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# The Business Benefits of Better Projects

*The Oak Associates (New Leaf) Simple Business Model (SBM) of Project Performance*

John M. Nevison, PMP

One way to understand the business benefits of better projects is to construct a concrete model of the effects of various good project management practices. While developing a model to show how bad projects hurt business performance, New Leaf's predecessor company, Oak Associates, discovered a model that shows how better projects help business performance. Better projects improve both revenues and profits. By understanding how Oak's model works, you will understand how and why it pays to improve your project management practices.

## The Oak Simple Business Model of Project Performance (SBM)

The Oak SBM begins with a simplified business model for ten identical, one-year projects that will produce ten products, each with a five-year business life (see Figure 1). The model employs standard industry assumptions about the costs of bringing a new product to market. [1]

**Business plan: ten successful projects & products**

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Sales | | $3,250 | $5,000 | $4,500 | $4,000 | $3,250 |
| Costs | | $2,250 | $4,250 | $4,000 | $3,500 | $3,000 |
| Project | $1,000 | | | | | |
| Profit (EVA) | ($1,000) | $1,000 | $750 | $500 | $500 | $250 |
| Cum. profit (EVA | ($1,000) | $0 | $750 | $1,250 | $1,750 | $2,000 |
| Margin | | 30.8% | 15.0% | 11.1% | 12.5% | 7.7% |
| Cum. sales | | $20,000 | | | | |
| Cum. profit (EVA) | | $2,000 | | | | |
| Avg. margin | | 10% | | | | |

**Figure 1.** *The Basic Oak Simple Business Model of Project Performance (SBM)*

The power of the Oak SBM is that it ties the present costs of the project in Year 0 to the future costs and benefits of the project's result in Years 1-5. These future costs and benefits can occur in many patterns. For the sake of clarity, the first Oak SBM depicts a new-product-development project and the accompanying product's business life (see Figure 2). (Profits are labeled Economic Value Added [EVA] to emphasize that they represent the full economic benefit of the product.)

 

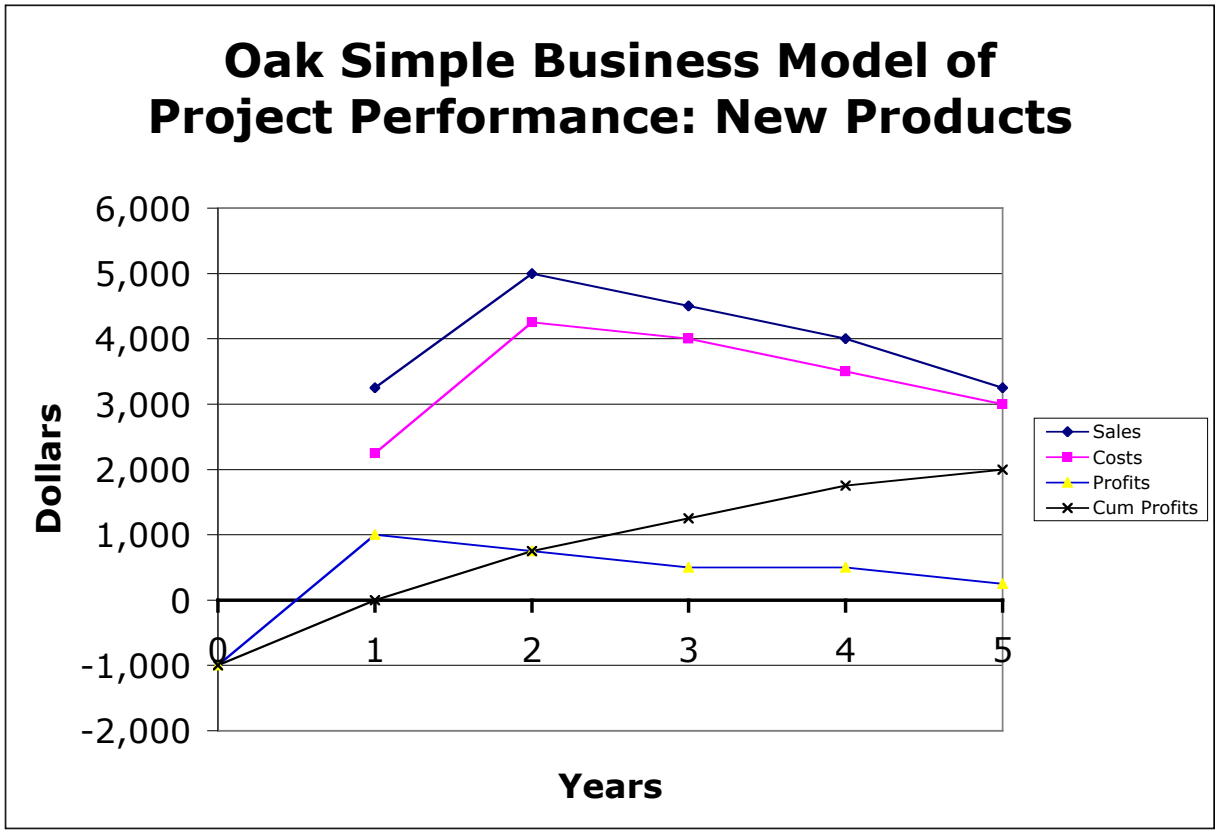


**Figure 2.** *The Plot of the Oak SBM for New Products*

### Current Poor Practice

The software industry has collected a consistent set of data about its poorly managed projects. Over the past ten years the Standish Group has found that software projects continue to perform terribly. While the detailed percentages vary from year to year and have actually shown some improvement over the decade, a good working approximation of the Standish Group results is that for every 10 projects begun:

- 4 do not finish
- Among those that complete, 4 cost twice as much as initially planned
- Among those that complete, 4 (not necessarily the same 4) have a significant loss of product features
- Among those that complete, 2 are significantly late [2]

Figure 3 details how bad project practices erode the sales and profits of the Oak SBM. Figure 4 summarizes the results. Both figures show the erosion in a four-step pattern of steady deterioration of sales and profits.

Business plan: 10 successful products (from 10 successful projects)

| | | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **Sales** | | | $3,250 | $5,000 | $4,500 | $4,000 | $3,250 |
| **Costs** | | | $2,250 | $4,250 | $4,000 | $3,500 | $3,000 |
| **Development (project) cost** | | $1,000 | | | | | |
| **Profit (EVA)** | | ($1,000) | $1,000 | $750 | $500 | $500 | $250 |
| **Cumulative profit** | | ($1,000) | $0 | $750 | $1,250 | $1,750 | $2,000 |
| **Return on sales (EVA/dollar sales)** | | | 30.8% | 15.0% | 11.1% | 12.5% | 7.7% |
| **Cumulative sales** | $20,000 | | | | | | |
| **Cumulative profit** | $2,000 | | | | | | |
| **Average percent return on sales** | 10.0% | | | | | | |

Step A. 4 projects don't finish

| | Assumes | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **Sales** | 6 Products 100% | | 1,950 | 3,000 | 2,700 | 2,400 | 1,950 |
| **Costs** | | | $1,350 | $2,550 | $2,400 | $2,100 | $1,800 |
| **Development (project) cost** | Less 200 | $800 | $0 | | | | |
| **Profit (EVA)** | | ($800) | $600 | $450 | $300 | $300 | $150 |
| **Cumulative profit** | | ($800) | ($200) | $250 | $550 | $850 | $1,000 |
| **Return on sales (EVA/dollar sales)** | | | 30.8% | 15.0% | 11.1% | 12.5% | 7.7% |
| **Cumulative sales** | 12,000 | | | | | | |
| **Cumulative profit** | 1,000 | | | | | | |
| **Average percent return on sales** | 8.3% | | | | | | |

Step B. 4 projects cost significantly more than planned

| | Assumes | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **Sales** | 6 Products 100% | | $1,950 | $3,000 | $2,700 | $2,400 | $1,950 |
| **Costs** | | | $1,350 | $2,550 | $2,400 | $2,100 | $1,800 |
| **Development (project) cost** | Less 200,+extra | $1,156 | $0 | | | | |
| **Profit (EVA)** | | ($1,156) | $600 | $450 | $300 | $300 | $150 |
| **Cumulative profit** | | ($1,156) | ($556) | ($106) | $194 | $494 | $644 |
| **Return on sales (EVA/dollar sales)** | | | 30.8% | 15.0% | 11.1% | 12.5% | 7.7% |
| **Cumulative sales** | 12,000 | | | | | | |
| **Cumulative profit** | 644 | | | | | | |
| **Average percent return on sales** | 5% | | | | | | |

Step C. 4 projects deliver significantly fewer features

| | Assumes | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **Sales** | 2 Products 100% | | $1,482 | $2,280 | $2,052 | $1,824 | $1,482 |
| **Costs** | 4 Products, less features | | $1,026 | $1,938 | $1,824 | $1,596 | $1,368 |
| **Development (project) cost** | Less 200,+extra | $1,156 | $0 | | | | |
| **Profit (EVA)** | | ($1,156) | $456 | $342 | $228 | $228 | $114 |
| **Cumulative profit** | | ($1,156) | ($700) | ($358) | ($130) | $98 | $212 |
| **Return on sales (EVA/dollar sales)** | | | 30.8% | 15.0% | 11.1% | 12.5% | 7.7% |
| **Cumulative sales** | 9,120 | | | | | | |
| **Cumulative profit** | 212 | | | | | | |
| **Average percent return on sales** | 2.3% | | | | | | |

Step D. 2 projects are significantly late

| | Assumes | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **Sales** | 2 Products 100% | | $832 | $1,930 | $2,152 | $1,924 | $1,632 |
| **Costs** | 4 Products, less features | | $576 | $1,538 | $1,874 | $1,696 | $1,468 |
| **Development (project) cost** | Less 200,+extra, late | $956 | $200 | | | | |
| **Profit (EVA)** | | ($956) | $56 | $392 | $278 | $228 | $164 |
| **Cumulative profit** | | ($956) | ($900) | ($508) | ($230) | ($2) | $162 |
| **Return on sales (EVA/dollar sales)** | | | 6.7% | 20.3% | 12.9% | 11.9% | 10.0% |
| **Cumulative sales** | 8,470 | | | | | | |
| **Cumulative profit** | 162 | | | | | | |
| **Average percent return on sales** | 1.9% | | | | | | |

| **The story in numbers** | **Plan** | **StepA** | **StepB** | **StepC** | **StepD** | **Loss(%)** | **Gain(%)** |
|---|---|---|---|---|---|---|---|
| Cumulative sales | 20,000 | 12,000 | 12,000 | 9,120 | 8,470 | 58% | 136% |
| Cumulative profit | 2,000 | 1,000 | 644 | 212 | 162 | 92% | 1135% |
| Average percent return on sales | 10.0% | 8.3% | 5.4% | 2.3% | 1.9% | | |

**Figure 3.** *The Full Oak Simple Business Model of Project Performance (SBM)*

 

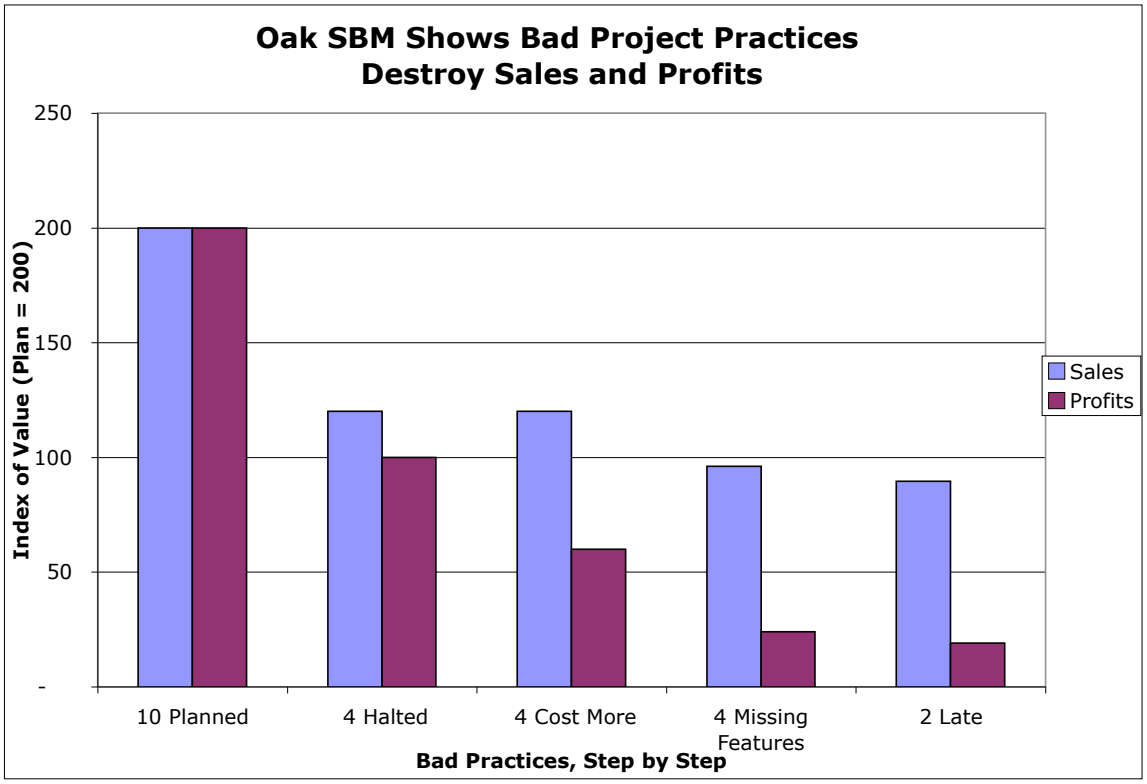


**Figure 4.** *The Oak SBM's Loss of Sales and Profits*

In **Step A**, four projects do not finish. The business loses both the sales and the profits of the four canceled products. The business also loses profits to pay for the sunk costs of the projects.

In **Step B**, four of the projects cost significantly more to develop. Interestingly, the sales of the product are not necessarily affected. However, the business loses more of its profits to pay for the extra costs of these projects.

In **Step C**, four projects deliver four products with significantly fewer features than the customer wanted. The business loses a corresponding amount of both sales and costs on these four products. Lower sales means lower profits, yet the business preserves the same margin (the *percentage* of profit), because both sales and cost decline proportionately. Another possible effect of missing features (not shown here) is that the product becomes more difficult to manufacture, incurs a higher unit cost, and erodes the profit margin.

In **Step D**, two late projects delay some sales and profits of two products until the next year, and so on for each of the subsequent years. Slipping the products' sales and costs into the succeeding year is a mild penalty — the only business losses are those sales and profits that were delayed beyond the fifth year. In other circumstances (a competitor launches on time and steals your market share) the penalties for a late project would be greater (perhaps much greater) than those shown in this version of the Oak SBM.

Figure 5 contrasts the results of the perfect plan and the actual practice of the Oak SBM. The interesting thing about Figure 5 is that it can be read two ways. First, as an example of how bad project practices adversely affect business performance. Second, as an example of how improved future project practices can radically improve overall business performance!

The first example of poor current practice is grim. The results? From perfect projects to actual projects, a 58% drop in sales, and a 92% drop in profits.

The second example is a pleasant surprise. If we begin at the end of the four steps, we position ourselves in the middle of our poor current project practices. The initial plan at the beginning of the model now becomes a picture of what our business might be like if we systematically improve our project management practices (our organizational maturity). The numbers are appealing. We have an opportunity to increase our sales by 136% and to increase our profits by 1135%! Possible profit improvement is more than an 11/1 ratio. This ratio, while not the same thing as benefit/cost ratios cited in other discussions about the ROI of improved project processes [3], is similar enough to lend significant credence to those large, hard-to-believe, ratios.

| | **Five-Year Product Life Totals** | | **Real Loss** | **Possible Gain** |
|---|---|---|---|---|
| | *Perfect Projects* | *Actual Projects* | *Actual / Perfect* | *Perfect /Actual* |
| **Sales** | $20,000 | 8,470 | 8/20 or 58% | 20/8 or 136% |
| **Profit (EVA)** | $2,000 | 162 | 2/20 or 92% | 20/2 or 1135% |

**Figure 5.** *The Oak SBM's Results: Real Loss and Possible Gain*

Most businesses have other commercial activity not related to projects, so projects' poor business results often hide behind good performance in other areas. However, the Oak Simple Business Model of Project Performance reveals *a significant, and often hidden, opportunity* to improve profits and revenues by improving project practices.

## Which Practices Are the Worst?

Figures 6 and 7 shows the business effects of the different kinds of bad project practices: those halted, those with cost overruns, those missing features, and those with schedule slips. The point of origin is the original plan of the SBM. Each descending line shows how increasing the number of projects with a particular bad practice decreases the sales (in Figure 6) and profits (in Figure 7). The steepest decline in sales is driven by the halted projects, followed by projects with missing features, then schedule slips, and finally cost overruns.

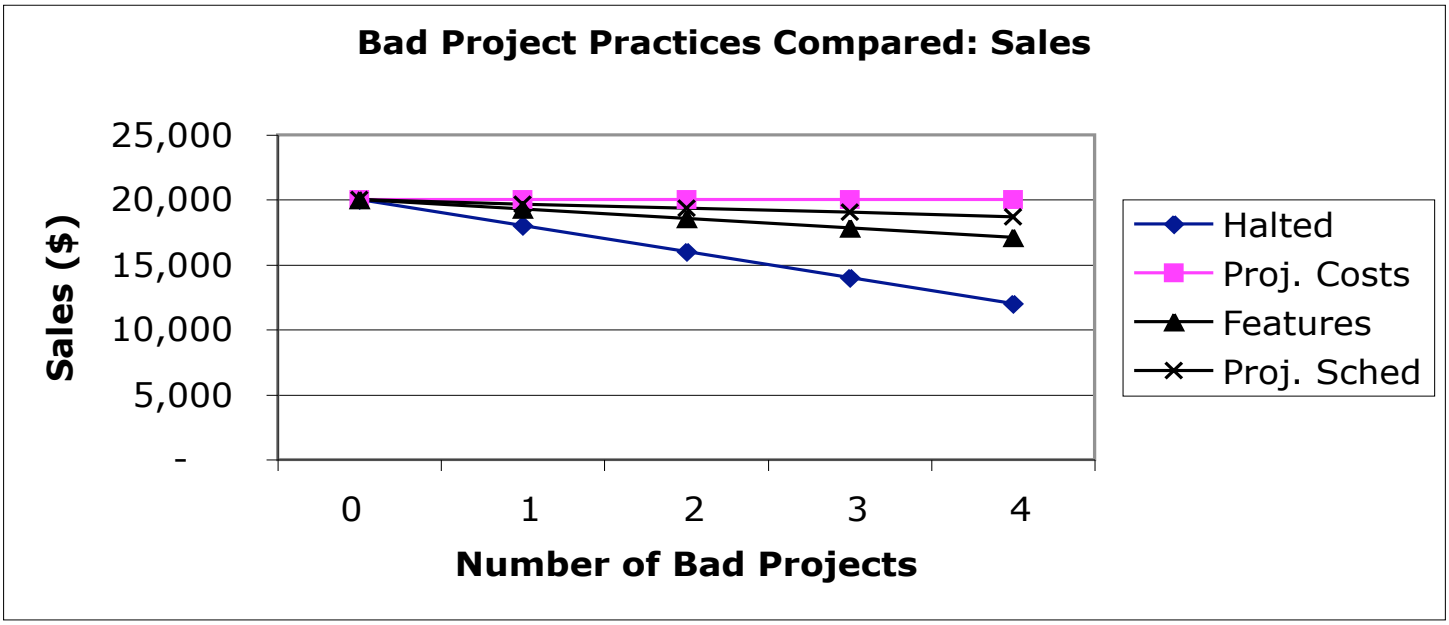


**Figure 6.** *The Effect on Sales of the Bad Project Practices Compared*


**Figure 7.** *The Effect on Profits of the Bad Project Practices Compared*

In Figure 7, the effects are similar, but project cost overruns are more harmful than project schedule slips.

Clearly, halted projects cause the most damage. Projects that should not have been started (and are eventually halted) waste resources and give new meaning to the phrase "opportunity cost." A halted project steals resources and time from other, deserving projects and delays their products' entry into the market. Practice improvement should begin with an effort to launch only good projects.

An unworthy project should be canceled as soon as possible. This rule implies, at one extreme, that if a project will be canceled, it should not be started. Many cancellations can be anticipated and avoided by:

- A closer look at the business reasons for starting the project
- A careful inventory of whether people are available to work on the project
- A canny appraisal of senior management's support for the project
- A thorough assessment of risks to the project, the product, and the business [4]

Companies that institute careful procedures to control the launch of a new project dramatically improve their project portfolios.

On the other hand, as one former VP for New Product Development points out, the NPD group is not being innovative enough if every project succeeds. A company needs to find the right balance between product innovation and economic performance. [5]

The second practice to improve concerns missing product features. Because these features directly affect the number of sales the product will generate, providing the right features is enormously important. It has been said that each engineer in a new product development project should ask of every feature, "How does this feature increase the product's sales or decrease the product's costs?" [6] In a more general setting the question becomes, "How does this feature increase our result's overall benefit or decrease its overall cost?"

One experienced project manager captured the ideal attitude when he said, "I don't want my engineers to become business people, but I do want them to think about our project from an *entrepreneurial perspective*." [7]

In Figures 6 and 7, the two practices that many project managers worry about the most, project cost and project schedule, appear to be the least damaging.

The third practice to improve is project schedule slips. Remember that, for a schedule slip, the Oak SBM simply bumped some of the product's sales and costs into the succeeding year. In other circumstances (a competitor launches on time and steals your market share) a slip in the project schedule could be catastrophic. In the present model the schedule slip delivers the least damaging effect to profits.

The fourth bad practice is allowing project cost overruns. Here, the Oak SBM is most instructive. It shows clearly that the cost of the *project* is relatively minor compared to the sales and costs of the *product*. The model's project cost overrun has no effect on sales, but hurts profits more than a mild schedule slip.

## Process Improvement

The discussion to this point has focused on a project that is a "new product development" project. The other major kind of project is the "process improvement" project where the result of the project is a new way to run a part of the firm. Figures 8, 9, 10, and 11 all show a second version of the Oak Simple Business Model of Project Performance, where the projects make "process improvements" rather than commercial products.

In Figures 8 and 9,

- "Sales" can be read as the "overall benefits to the firm from the new process"
- "Costs" are "the costs of using the new process"
- "Profits" are the "net benefit to the firm from the new practice"

**Business plan: ten successful projects & processes**

| | Year 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| **Sales** | | $4,000 | $4,000 | $4,000 | $4,000 | $4,000 |
| **Costs** | | $3,400 | $3,400 | $3,400 | $3,400 | $3,400 |
| **Project** | $1,000 | | | | | |
| **Profit (EVA)** | ($1,000) | $600 | $600 | $600 | $600 | $600 |
| **Cum. profit (EVA)** | ($1,000) | ($400) | $200 | $800 | $1,400 | $2,000 |
| **Margin** | | 15.0% | 15.0% | 15.0% | 15.0% | 15.0% |
| **Cum. sales** | | $20,000 | | | | |
| **Cum. profit (EVA)** | | $2,000 | | | | |
| **Avg. margin** | | 10% | | | | |

**Figure 8.** *The Basic Oak Simple Business Model of Project Performance (SBM) for Process Improvement Projects*

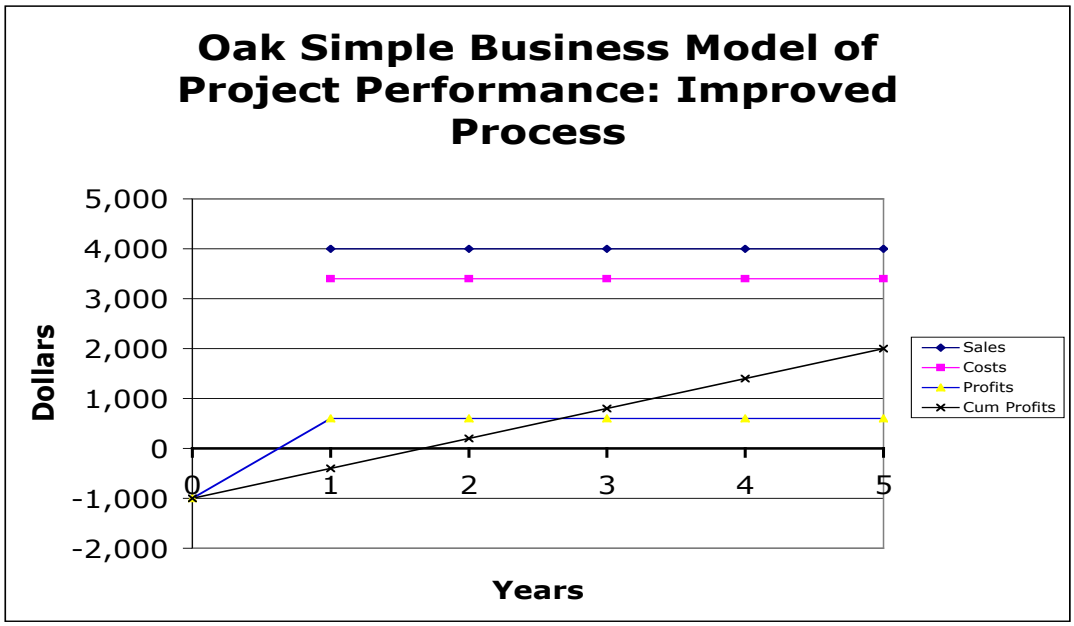


**Figure 9.** *The Plot of the Oak SBM for New Processes*

Please notice that in this version of the ten projects and processes, the project cost remained $1000, the total process "sales" remained $20,000, and the total process "profit" remained $2,000. What changed was the *pattern* of sales, costs, and profits over the five years. The products in the first version of the Oak SBM went through a five-year, up-and-down life cycle; the processes in the second version yield steady benefits each year. In real life, however, even a great process improvement will run out of steam, so the Oak SBM cuts off at five years.

While the pattern of the business results is different in the process improvement project shown in Figures 8 and 9, the results shown in Figures 10 and 11 look remarkably similar to those for the "new product development" project. In fact, all the salient business lessons have already been drawn from the first example. Companies that focus their improvement efforts in the same way should achieve business benefits of similar magnitude.

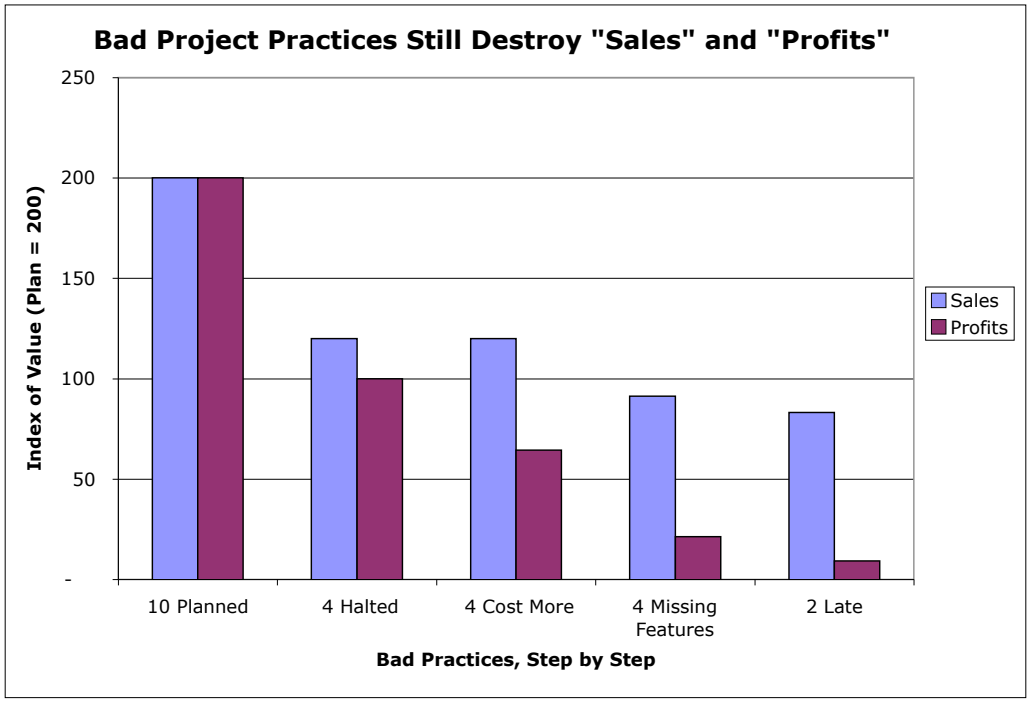


**Figure 10.** *The Oak SBM's Loss of Sales and Profits for Process Improvement Projects*

| | Five-Year Product Life Totals | | Real Loss | Possible Gain |
|---|---|---|---|---|
| | *Perfect Projects* | *Actual Projects* | *Actual / Perfect* | *Perfect /Actual* |
| **Sales** | $20,000 | 8,320 | 8/20 or 58% | 20/8 or 140% |
| **Profit (EVA)** | $2,000 | 92 | 1/20 or 95% | 20/1 or 2074% |

**Figure 11.** *The Oak SBM's Results for Process Improvement Projects: Real Loss and Possible Gain*

## Uses of the Oak SBM

Oak has found that its clients are usually able to apply one of the two versions of the Oak SBM to model the business results of their projects. By modifying the initial project cost and the shape of the business consequences, a vivid picture of the project can be painted *before* it is undertaken:

- By varying the kinds of poor practices that the project can encounter, the project's *business sensitivities can be exposed* before it is begun.
- Models of competing proposed *projects can be compared* to help decide which project to choose.
- Once a project has been selected, the modified Oak SBM can be used to *educate the project team* about the business framework for the project.

Oak has also used the model to evaluate industry reports of poor project practices.

## Summary

The Oak Simple Business Model of Project Performance (SBM) details how different project practices affect sales, costs, and profits in a simple business. By understanding this detailed illustration, the enterprising firm can set out to systematically improve its project practices, increase its sales, and expand its profits. For most firms, the business benefits of better projects can yield, over time, *significant results and a major competitive advantage*.

## Notes

1. The basic proportions of project cost to business results is similar to new product development projects reported in Smith and Reinertsen (1998), and in Patterson (1999). An early paper that describes a similar, but not identical, model is Nevison (March, 2000). The present model was first described in Nevison (June, 2003).
2. The Standish Group has been issuing their reports and updates since the early 1990s. The 1995 reference is cited here. More recent reports have recorded some improvements but the basic numbers used here are typical.
3. The benefit/cost ratios varied, but were in the range of 5/1 to 9/1 for improved project management practices. These ratios are described in Nevison (June, 2003) and details are available in Dion (July, 1993) and Durrenberger (January, 2003).
4. We deal with these issues in two of our programs, "Managing Risk and Making Decisions," and "Chartering the Project: Managing the Business Priorities of the Project Portfolio."
5. Patterson (1993) is the source of this comment.
6. See Smith and Reinertson (1998) for a more elaborate discussion of this point.
7. The source was a client's project manager with 20 years experience.

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