
Total Value of Opportunity: Using Business Metrics to Shed Light on IT Investments



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The Problem!

- 56 percent of organizations admit they have had failed IT projects in the past 12 months — *KPMG*
- 3 in 10 major IT projects fail, based on a survey from 81 of the Fortune 100 companies — *The Hackett Group*
- Together, failed and challenged projects cost U.S. companies and government agencies an estimated \$145 billion per year — *The Standish Group International Inc.*

These are just some of the headlines that CEOs and CFOs are reading about. Their reactions are predictable. CEOs and CFOs are requiring IS organizations to complete projects in less than one year, and these projects must have rock-solid business cases that show a payback of less than one year. This is not all bad! It makes IT projects easier to manage. What is bad, however, is avoiding or postponing justifiable IT-enabled business initiatives all together.

IT investments have been on a roller-coaster ride during the past 10 years. Concerns about Y2K and threats from the dot-com start-ups resulted in approvals for IT investments sailing through most organizations. However, the lack of good investment analysis tools and due diligence, together with poor project management, has led to these headlines.

When we ask our clients who owns this problem, they often react with uncertainty. Is it the CIO? Often times the root cause of project failures is unrelated to the technology. Is it the CFO? How much control did the CFO have during the period of “irrational exuberance? Is it the CEO? Ultimately, the CEO is responsible, but shouldn’t the CEO depend on the management team to avoid these problems? There is plenty of blame to go around, but at the end of the day, it is the CIO who may not own the problem, but is most effected by it. The challenge is that the CIO cannot solve this problem alone.

Key Issues

1. How can IT improve communications with business executives?
2. Do traditional accounting measures fully explain the effects of IT investments?
3. What organizational trends can IT leverage to communicate the benefits of technology in ways that business people understand and accept?
4. What tools can be used to measure and manage IT-enabled business initiatives more effectively?

Given the credibility issues facing us, it is in the best interest of all IT professionals to work together to overcome them. A good place to start is on basic communications with business professionals. We should all be asking ourselves how we can improve communications with business executives, particularly as it relates to the value that IT can bring to the enterprise. Members of the IT staff should organize their thoughts in this area and communicate with common themes. One theme that we will discuss today is how to measure business value. We will look at traditional accounting metrics and their ability to measure business value. We will also look at what current organizational trends are beginning to emerge that may help us improve our ability to measure and manage IT-enabled business initiatives. The solution to the problem will require IT to work outside its functional boundaries; these recent developments offer us a real opportunity to engage other stakeholders in the solution. Finally, we will discuss a new methodology called total value of opportunity (TVO). TVO is an emerging approach to evaluating all types of IT-enabled business initiatives that uses standard business metrics to determine value.

Action Item: By covering these key issues, hopefully you will come away from this presentation with some useful ideas and approaches that you can take back into your organizations to improve the management process by engaging business people in ways they can understand and accept.

Key Issue: How can IT improve communications with business executives?

Communicating With Business Executives: There Are Just Like You and Me

- What do business executives want to talk about?

- **Their issues and concerns!**



- What are they willing to invest their time in?

- **Things that make their lives better!**



- What gives them the confidence that they are doing the right thing?

- **When they see others doing it!**

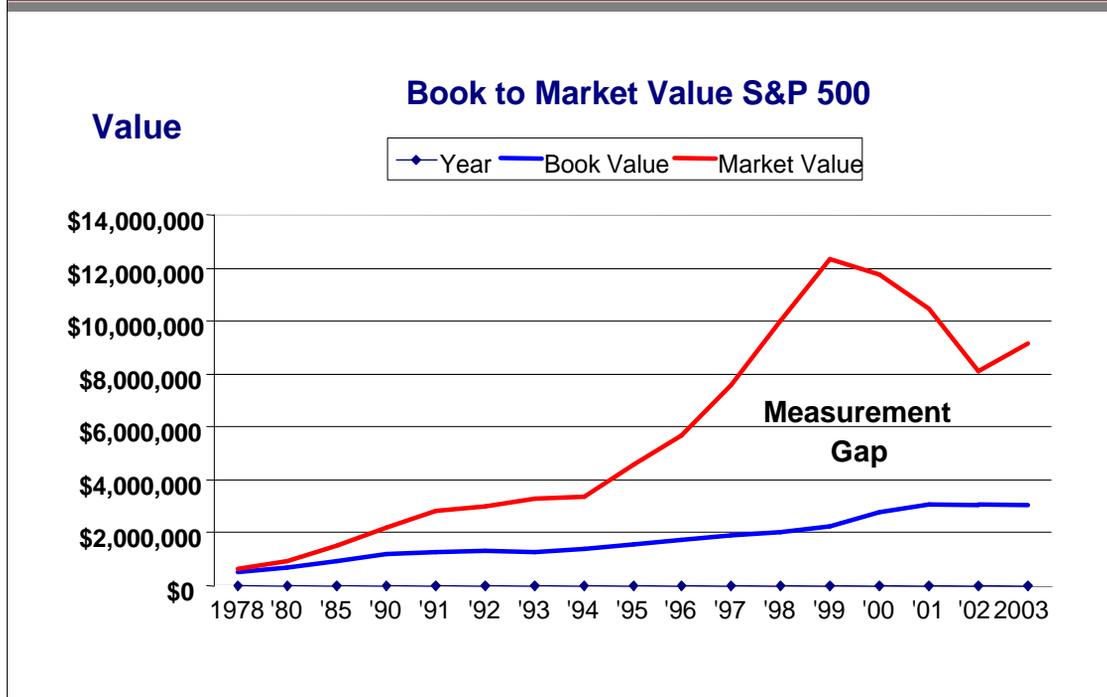


Before we dive into the tools and techniques necessary to overcome some of the headlines mentioned earlier, let's take a moment to consider the relationships that we have with our business counterparts. Business people are like all people — they are concerned with the things that affect them. Rather than bring our issues to them, we need to consider their issues and how we might help solve them. Often, this does not require any change in our daily activities, just a repositioning of how we describe them. This may sound obvious, but the perception of your IS organization may improve significantly by adopting some basic ideas. Discuss “themes” for communicating with the nontechnical people you support at your IT staff meetings. These themes can be used to change the perception of the IS organization being only a cost center. Metrics are a universal. Everyone loves to talk about measures of performance. What would baseball be without performance measures? Business metrics, in particular, can be a vehicle to describe the benefits of IT. By discussing business/operational measures with the nontechnical people you support, you will move off the zero-sum-game of only cost reduction into a win-win relationship.

Action Item: Discover what business metrics are used within the functional areas supported by IT. If the metrics are well-developed and understood (typical of retail and consumer packaged goods industries) sharpen your explanations of how the IS organization positively affects the metrics. If the metrics are not well-developed, there may be opportunities for the IS organization to work with the functional areas to develop them.

Key Issue: Do traditional accounting measures fully explain the effects of IT investments?

Traditional Accounting Measures: The Measurement Gap



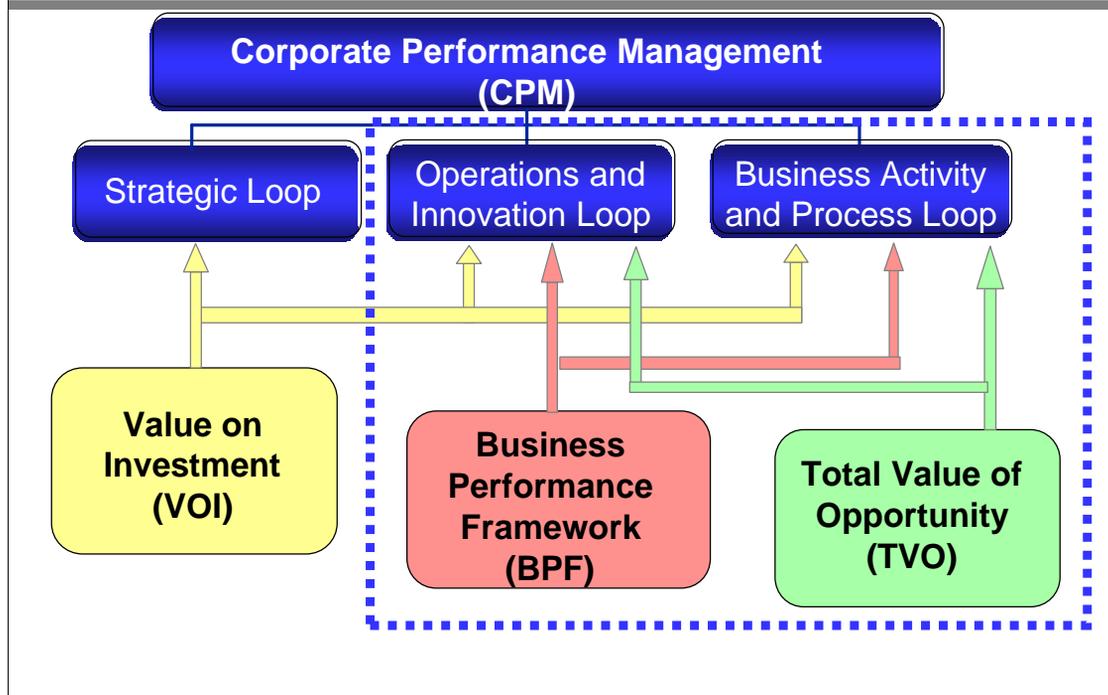
Let's talk about how business people measure value. Our research shows that business people fall back on broadly adopted and consistently applied measures to determine the value of investment alternatives. Because of a lack of anything else, these usually turn out to be traditional accounting metrics. But how good are these metrics for measuring business value in today's world. The chart above shows the widening gap between book value and market value. As of July 2003, market value is three times the book value. This erosion has occurred gradually during the past 20 years as business models and organizational boundaries have become more sophisticated.

The shrinking relevance of comparable, auditable performance measures increases uncertainty and risk by creating an environment for subjective decision making. Gartner research shows that investments in IT-enabled business initiatives were excessive during the late 1990s. That trend has been replaced by excessive caution in which many financially sound initiatives are being postponed or rejected.

Action Item: Discover what business metrics are used within the functional areas supported by IT. If the metrics are well developed and understood (typical of retail and CPG industries) use these metrics as extensions to traditional accounting metric to measure business value. If the metrics are not well developed, there may be opportunities for IT to work with the functional areas to develop

Strategic Planning Assumption: By 2005, 20 percent of the Fortune 1000 will have implemented corporate performance management (0.6 probability).

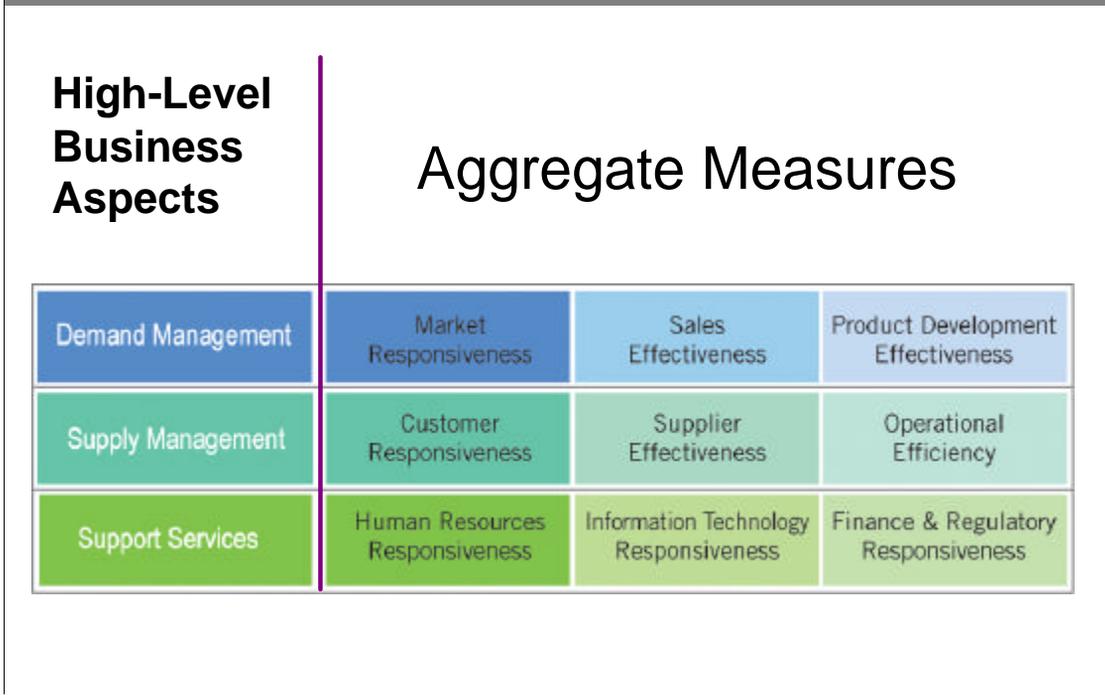
Organizational Trends IT Can Leverage: Corporate Performance Management



A developing organizational trend is corporate performance management (CPM; sometimes called business performance management; BPM). Reasons for this development range from Sarbanes-Oxley regulations to the desire to improve through fact-based management. Gartner believes that CPM is an excellent opportunity for the IS organization to bond with the business. CPM is sometimes championed by the CFO. It can also be an agent of change originating from the COO or line-of-business owner in larger enterprises. At the heart of CPM is a rationalized set of business metrics that help link strategy to action. CPM also integrates with incentive-based compensation systems (to learn more about CPM see Lee Geishecker research note COM-18-3797.

Action Item: By integrating IT investment methodologies with CPM, business executives will understand and accept the benefits more readily, especially if they are tied to their incentive compensation plans.

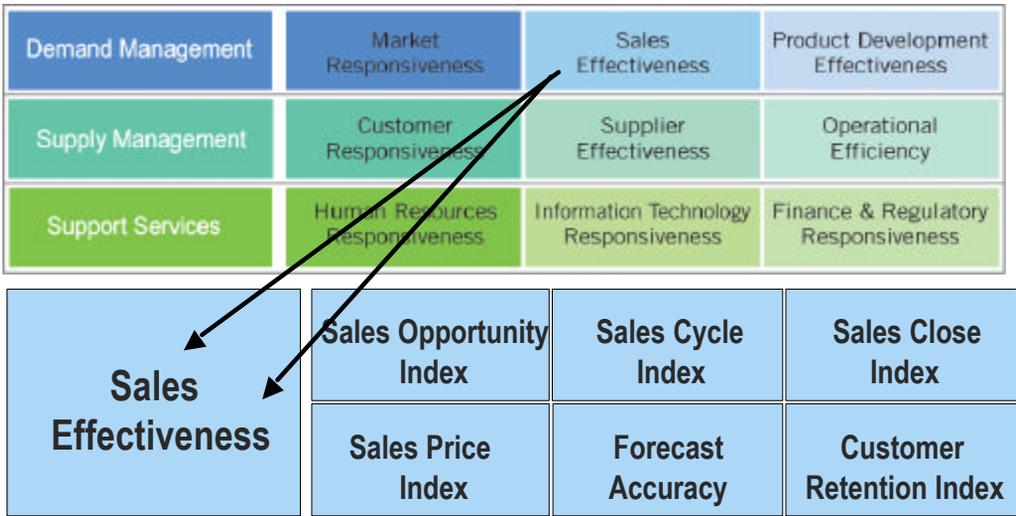
Communicating to Business Executives: The Gartner Business Performance Framework™



Many of our clients do not have a set of rationalized operational metrics that are used enterprisewide. Even in enterprises that do, the metrics that are used are not easily benchmarked outside with other organizations. As mentioned previously, this offers IT professionals an opportunity to engage the nontechnical people they support. Last year, Gartner conducted a multiclient study sponsored by representatives from technology, industry and academia. The result of this work was the Business Performance Framework™ version 1.0. The Business Performance Framework™ provides a vehicle For IS organizations looking to expand the dialogue with their businesses counterparts from purely cost reduction to revenue growth. Gartner uses the Business Performance Framework™ as the basis of TVO methodology. The framework holistically covers the controllable activities that occur within the typical enterprise. These activities fall into three broad aspects — demand management, supply management and support services. These three aspects are further broken down into what we call aggregate measures. For example, the aggregate measures for demand management include market responsiveness, sales effectiveness and product development effectiveness.

Action Item: Compare the broadly used operational metrics from your organization to the standard, benchmarkable metrics in the Gartner Business Performance Framework™, noting any gaps and overlaps.

Communicating to Business Executives: Example: Prime Measures — Sales Effectiveness



(See “TVO Methodology: Valuing IT Investments via the Gartner Business Performance Framework,” R-19-1910)

Each aggregate measure breaks down further into what we call prime measures. This slide shows the prime measures for sales effectiveness. There are prime measures behind each of the other aggregates shown on the slide. Our research looked at a number of outside organizations and thought leaders such as the Supply Chain Council and the Product Development and Management Association in compiling these prime measures. To guide us in this process we followed nine principles. One of those principles is that the measures selected for each aggregate must be “mutually exclusive and collectively exhaustive.” This is a fancy way of saying that there should not be any gaps or overlaps in the measures themselves. If you look at the prime measures listed above, you can see that each one measures a different attribute sales effectiveness. The sales opportunity index measures new opportunities being generated, the sales cycle index measures the length of time it takes to process a sales opportunity, and sales close measures the success rate of the sales process. The same approach was used by for the other aggregates and primes ([to learn more about the Business Performance Framework, see “TVO Methodology: Valuing IT Investments via the Gartner Business Performance Framework,” R-19-1910](#)).

Action Item: Compare the broadly used operational metrics from your organization to the standard, benchmarkable metrics in the Gartner Business Performance Framework™ noting any gaps and overlaps.

Strategic Planning Assumption: Business and finance scrutiny of IT business cases will become increasingly rigorous and thorough through 2008, regardless of the state of the economy (0.8 probability).

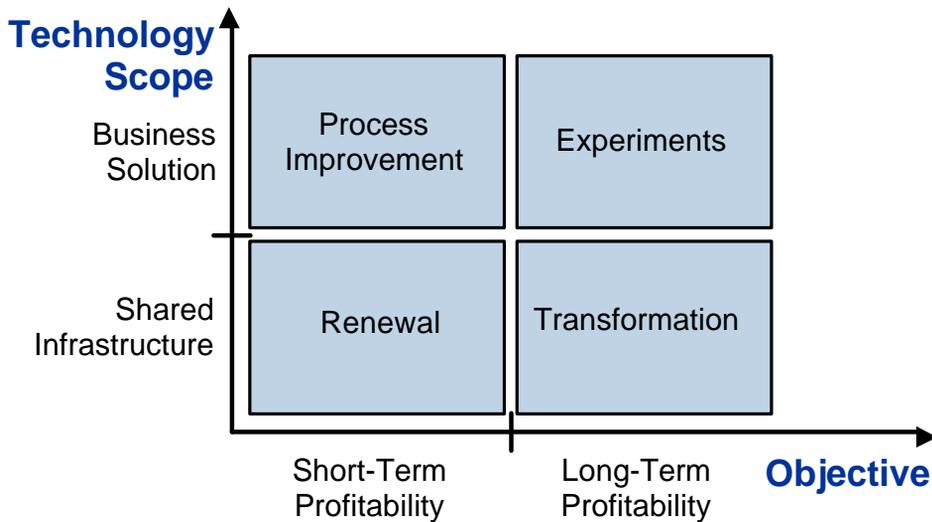
Measuring and Managing IT More Effectively: TVO Answers Seven Value Questions

Questions	Applied Methodologies
1. What Is the Initiative?	MIT Sloan IT Investment Framework
2. How Do We Measure Business Value?	Gartner Business Performance Framework™
3. What Does the Technology Do?	IT Capabilities
4. What Are the Benefits?	Financial Sensitivity
5. How Much Does It Cost?	Total Project Cost
6. Are there Optional Future Benefits?	Real Options
7. Is the Enterprise Ready?	Dynamic Benefits Realization

Now let's see how we use operational and business metrics to value IT investments. TVO is a structured methodology developed by Gartner to value IT enabled business initiatives. It is based on seven fundamental business-oriented questions (see slide above). By answering these seven questions with the business stakeholders involved in the solution, you will establish better lines of communication, better understanding and a higher level of confidence than by justifying IT projects on a case-by-case basis. The TVO methodology incorporates a set of specific methodologies to answer each question. What is the initiative is answered by a methodology developed by MIT that involves IT portfolio management thinking. "How do we measure business value?" is answered by the Business Performance Framework. "What does the technology do?" is answered by a list of generic IT capabilities that our research shows can be applied to any and all forms of information technology, whether it is an application or a piece of infrastructure. "What are the benefits?" is answered by looking at your current level of performance and the IT capabilities of the solution, and projecting the targeted improvements on the prime measures selected. We will review each of these applied methodologies in more detail in the following slides.

Action Item: Select or build a standard methodology by which all IT-enabled business initiatives can be judged. The methodology must provide an ability to monitor the initiative throughout its life cycle.

Measuring and Managing IT More Effectively: Question 1: What Is the Initiative?



Source: "Beyond the Business Case: Strategic IT Investment,"
Jeanne Ross and Cynthia M. Beath, October 2001, CISR WP 323,
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Source: "Beyond the Business Case: Strategic IT Investment," Jeanne Ross and Cynthia M. Beath, October 2001, CISR WP 323, copyright 2001 Massachusetts Institute of Technology

What is the initiative or, more specifically, what type of initiative is this? This opens the dialogue with our business and financial counterparts on the whole subject of IT portfolio management. More and more of our clients are beginning to organize their annual IT expenditures into categories so that similar projects can be compared and so that the appropriate level of expenditures are made in each category. For example, there is a natural tendency to spend on applications because these are easier to justify. If this continues, the IT infrastructure may become obsolete. Some clients have even begun to assign different "hurdle rates," or financial requirements. The four categories you see on this slide cover infrastructure to application, and short-term to long-term time periods. Categorizing each initiative during a planning period accomplishes two things:

1. Priorities among similar projects can be made.
2. The proper balance of expenditures can be maintained.

There is the flexibility within the TVO methodology to define these four quadrant as you see fit.

Action Item: Organize your annual IT expenditures into investment categories. See "Gartner 2002 IT Spending and Staffing Survey Results" (R-18-6281) for data on spending trends by category by industry.

Tactical Guideline: Operational, nonaccounting-based metrics will do a better job of capturing the real value of IT than standard financial measures.

**Measuring and Managing IT More Effectively:
Question 2: How Do We Measure Business Value?**

Market Responsiveness	Target Market Index	Market Coverage Index	Market Share Index	Opportunity/Threat Index
	Product Portfolio Index	Channel Profitability Index	Configure-ability Index	
Sales Effectiveness	Sales Opportunity Index	Sales Cycle Index	Sales Close Index	Sales Price Index
	Cost of Sales Index	Forecast Accuracy	Customer Retention Index	
Product Development Effectiveness	New Products Index	Feature Function Index	Time to Market Index	R & D Success Index

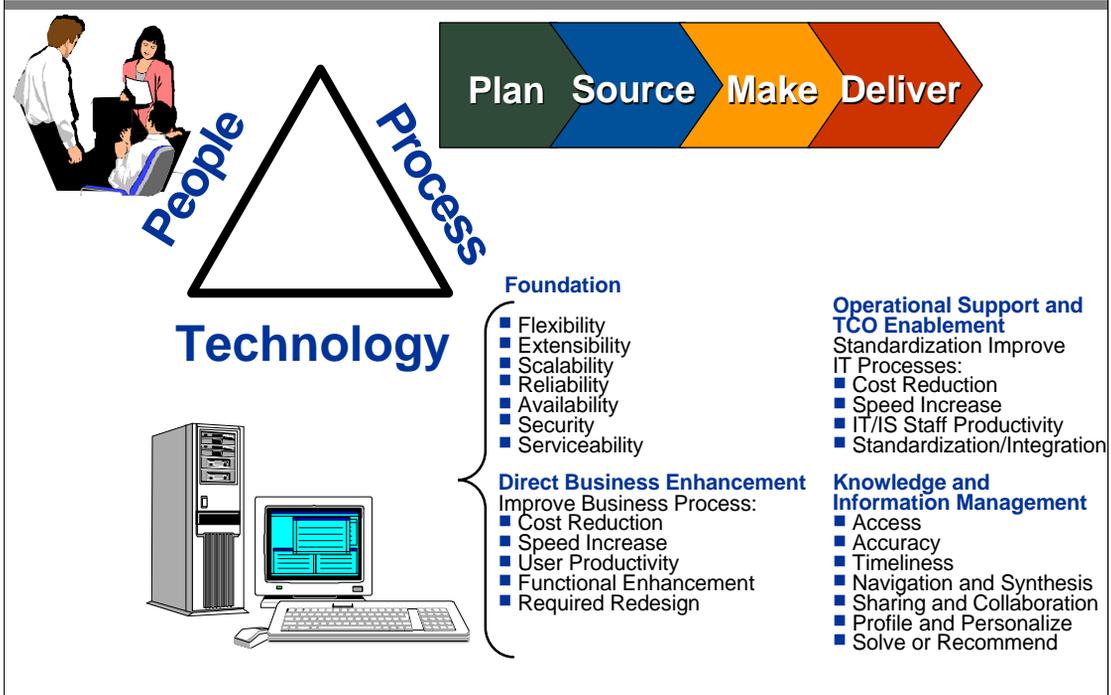
Select Target Metrics and Baseline Existing Performance

How will we measure the benefits? This is how we use the business metrics found in the Gartner Business Performance Framework to measure the value of IT investments. Lets refer back to the sales effectiveness example from before. Suppose you are evaluating the benefits of a CRM or sales force automation project. Lets assume that the objective of the project is to shorten the sales cycle, or to reduce the time it take to process a sales opportunity. By implementing well rationalize set of operational measures, IT can engage the sales management team in a discussion on the effects of this project. For example, the targeted objective may be to reduce the sales cycle, but that can be accomplished terminating the sales process too quickly. Looking at reducing the sales cycle index in the context of its effects on sales opportunity and the sales close index to ensure an overall increase sales and revenue will gain acceptance and confidence from your business and financial counterparts.

Action Item: Use a holistic set of operational performance measures to determine the benefits of IT investments.

Strategic Imperative: Enterprises must focus asset management efforts on collectively implementing process, people *and* technology improvements to achieve optimal total cost of ownership (TCO), service levels and asset utilization.

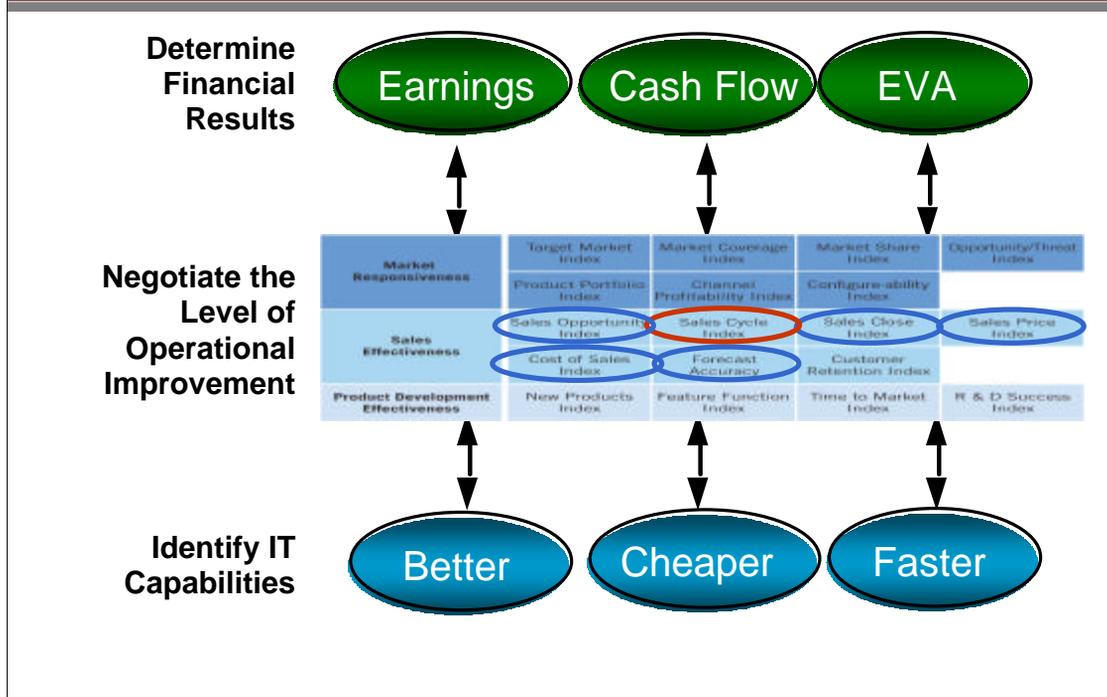
Measuring and Managing IT More Effectively: Question 3: What Does the Technology Do?



After selecting the appropriate operational metrics based on the functional areas targeted by the initiative, the next step is to understand how the technology will affect the baseline performance levels. It is generally accepted that the three primary influences on performance are people, process and technology. To determine the effects of technology on operating performance all three of these influences need to be understood. IT professionals bring their understanding of the specific technology being evaluated, the business or operational people bring their understanding of the people and processes being affected. TVO facilitates the discussion between the IS organization and business people by providing a list of generic capabilities that covers the effects of all forms of technology. These are the “better, cheaper and faster” things that technology can provide. By selecting three to four capabilities from among this list, IT can describe how the technology being evaluated influences the operational areas being targeted for improvement. The business people then decide how important these capabilities are in terms of the influence they have on the people and processes being effected. By facilitating a meaningful, fact-based discussion between IT and business, knowledge is transferred and a better understanding of the impact of the initiative being evaluated is achieved.

Action Item: Document the mutual understanding between IT and business stakeholders of how people, process and technology will improve performance as a result of implementing the solution.

Measuring and Managing IT More Effectively: Questions 4 and 5: What Are the Benefits and Costs?



Now comes the moment of truth with TVO. At this point in the process, we have already selected the target areas for improvement (primes), baselined current performance on the prime measures, facilitated an understanding of the effects of people, process and technology. Now is the time for the IS organization and the business stakeholders to agree on the targeted improvements to the selected performance metrics. So in this case, if the sales cycle index can be improved from 90 to 70 days without adversely effecting the other areas, then revenue will increase. The TVO tool does provide guidance on the financial impact of changes to the operational metrics in the Business Performance Framework. We call this the “financial sensitivity” of the metrics. The financial sensitivity calculations came from the research performed in the multi client study mentioned earlier. To ensure that the financial results occur, the metrics need to be tracked regularly throughout the life cycle of the investment. Question 5 deals with the total project costs (both direct and indirect) for the initiative.

Action Item: Understand the financial impact of changes to the operational metrics used for IT investment analysis.

Measuring and Managing IT More Effectively: Question 6 and 7: Future Options and Readiness?



Strategic Alignment	How important is medium/long term alignment of this initiative to organizational goals.
Business Process Impact	Weight the organization's requirement to have the capacity to rapidly and radically change business processes in line with changing business conditions.
Architecture	Please weight the importance placed on adherence to the organization's overall IT architecture as a criteria for the achievement of IT value.
Direct Payback	In general, how important is getting direct payback from IT investments to the organization?
Risk Assessment	Weight the tolerance for risk of the organization to IT failure. If any level of IT disruption would cause serious long-term ramifications, this would be rated highly.

The work done to this point has been quantitative. Question 7 deals with the more qualitative aspects of the initiative. This is based on a book from Tony Murphy of Gartner Consulting. The organizational readiness areas assessed are called the Five Pillars.

The Five Pillars of Benefits Realization can be summarized as follows:

Strategic Alignment: The alignment of IT investment strategy with the realization of the organization's business goals and objectives.

Business Process Impact: The impact on the requirement for the company to redesign business processes, and more closely integrate the supply chain or similar process-intensive initiatives.

Architecture: The integration, scalability and resilience of the databases, operating systems, applications and networks that the company has or plans to implement.

Direct Payback: The conventionally understood benefits a project can deliver.

Risk: Identifying the exposure of the proposed investment to failure or underachievement.

Case Study 1 — Tier II Automotive Supplier (Tool Mfg.)

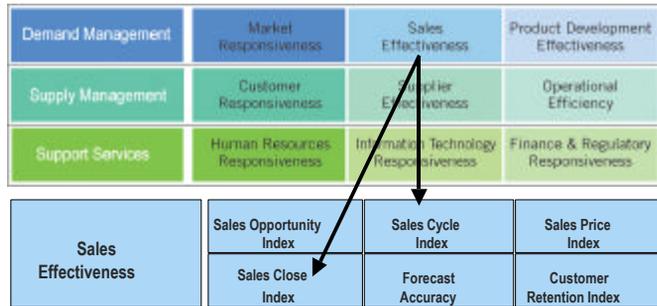
Problem: Custom products were a loss leader for standard product line.

Solution: Automate and integrate the quotation process.

Sales Cycle Index: Baseline 6 days, Target 5 days
Sales Close Index: Baseline 43%, Target 48%

Financial Results:

Benefits: \$3.2 m
Costs: 2.3 m
Net \$.9 m
ROI 39%
Payback 11 Months



Client Company

TVO Proof of Concept Strategy Document

Total revenue from the business units covered in this pilot was \$1,310 million. Operating profit from this business units was \$25 million. Total sales opportunities per month = 10,500; total successful sales per month = 4,500. Average duration of the sales process = six days.

- Sales Cycle Index** — Baseline Six Days, Targeted Improvement 17 Percent to Five Days
 Financial Sensitivity = Percent Improvement * Sales Close Index * Revenue * Net Operating Income as a Percentage of Company Revenue
 Results for Quotation Solution:
Financial Sensitivity = .17 * .43 * 1,310,000,000 * (25/1,310) = \$1,915,220
- Sales Close Index** — Baseline 43 Percent, Targeted Improvement 11.6 Percent to 48 Percent
 Successful Sales Opportunities (4,500)/Total Sales Opportunities (10,500) = .43
 Financial Sensitivity = Baseline * Percent Improvement * Net Operating Income
 Results for Quotation Solution:
Financial Sensitivity = .43 * .116 * 25,000,000 = \$1,247,000

Case Study 2 — Consumer Packaged Goods Company

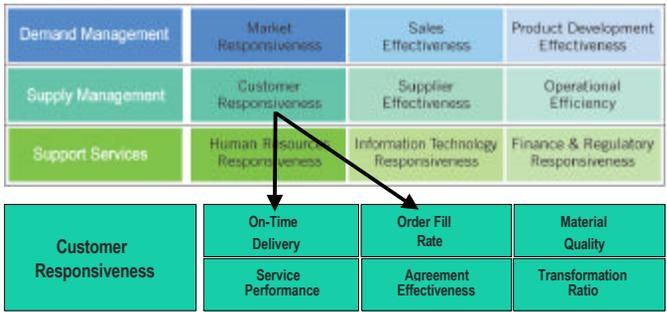
**Problem: Each Late Order Cost \$15
Each Incomplete Order Cost \$250**

Solution: Supply Chain Visibility

On-Time Delivery: Baseline 90%, Target 91%
Order Fill Rate: Baseline 92%, Target 97%

Financial Results:

Benefits: \$ 2.0 m
Costs: 1.5 m
Net \$.5 m
ROI 33%
Payback 13 Months



Client Company

TVO Proof of Concept Strategy Document

Total orders processed from the business units included in this pilot = 14,000 per month. Cost per late order = \$250. Cost per incomplete order = \$188.

- On-Time Delivery* — Baseline 90 Percent, Targeted Improvement 1 Percent to 91 Percent
Financial Sensitivity = Percent Improvement * Number of Orders * Cost per Late Order
Results for Supply Chain Visibility Solution:
Financial Sensitivity = .01 * 14,000 * 250 = 35,000 per Month, \$420,000 Annualized
- Order Fill Rate* — Baseline 92 Percent, Targeted Improvement 5 Percent to 97 Percent
Financial Sensitivity = Percent Improvement * Number of Orders * Cost per Incomplete Order
Results for Supply Chain Visibility Solution:
Financial Sensitivity = .05 * 14,000 * 188 = 131,600 per Month, \$1,579,200 Annualized

Case Study 3 — Financial Services Company

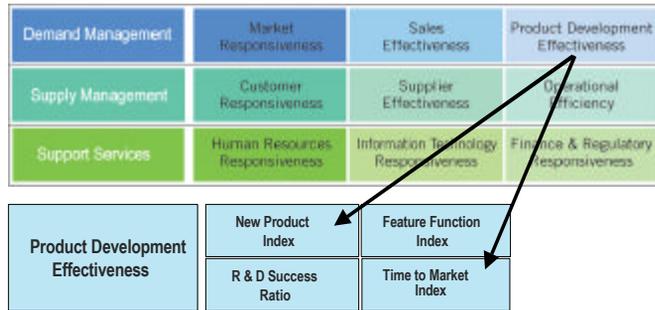
**Problem: Large Regional Bank Was Losing Market Share
Due to a Lack of New Product/Service Offerings**

Solution: Implement Product Life Cycle Management

New Products Index: Baseline 10%, Target 12%
Time to Market Index: Baseline 180 days, Target 90 days

Financial Results:

Benefits: \$2.4 m
Costs: 1.5 m
Net \$.9 m
ROI 60%
Payback 24 Months



Client Company

TVO Proof of Concept Strategy Document

Total revenue for the bank in the most recent year was \$244 million. Revenue from products/services launched during this period was \$23.2 million. Operating profit from this period was \$36 million. Time to market for new product/service offerings was 180 days from concept approval to launch.

- New Product Index* — Baseline 10 Percent, Targeted Improvement 20 Percent to 12 Percent
Financial Sensitivity = Percent Improvement * Revenue From New Products * Operating Margin
Results for Product Life Cycle Management Solution:
Financial Sensitivity = .20 * 23,200,000 * .15 = \$696,000
- Time-to-Market Index* — Baseline 180 days, Targeted Improvement 50 percent to 90 days
Financial Sensitivity = Percent Improvement * Revenue From New Products * Operating Margin
Results for Product Life Cycle Management Solution:
Financial Sensitivity = .50 * 23,200,000 * .15 = \$1,740,000

Recommendation

- Learn to communicate with business executives in a language they understand and accept.
- Become a part of the organizational trend toward corporate performance management.
- Use standard business metrics to communicate the value of IT investments.
- Use a standard methodology like TVO to evaluate IT-enabled business initiatives.

Let's review the recommendations:

1. Remember to ask yourselves what your business counterparts are interested in before approaching them. Do this as a group with your IS staff members.
2. Discover which activities are occurring within your enterprise concerning the idea of corporate performance management. Finance or a staff function involved with operational reviews is a good place to start.
3. Discover which performance metrics are widely used throughout the organization. If there is a rationalized set of operational metrics in place, leverage these metrics to demonstrate the business value of your solutions. If not, there may be an opportunity for IT to engage the business and finance people in your organization to build them.
4. Develop or implement a standard methodology for evaluating all IT initiatives. The methodology must provide the ability to monitor the investment throughout the entire life cycle.