ways to use the discounted cash flow concept to evaluate a project investment. The most common approach is the net present value of an investment. This approach compares the savings, year by year, with the outflow of cash required by the investment. The expected savings received each year are discounted by selected interest rates. The outflow of cash is also discounted by the same interest rate. If the present value of the savings should exceed the present value of the outlays, after discounting at a common interest rate, the investment is usually considered acceptable by management. The discounted cash flow method has the advantage of ranking investments, but it becomes difficult to calculate.

BASIC STEPS TO FORECAST ROI

Eighteen detailed steps are necessary to develop a credible preproject ROI forecast using expert input:

1. **Understand the situation**. Individuals providing input to the forecast and conducting the forecast must have a good understanding of the present situation. This is typically a requirement for selecting the experts for inputs.
2. **Predict the present**. The project is sometimes initiated because a particular business impact measure is not doing well. However, these measures often lag the present situation; they may be based on data that are several months old. Also, these measures are based on dynamic influences that may change dramatically and quickly. It may be beneficial to estimate where the measure is now, based on assumptions and current trends.

Although this appears to be a lot of work, it does not constitute a new responsibility for most of the experts, who are often concerned about the present situation. Market share data, for example, are often several months old. Trending market share data and examining other influences driving market share can help organizations understand the current situation.

3. **Observe warnings**. Closely tied to predicting the present is making sure that warning signs are observed. Red flags signal that something is going against the measure in question, causing it to go in an undesired direction or otherwise not move as it should. These often raise concerns that lead to projects. These are early warnings that things may get worse; they must be factored into the situation as forecasts are made.
4. **Describe the new project or solution.** The project must be completely and clearly described to the experts so they fully understand the mechanics of what is to be implemented. The description should include the project scope, the individuals involved, time factors, and whatever else is necessary to express the magnitude of the project and the profile of the solution.
5. **Develop specific objectives.** Ideally objectives should include reaction objectives, learning objectives, application objectives, and impact objectives. Although these may be difficult to develop, they are developed as part of the up-front analysis described in Chapter 3. Objectives provide clear direction toward the project's end. The cascading levels represent the anticipated chain of impact that will occur as the project is implemented. The forecast builds on the objectives.
6. **Forecast how participants will react to project.** In this step, the experts are estimating participants' reaction: Will the participants see the project as relevant, important, useful, necessary, motivational, challenging, etc.? Will other stakeholders see the

project in the same way? The response is important because a negative reaction can cause a project to fail.

7. **Forecast what the participants will learn**. To some extent, every project will involve learning, and the experts will estimate what learning will occur. Using the learning objectives, the experts will define what the participants will learn as they enter the project, identifying specific knowledge, skills, and information the participants must acquire or enhance during the project, all aimed at making the project successful.
8. **Forecast what participants should accomplish in the project**. Building on the application objectives, the experts will identify what will be accomplished as the project is implemented successfully. This step details specific actions, tasks, and processes that will be taken by the individuals. Steps 6, 7, and 8—based on reaction, learning, and application—provide important information that serves as the basis for the next step, estimating improvement in business impact data.
9. **Forecast the improvement in business impact data**. The experts will provide the estimate—in either absolute numbers or percentages—of the monetary change in the business impact measure (ΔP) caused by the project. This is a critical step in because the impact data are needed for the financial forecast.
10. **Apply the confidence estimate**. Because the estimate may not be very accurate, an error adjustment is needed. This is developed with a confidence estimate on the value identified in Step 9. The experts are asked to indicate the confidence they have in the previous data. The confidence level is expressed as a percentage, with 0 indicating "no confidence" and 100 percent indicating "certainty." This becomes an error adjustment in the analysis. Essentially, the impact measure, ΔP, is multiplied by the percentage to create a new ΔP.

11. **Convert the business impact data to monetary values**. Using one or more methods described in Chapter 9, the impact data are converted to money. If the impact measure is a desired increase such as productivity, the value represents the gain obtained by having one more unit of the measure. If it is a measure that the organization is trying to reduce—such as downtime, mistakes, or complaints—the value is the cost that the organization incurs as a result of one unit. For example, the cost of one complaint may be $1,200. This value is noted with the letter *V*.
12. **Develop the estimated annual impact of each measure**. The estimated annual impact is the first-year improvement directly related to the project. In formula form, this is expressed as $\Delta I = \Delta P \times V \times 12$ (where ΔI = annual change in monetary value, ΔP = annual change in performance of the measure, and V = the value of that measure) for a monthly amount. If the measure is weekly, it must be converted to an annual amount with a factor of 52. For example, if two lost-time accidents will be prevented each week, the accidents prevented represent a total of 104.
13. **Factor additional years into the analysis for projects that will have a significant useful life beyond the first year**. For these projects, the factor should reflect the diminished benefit of subsequent years. The client or sponsor of the project should provide some indication of the amount of the reduction and the values developed for the second, third, and successive years. It is important to be conservative by using the smallest numbers possible.
14. **Estimate the fully loaded project costs**. In this step, use all the cost categories described in Chapter 9, and denote the value as *C* when including it in the ROI equation. Include all direct and indirect costs in the calculation.

15. **Calculate the forecasted ROI**. Using the total projected benefits and the estimated costs in the standard ROI formula. Calculate the forecast ROI as follows:

$$\text{ROI } (\%) = \Delta\, I - C/C \times 100$$

16. **Use sensitivity analysis to develop several potential ROI values with different levels of improvement (ΔP)**. When more than one measure is changing, the analysis may take the form of a spreadsheet showing various output scenarios and the subsequent ROI forecasts. The breakeven point will be identified.
17. **Identify potential intangible benefits that will be connected to the project**. Anticipate intangible benefits using input from these experts about the situation on the basis of assumptions from their experience with similar projects. The intangible benefits are those benefits not converted to monetary values but possessing value nonetheless.
18. **Communicate the ROI forecast with caution**. The target audience must clearly understand that the ROI forecast is based on several assumptions (clearly defined), and that the values are the best possible estimates, adjusted for error.

Essentially, these steps summarize what is in this book when it comes to the forecasting chapters; however, they are all positioned toward the ultimate level in ROI forecast. It's important not to lose sight of the other measures that are forecasted, but they are often easier to develop and are clearly understood. A case study that focuses just on the ROI forecast can help illustrate some the issues described in this chapter.

Case study: Forecasting ROI for a technology project

Global Financial Services (GFS) was in the process of implementing contact management software to enable its sales relationship managers to track routine correspondence and communication with customers.

A needs assessment and initial analysis determined the project was needed. The project would involve further detailing, selecting an appropriate software package, and implementing the software with appropriate job aids, support tools, and training. However, before pursuing the project and purchasing the software, a forecast ROI was needed. In the initial analysis, it was determined that four business impact measures would be influenced by implementation of this project:

1. Increase in sales to existing customers
2. Reduction in customer complaints caused by missed deadlines, late responses, and failure to complete transactions
3. Reduction in response time for customer inquiries and requests
4. Increase in the customer satisfaction composite survey index

Several individuals provided input in examining the potential problem. With comprehensive customer contact management software in place, relationship managers should benefit from quick and effective customer communication and have easy access to customer databases. The software should also provide the functionality to develop calendars and to-do lists. Relationship managers should further benefit from features such as built-in contact management, calendar sharing, and the fact that the software is Internet-ready. To determine the extent to which the four measures would change, input was collected from six sources:

1. Internal software developers with expertise in various software applications
2. Marketing analysts with expertise on sales cycles, customer needs, and customer care issues
3. Relationship managers with expertise on expected changes in the job environment if the software was used regularly
4. The analyst with expertise on the initial need for the software

5. The sponsor with expertise on what could be expected from the project
6. The proposed vendor with expertise based on previous experience with the software

When input is based on estimates, the actual results will usually differ significantly. However, GFS was interested in a forecast based on analysis that, although very limited, would be strengthened with the best easily available expert opinion. Input was adjusted on the basis of the estimates and other information to assess its credibility. After discussing the availability of data and examining the techniques to convert it to monetary values, the following conclusions were reached:

- The increase in sales could easily be converted to a monetary value as the average margin for sales increase is applied directly.
- The cost of a customer complaint could be based on an internal value currently in use, providing a generally accepted cost.
- Customer response time was not tracked accurately, and the value of this measure was not readily available, making it an intangible benefit.
- No generally accepted value for increasing customer satisfaction was available, so customer satisfaction impact data would be listed as an intangible benefit.

The forecast ROI calculation was developed from combined input based on the variety of estimates. The increase in sales was easily converted to monetary values using the margin rates, and the reduction in customer complaints was easily converted using the discounted value of a customer complaint. The costs for the project could easily be estimated based on input from those who briefly examined the situation. The total costs included development costs, materials, software, equipment, facilitators, facilities, and lost time for learning activities, coordination, and evaluation. This fully loaded projected cost, compared to the benefits, yielded a range of expected

Table 10.1. Expected ROI values for different outputs.

EXPERT	POTENTIAL SALES INCREASE	BASIS	POTENTIAL COMPLIANT REDUCTION (MONTHLY REDUCTION)	BASIS	EXPECTED ROI	CREDIBILITY RATING (5 = HIGHEST, 1 = LOWEST)
Relationship Manager	3.5%	Sales opportunity	3	Lower response time	60%	3
Analyst	4%	Customer satisfaction	4	Lower response time	90%	4
Marketing analyst	3%	Missed opportunity	5	Quicker response	120%	4
Project sponsor	5%	Customer services	4	Quicker response	77%	4
Vendor	10%	Customer loyalty	12	Higher priority	180%	2
Internal software developer	2%	Customer relationship	3	Faster response	12%	2

ROI values. Table 10.1 shows possible scenarios based on payoffs of the two measures as assessed by six experts. The ROI values range from a low of 12 percent to a high of 180 percent. The breakeven point could be developed with different scenarios. With these values in hand, the decision to move forward was easy: even the worst-case scenarios were positive and the best case was expected to yield more than 10 times the ROI of the worst. As this example illustrates, the process must be simple, and must use the most credible resources available to quickly arrive at estimates.

With these estimates, the forecast is ready to be made. In this example, we are representing only the impact, intangible, and ROI forecast. Working from Table 10.1, the logic in this example to develop a forecast is as follows. First, the ROI forecast, which has a range from 12 to 180 percent, represents an average of about 90 percent ROI. When the high and low numbers are removed, the average still results in an 87 percent ROI. In terms of the most credible sources, a range from 77 to 120 percent ROI. This team selected 75 percent ROI for the forecast. This number should be a conservative estimate for the value that should be achieved. In regarding the sales increase, an average of the three most credible ones was used representing a 4 percent increase. For the complaints, which ranged from 4 to 5 per month, 4 was used. Although not for analysis, similar data was collected about the response time, and most agreed that response time could be cut in half. As it turns out, this element was not a tangible measure, but an intangible one. Thus, a 50 percent reduction was used. Regarding the customer satisfaction index, because it was a composite value, it was difficult to pinpoint the actual amount of forecast, so it was left as a general statement of an increase in the composite index. With that in mind, here are the actual forecasted values:

1. An increase of 7 percent in sales to existing customers in six months

2. A reduction of 4 customer complaints per month caused by missed deadlines, late responses, and failure to complete transactions
3. A 50 percent reduction in response time for customer inquiries and requests
4. An increase in the customer satisfaction composite survey index
5. An ROI of 75 percent, based on one year of improvement

As this example shows, the forecasts are very specific, and the focus is on what can be achieved. Incidentally, an ROI objective for this project would probably be in the range of 10 to 20 percent as a minimum, acceptable number. Here, the forecast is a realistic number of what can be achieved.

FORECASTING ROI WITH REACTION DATA

When a reaction evaluation includes the planned applications of a project, the data can ultimately be used in an ROI forecast. ROI information can be developed with questions concerning how participants plan to implement the project and what results they expect to achieve after they have been exposed to the project. For example, consider a project proposed by a major pharmaceutical company. The firm was considering installing high-speed DSL lines in the homes of each of its pharmaceutical sales representatives on the premise that this would save the reps time that they could otherwise spend with their customers. However, when the project was thoroughly described, the reaction to the proposed project was not positive. The sales reps said they do most of their online work at night when speed is not such an issue, and even if they did save time, they would be unlikely to add another call to their schedule, or even be able to spend more time with customers. Although the project's goals had merit, from the standpoint of forecast monetary value, the project would not add value or improve the original measure.

Perhaps it's helpful to clearly distinguish this forecast from the preproject forecast. In a preproject forecast that is part of the proposal, no reaction data has been collected because the project hasn't been approved and implemented yet. Therefore, the financial ROI is based on a set of assumptions from various experts. In this particular scenario, the project is being implemented, and the participants, those who are involved, now are exposed to it. In the case of soft programs, such as ethics, leadership development, coaching, and business development, the individuals involved have learned what is necessary to make it successful. Thus, their reaction before they actually do anything is very important and powerful, which is the type of data collected here. This reaction can be built into the proposal, which suggests to the client that the forecast ROI would be originally provided on a preproject basis and then will be taken again as the project is being implemented to see the difference. This extra step should provide some assurance that the project will be successful. While this information may not be necessary, or even desired by the client; it's a great way to prevent design flaws early in the process so adjustments can be made. A negative forecast with reaction data would indicate that there are serious problems that need to be rectified before the project continues. However, a very positive forecast at this level needs to be taken with caution, as it may be an overstatement.

Data collection

To forecast ROI at this level, at the beginning of a project participants are asked to state specifically how they plan to use the project and what results they expect to achieve. They are asked to convert their planned accomplishments into monetary values and show the basis for developing the values. Participants can adjust their responses with a confidence factor to make the data more credible. Next, estimates are adjusted for confidence level. When tabulating

data, participants multiply the confidence levels by annual monetary values. This produces a conservative estimate for use in data analysis. For example, if a participant estimated the monetary impact for his or her part of the project at $10,000 but was only 50 percent confident in his or her estimate, a $5,000 value would be used in the ROI forecast calculations.

To develop a summary of the expected benefits, discard any data that are incomplete, unusable, extreme, or unrealistic. Then total the individual data items. Finally, as an optional exercise, adjust the total value again by a factor that reflects the unknowns in the environment and the possibility that participants will not achieve the results they anticipate. The project team can estimate this adjustment factor. In one organization, the benefits are divided by two to develop a number to use in the calculation. Finally, calculate the forecast ROI using the net benefits from the project divided by the project costs.

Case study: Forecasting ROI from reaction data

This process can best be described using an actual case. Global Engineering and Construction Company (GEC) designs and builds large commercial projects like plants, paper mills, and municipal water systems. Safety is always a critical matter at GEC and usually commands much management attention. To improve safety performance, a safety improvement project was initiated for project engineers and construction superintendents. The project solution involved policy changes, audits, and training. The project focused on safety leadership, safety planning, safety inspections, safety meetings, accident investigation, safety policies and procedures, safety standards, and workers' compensation. Safety engineers and superintendents (participants) were expected to improve the safety performance of their individual construction projects. All of those issues were fully described in a two-day project overview. A dozen safety performance measures used in the company were discussed and

analyzed in the overview. At that time, participants completed a feedback questionnaire that probed specific action items planned as a result of the safety project and provided estimated monetary values of the planned actions. In addition, participants explained the basis for estimates and placed a confidence level on their estimates. Table 10.2 presents data provided by the participants. Only 19 of the 25 participants supplied data. (Experience has shown that approximately 50 to 90 percent of participants will provide usable data on this series of questions.) The estimated cost of the project, including participants' salaries for the time devoted to the project, was $358,900.

The monetary values of the planned improvements were extremely high, reflecting the participants' optimism and enthusiasm at the beginning of an impressive project from which specific actions were planned. As a first step in the analysis, extreme data items were omitted (one of the guiding principles of the methodology). Data such as "millions," "unlimited," and "$4 million" were discarded, and each remaining value was multiplied by the confidence value and totaled. This adjustment is one way of reducing highly subjective estimates. The resulting tabulations yielded a total improvement of $990,125 (rounded to $990,000). The projected ROI, which was based on the feedback questionnaire at the beginning of the project, is

$$\text{ROI} = \$990{,}000 - \$358{,}900 / \$358{,}900 \times 100 = 176\%$$

Although these projected values are subjective, the results were generated by project participants who should be aware of what they could accomplish. A follow-up study would determine the true results delivered by the group.

Table 10.2. Level 1 data for ROI forecast calculations.

PARTICIPANT NO.	ESTIMATED VALUE ($)	BASIS	CONFIDENCE LEVEL	ADJUSTED VALUE ($)
1	80,000	Reduction in lost time accidents	90%	72,000
2	91,200	OSHA reportable injuries	80%	72,960
3	55,000	Accident reduction	90%	49,500
4	10,000	First-aid visits/visits to doctor	70%	7,000
5	150,000	Reduction in lost-time injuries	95%	142,500
6	Millions	Total accident cost	100%	—
7	74,800	Workers' Compensation	80%	59,840
8	7,500	OSHA citations	75%	5,625
9	50,000	Reduction in accidents	75%	37,500
10	36,000	Workers' Compensation	80%	28,800
11	150,000	Reduction in total accident costs	90%	135,000
12	22,000	OSHA fines/citations	70%	15,400
13	140,000	Accident reductions	80%	112,000
14	4 million	Total cost of safety	95%	—
15	65,000	Total Workers' Compensation	50%	32,500
16	Unlimited	Accidents	100%	—
17	20,000	Visits to doctor	95%	19,000
18	45,000	Injuries	90%	40,500
29	200,000	Lost-time injuries	80%	160,000
				Total: 990,125

Use of the data

Caution is required when using the ROI forecast: The calculations are highly subjective and may not reflect the extent to which participants will achieve results. A variety of influences in the work environment and project setting can enhance or inhibit the attainment of performance goals. Having high expectations at the beginning of a project is no guarantee that those expectations will be met. Project disappointments are documented regularly.

Although the process is subjective and possibly unreliable, it does have some usefulness:

1. If the project evaluation must stop at this point, this analysis provides more insight into the value of the project than data from typical reaction input, which reports attitudes and feelings about the project. Sponsors and managers usually find this information more useful than a report stating, "40 percent of project team participants rated the project above average."
2. These data can form a basis for comparing different projects of the same type (e.g., safety projects). If one project forecast results in an ROI of 300 percent and a similar project forecast results in a 30 percent ROI, it would appear that one project might be more effective. The participants in the first project have more confidence in the planned implementation of the project.
3. Collecting these types of data focuses increased attention on project outcomes. Participants will understand that specific action is expected, which produces results for the project. The data collection helps participants plan the implementation of what they are learning. This issue becomes clear to participants as they anticipate results and convert them to monetary values. Even if the forecast is ignored, the exercise is productive because of the important message it sends to participants.
4. The data can be used to secure support for a follow-up evaluation. A skeptical client may challenge the data and this

challenge can be converted into support for a follow-up to see whether the forecast holds true. The only way to know whether these results will materialize is to conduct a post-project evaluation.

5. If a follow-up evaluation of the project is planned, the postproject results can be compared to the ROI forecast. Comparisons of forecast and follow-up data are helpful. If there is a defined relationship between the two, the less expensive forecast can be substituted for the more expensive follow-up. Also, when a follow-up evaluation is planned, participants are usually more conservative with their projected estimates.

The use of ROI forecasting with reaction data is increasing, and some organizations have based many of their ROI forecast calculations on this type of data.

FORECASTING ROI FOR SOFT PROJECT DATA

Although not as credible as some desire, a forecast can be made on the basis of the improved competencies or skills of the project participants (users, audience). This process uses the concept of utility analysis, which is best described in the experience of a large European bank that was seeking to develop a leadership project for its executives. Bank managers identified the specific competencies they wanted to develop. Before making the eight million euro investment in the program, the senior executive team wanted to know the value it would add. The project team used utility analysis to conduct the forecast. The numbers are rounded off to keep the calculations simple.

First, the team assessed the percentage of executives' jobs covered in the leadership competencies. To keep it simple, assume that this involved 40 percent of their job content. This amount was derived from surveying a sample of the management team. Next the average salary was determined—say, €100,000. Thus, the project could influence 40 percent of €100,000, or €40,000. The managers assessed

the team's current level of performance of the competencies using a convenient scale. After reviewing the competencies and the project's objectives, the managers indicated that a 10 percent improvement could be achieved on these competencies by implementing the leadership development project. Thus, the project had a potential of improving the €40,000 portion of their salary by 10 percent, or €4,000. (In essence, it would add €4,000 in value.) Table 10.3 provides a summary of this process. This value is compared to the proposed participant cost for the leadership project to determine the forecast on an individual basis. If the cost of the program is €3,000, the ROI is 33 percent.

Although this example is simple, it shows the concept of forecasting based on improving competencies. It ignores what the managers or executives will accomplish with the competencies, so it is not as credible as an ROI forecast with impact data.

Project results include both tangible and intangible measures. Intangible measures are the benefits or detriments directly linked to

Table 10.3. Forecasting using improved competencies.

Percent of managers jobs covered by competencies	40%
Average manager's salary	€100,000
Monetary value of covered competencies (40% × €100,000)	€40,000
Percent of anticipated improvement in competencies	10%
Added benefit of improved competencies in monetary terms (€40,000 × 10%)	€4,000 per manager
Cost of program per participant	€3,000 per manager
ROI	33%

a project that cannot or should not be converted to monetary values credibly with minimal resources. The range of intangible measures is almost limitless. Examples of these measures are listed in Table 10.4. Some measures make the list because of the difficulty in measuring them; others because of the difficulty in converting them to money. Others are on the list for both reasons. Being labeled as intangible does not mean that these items can never be measured or converted to monetary values. In one study or another, each item has been monitored and quantified in financial terms. However, in typical projects, these m easures are considered intangible benefits because of the difficulty in measuring or converting them to monetary values.

Table 10.4. Common intangibles.

Accountability	Intellectual capital
Alliances	Innovation and creativity
Attention	Job satisfaction
Awards	Leadership
Branding	Loyalty
Capability	Networking
Capacity	Organizational commitment
Clarity	Partnering
Communication	Poverty
Corporate social responsibility	Reputation
Employee attitudes	Stress
Customer service (customer satisfaction)	Team effectiveness
Engagement	Timeliness
Human Life	Sustainability
Image	Work/life balance

Nevertheless, it has value and is described in more detail in other sources.

WHY FORECAST INTANGIBLES?

Although intangible measures are not new, they are becoming increasingly important. Intangibles secure funding and drive the economy, and organizations are built on them. In every direction we look, intangibles are becoming not only increasingly important, but also critical to organizations. Here's a recap of why they have become so important.

Intangibles are the invisible advantage

When examining the success behind many well-known organizations, intangibles are often found. A highly innovative company develops new and improved products; a government agency reinvents itself; a company with highly involved and engaged employees attracts and keeps talent. An organization shares knowledge with employees, providing a competitive advantage. Still another organization develops strategic partners and alliances. These intangibles do not often appear in cost statements and other record keeping, but they are there, and they make a huge difference.

Trying to identify, measure, and forecast intangibles may be difficult, but the ability to do so exists. Intangibles transform the way organizations work, the way employees are managed, the way products are designed, the way services are sold, and the way customers are treated. The implications are profound, and an organization's strategy must address them. Although invisible, the presence of intangibles is felt and the results are concrete.

Intangibles drive projects

Some projects are implemented because of the intangibles. For example, the need to have increased collaboration, partnering, com-

munication, teamwork, or branding will drive projects. In the public sector, the need to reduce poverty, employ disadvantaged children, and save lives often drives projects. From the outset, the intangibles are the important drivers and become the most important measures. Consequently, more executives include a string of intangibles on their scorecards, key operating reports, key performance indicators, dashboards, and other routine reporting systems. In some cases, the intangibles represent nearly half of all measures that are monitored.

FORECASTING INTANGIBLES

In some projects, intangibles are more important than monetary measures. Consequently, these measures should be monitored and reported as part of the project forecast. In practice, every project, regardless of its nature, scope, and content, will produce intangible measures. The challenge is to identify them effectively and report them appropriately.

Measuring the intangibles

From time to time it is necessary to explore the issue of measuring the difficult to measure. Responses to this exploration usually occur in the form of comments instead of questions. "You can't measure it," is a typical response. This cannot be true, because anything can be measured. What the frustrated observer suggests by the comment is that the intangible is not something you can always count, examine, or see in quantities, such as items produced on an assembly line. In reality, a quantitative value can be assigned to or developed for any intangible. If it exists, it can be measured. Consider human intelligence for example. Although human intelligence is vastly complex and abstract with myriad facets and qualities, IQ scores are assigned to people, and most people seem to accept them. The Software Engineering Institute of Carnegie-Mellon University assigns software organizations a score of 1 to 5 to represent their maturity

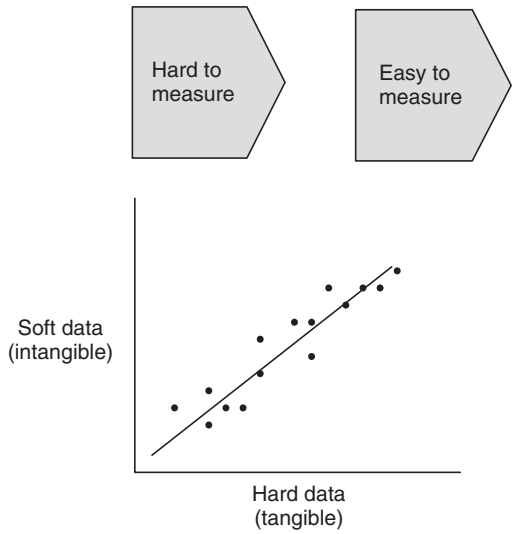
in software engineering. This score has enormous implications for the organizations' business development capabilities, yet the measure goes practically unchallenged.

Several approaches are available for measuring intangibles. Intangibles that can be counted include customer complaints, employee complaints, and conflicts. These can be recorded easily, and constitute one of the most acceptable types of measures. Unfortunately, many intangibles are based on attitudes and perceptions that must be measured. The key is in the development of the instrument of measure. The instruments are usually developed around scales of 3, 5, and even 10 points to represent levels of perception. The instruments to measure intangibles consist of three basic varieties.

The first lists the intangible items and asks respondents to agree or disagree on a 5-point scale (where the midpoint represents a neutral opinion). Other instruments define various qualities of the intangible, such as its reputation. A 5-point scale can easily be developed to describe degrees of reputation, ranging from the worst rating—a horrible reputation—to the best rating—an excellent reputation. Still other ratings are expressed as an assessment on a scale of 1 to 10, after respondents review a description of the intangible.

Intangibles can be measured when they when they connect to measure or easier to value. As shown in Figure 10.1, most hard-to-measure items are linked to an easy-to-measure item. In the classic situation, a soft measure (typically the intangible) is connected to a hard measure (typically the tangible). Although this link can be developed through logical deductions and conclusions, having some empirical evidence through a correlation analysis (as shown in the figure) and developing a significant correlation between the items is the best approach. However, a detailed analysis would have to be conducted to ensure that a causal relationship exists. In other words, just because a correlation is apparent, does not mean that one

Figure 10.1 The link between hard-to-measure and easy-to-measure items.



caused the other. Consequently, additional analysis, other empirical evidence, and supporting data could pinpoint the actual causal effect.

Another instrument for measuring the intangible is the development an index of different values. These could be a combination of both hard and soft data items that make up a particular index value. An index is a single score representing some complex factor that is constructed by aggregating the values of several different measures. Measures making up the index are sometimes weighted based on their importance to the abstract factor being measured. Some index measures are based strictly on hard data items. For example, the U.S. poverty level is based on a family income amount equal to three times the money needed to feed a family as determined by the U.S. Department of Agriculture, adjusted for inflation using the consumer price index. Sometimes an index is completely intangible, such as the customer satisfaction index developed by the University of Michigan.

Forecasting intangibles

Intangible measures can be uncovered early in the process, during the needs assessment. For example, one technology project has several hard data measures linked to it. Job stress, an intangible measure, is identified with no plans to convert it to a monetary value. From the beginning, this measure is destined to be a nonmonetary, intangible benefit reported along with the ROI results.

Initially, the client or the sponsor may indicate some intangibles that are connected to the project. In some situations, intangibles are the principal reason for the project. In addition to the early identification, the project team members and other experts, who are familiar with the situation, can provide input about the intangibles. These experts, identified in the previous four chapters, can estimate the extent of linkage to these intangibles. A measurement scheme would be devised using one of the measures described here, such as a 1 to 5 scale, and the experts would indicate what percent of the individuals would see this as an intangible and its rating of importance.

It's important to make sure that those who know the situations best are asked to provide input. These results do not have to be flawless, but they do provide data from credible sources that connect this project to an intangible. The exact strength of the connection may not be needed. Just knowing which measures are connected and the relative strength of that connection will be enough for the client. For example, in a project designed to improve the image of a foreign manufacturer in the United States, the experts forecasted that 28 percent of the audience would rate the image as 4 or 5 on a scale of 1 to 5, with 5 being the most favorable.

FORECASTING GUIDELINES

With the forecasting options outlined in this chapter, it may help to follow a few guidelines known to drive the forecasting possibilities

within an organization. These guidelines are based on experience in forecasting in a variety of projects and programs:

1. **If you forecast**, **forecast frequently**. Forecasting is an art and a science. Users can build comfort, experience, and history with the process by using it frequently.
2. **Make forecasting an essential part of the proposal strategy**. This chapter began with a list of essential reasons for forecasting ROI, which is increasingly being demanded by many organizations. It can be an effective and useful tool when used properly and in conjunction with other types of forecast data. Some proposal strategies have targets for the use of forecasting (e.g., if a project exceeds a certain cost, it will always require a preproject forecast). Others will target a certain number of projects for a forecast based on the importance of the project. It is important to plan for the forecast and let it be a part of the proposal process, using it regularly.
3. **Forecast different types of data**. Although this chapter focuses on how to develop a forecast ROI using the standard ROI formula, forecasting the value of the other types of data is important as well. A useable, helpful forecast will include predictions about reaction, the extent of learning, and the extent of application and implementation. Chapters 7, 8, and 9 described these data sets, in addition to this chapter.
4. **Secure input from those who know the process best**. As forecasts are developed, it is essential to secure input from individuals who understand the dynamics of the environment and the measures being influenced by the project—go to the experts. This will increase the accuracy of the forecast, and the credibility of the results. In other situations, it may be the analysts who are aware of the major influences in the workplace and the dynamics of those changes.

5. **Long-term forecasts will usually be inaccurate**. Forecasting works better when it covers a short time frame. Most short-term scenarios afford a better grasp of the influences that might drive the measures. In the long term, a variety of new influences, unforeseen now, could enter the process and drastically change the impact measures. If a long-term forecast is needed, it should be updated regularly.
6. **Expect forecasts to be biased**. Forecasts will consist of data coming from those who have an interest in the issue. This is unavoidable. Some will want the forecast to be optimistic; others will have a pessimistic view. Almost all input is biased in one way or another. Every attempt should be made to minimize the bias, adjust for the bias, or adjust for the uncertainty in the process. Still, the audience should recognize the forecast as a biased prediction.
7. **Serious forecasting is hard work**. The value of forecasting often depends on the amount of effort put into the process. High-stake projects or programs need a serious approach, collecting all possible data, examining different scenarios, and making the best prediction available. It is in these situations that mathematical tools can be most valuable.
8. **Review the success of forecasting routinely**. As forecasts are made, it is imperative to revisit the forecast with postproject data to check its accuracy. This can aid in the continuous improvement of the processes. Sources could prove to be more or less credible, specific inputs may be more or less biased, and certain analyses may be more appropriate than others. It is important to constantly improve the methods and approaches for forecasting within the organization.
9. **Assumptions are the most serious error in forecasting**. Of all the variables that can enter the process, assumptions offer

the greatest opportunity for error. It is important for the assumptions to be clearly understood and communicated. When multiple inputs are given, each forecaster should use the same set of assumptions, if possible.

10. **Utility is the most important characteristic of forecasting**. The most important use of forecasting is providing information and input for the decision maker. Forecasting is a tool for those attempting to make decisions about project implementation. It is not a process intended to maximize the output or minimize any particular variable. It will not dramatically change the way a project is implemented. It is a process to provide data for decisions.

FINAL THOUGHTS

The crystal ball isn't cloudy anymore, and your clients are leaning in closer. This chapter proves to be the most intriguing of all the forecasting chapters, as it focuses on the financial ROI and the intangibles. The forecast for the financial ROI is very precise calculation of the benefit-cost ratio and the financial ROI. The intangibles are those measures that cannot be converted to money credibly with minimum resources. They are still very important, and the forecast details which intangibles will be influenced by the project and to what extent. Obviously, this "calculation" is not as precise as the financial ROI calculation, but taken together, they represent two of the most important data sets that leaders or executive sponsors want to have.

This chapter also concludes the forecasting part of the book. Four chapters are devoted to this process and secure this book as an essential tool for project success. The eight data sets (reaction, learning, application, impact, monetary value, costs, financial ROI,

and intangibles) represent powerful information to not only vision where the project is going, but also exhibit a clear, strategic advantage over others who choose not to forecast results. The next chapter focuses on how to guarantee success, as it explains how to take the forecast a step further and place guarantees around the delivery of the results.