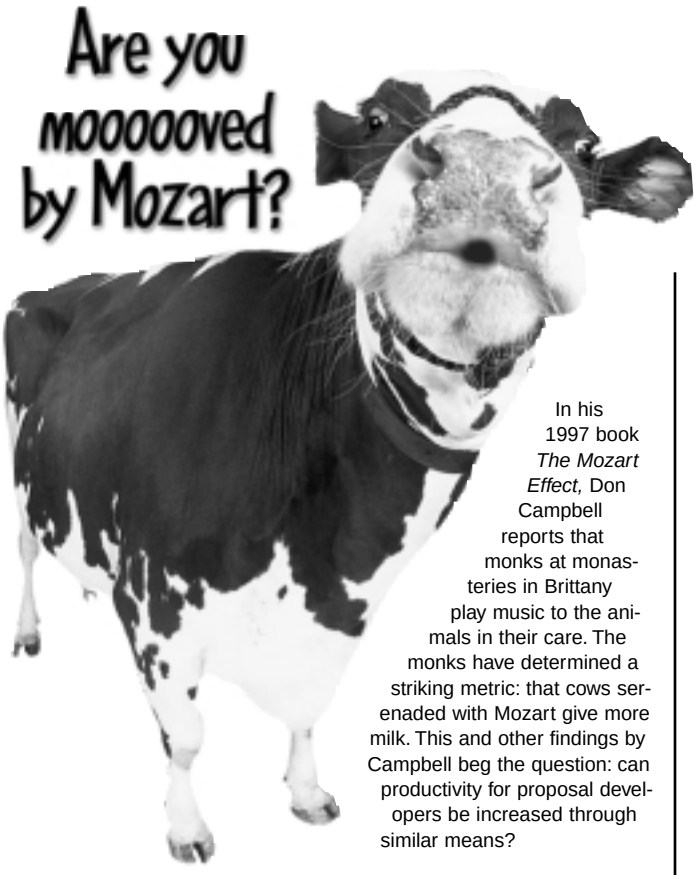
Why Metrics?

Everyone strives to know what to do and why.

In the 1989 movie *Field of Dreams*, Ray Kinsella (Kevin Costner) heard a mysterious, ominously spiritual but ultimately compelling proposal: "If you build it, he will come." Such is the power of the all-knowing voice. It was so compelling, Ray sacrificed a parcel of his Iowa farm for a baseball field with floodlights and bleachers on the prescient hope that it would prove to be the right decision.

It is too bad we are not all so well informed by the spirits. In proposal development, we rely on more scientific and measured approaches to know when we are making "the right decision."

We codify procedures and methods to follow based on experience, instinct, and available resources. We set performance goals and standards as objectives for defining success. We perfect and validate our methods by measuring statistical and qualitative process variables in the context of results. Winning (versus losing) is just one of those variables. Total hours expended, packaging options, production throughput, and customer satisfaction are among the many others. Collectively, they are used to measure effectiveness. They help us determine return on investment. They are our metrics — our cause and effect.



In his 1997 book *The Mozart Effect,* Don Campbell reports that monks at monasteries in Brittany play music to the animals in their care. The monks have determined a striking metric: that cows serenaded with Mozart give more milk. This and other findings by Campbell beg the question: can productivity for proposal developers be increased through similar means?

Left Brain-Right Brain

The affinity we have for metrics has little to do with whether or not one is left-brain dominant, in spite of a persistent misperception that people who love metrics are all left-brained. Even though the left brain favors logical operations and number skills, proposal metrics encompass far more than numbers in practical application. Witness, for example, the quality testing performed at Charlie Divine's proposal center at SBC and described for us briefly in this issue's "Profile" interview. At least one of his quality experiments had a decidedly visual — or right brain — correlation; it showed that SBC proposals produced in color, versus those in black and white, had a 17 percent better chance of winning. His group also tested a range of packaging concepts, the differentiation of which is more predominantly right brain.

Fortunately, our right and left brain hemispheres work together. Their alliance allows us to see a combination of the right and left hemisphere in everything we do. How else to explain Ray Kinsella's beautiful but illogical vision of a game to be played by the ghosts of "Shoeless" Joe Jackson and other great baseball legends on a patch of his Iowa cornfield?

Metric Ideologies

While developing the metrics issue of *Proposal Management*, we encountered two camps of ideology. One viewed metrics as something akin to bad-tasting medicine and asked us questions like

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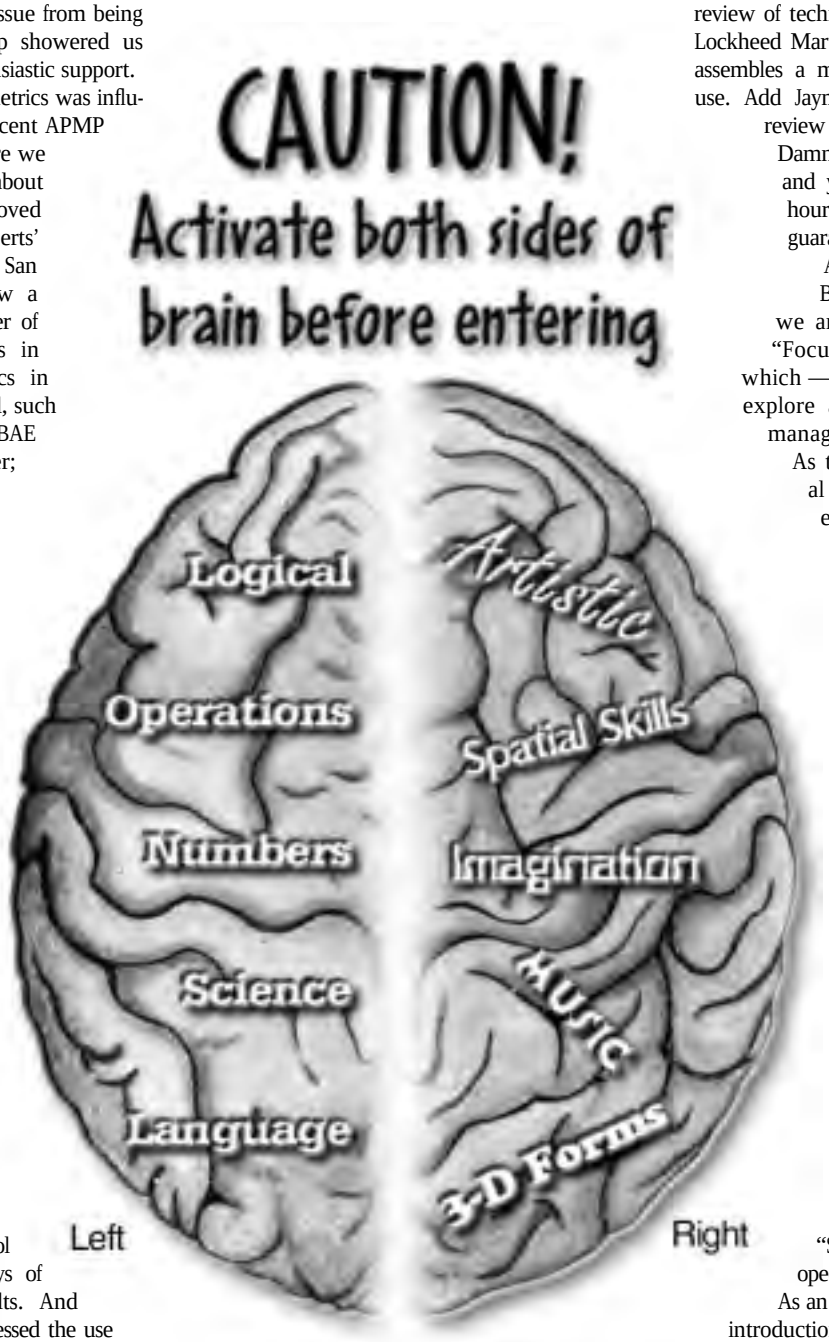
"How will you keep the issue from being boring?" The other camp showered us with hallelujahs and enthusiastic support.

Our high regard for metrics was influenced by attendance at recent APMP national conferences. There we found that presentations about or including metrics proved quite popular. Daryl Roberts' May 1999 presentation in San Diego, for example, drew a capacity crowd. A number of the May 2000 speakers in Orlando included metrics in their presentations, as well, such as NCR's Paul Mesing; BAE Systems' Steven Koger; Raytheon's Thelma Kailiwai, Hank Zolla, and Janet Jurista; and Sherikon CEO Stephen Wilkes.

In other cases, the speakers presented metrics under a different moniker. Intravation's Steve Toll, for example, used parametric data to build what he called the "baseline" for justifying new technology expenses. Frank Lincavage, with TRW, and Tom Boren, with Shipley Associates, used comparative data to build a competitive assessment matrix as an aide to strategic positioning. Sant Corporation's Carol Abbott discussed five ways of measuring business results. And SM&A's Robert Gurin addressed the use of quality metrics and quality assurance initiatives to improve proposal product quality without increasing costs. Regardless of what you call these data, they are still just rock-and-roll (i.e., metric) data to me.



A PROPOSAL "FIELD OF DREAMS"

We draw from this rich source of metric intelligence to give you a compelling issue. Paul Mesing, for example, offers a metrics case study from NCR, elaborating on his own company's recent experience. Roger Dean writes provocatively (in "Trends & Views") about win rates. Mark Martens explores the problems with federal performance measurement contracting. Marietta Salamida shares a review of techniques being applied at Lockheed Martin. And Rich Freeman assembles a metrics toolbox for our use. Add Jayme Sokolow's sobering review of metric misuse, "Lies, Damned Lies, and Statistics," and you have the basis for hours of good metric reading guaranteed not to bore.

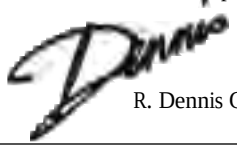
And there is more!

By popular demand, we are introducing a new "Focus on Basics" series in which — over time — we will explore a variety of proposal management fundamentals. As the column's inaugural piece on red team effectiveness by Dave Herndon demonstrates, even proposal veterans can find something valuable to take from such a review.

In the category of things we have been seeking-for-a-very-long-time-but-not-finding (until now), we are pleased to introduce (or reintroduce) the readership to Walt Starkey, co-author in 1965 of the now legendary Sequential Thematic Organization of Publications — or "STOP" — manual developed at Hughes-Fullerton. As an active participant in the introduction of storyboard techniques, Starkey proves a perfect witness. His interesting reflection on the birth of proposal storyboards is the eloquent voice of authority we were looking for; it helps us to separate fact from colorful but sometimes erroneous folklore and myth.

Add to this our columns on books and commerce-products and our in-depth profile of SBC's commercial proposal innovator, Charlie Divine, and you have the makings of another home run issue. Step up into your *Field of Dreams* bleachers, sit back, read, ease your pain, and enjoy.

Onward and upward!



R. Dennis Green

Win Rate Mischief

Metrics have become a management obsession. But misunderstanding the industry's most common metric, "Win Rate," can mislead. As Roger Dean explores our fascination with metric phenomena, he highlights a number of useful companion questions to ask when considering candidates for proposal services support.

By ROGER DEAN

People just love to measure things. We'll measure anything…how fast, how high, how many, how quickly…anything. From the purity of soap powder (remember Ivory Soap's claim of 99 44/100 percent pure?) to the largest ball of twine (almost 7 million feet), to the most college students in a phone booth (25). Some of these things are easy to measure and some are not so easy. Sometimes we know what the numbers really mean and sometimes we don't. But we measure them anyway. We particularly like to keep track of accomplishments: 70 home runs (Mark McGwire), 57 games (Joe DiMaggio's hitting streak), 1330 strike-outs (Babe Ruth). We are fascinated, almost obsessed, with measuring things.

Measurements of performance in the business world—metrics—help us understand our business. Metrics for industries as a whole provide common standards for assessing future performance. Metrics taken for a single organization can guide us in assessing our performance against industry standards and even suggest areas for focusing improvement efforts. Metrics also help us make important decisions as we choose between alternatives. The problem is that metrics can inform or mislead. Creativity consultant Roger Von Oesch captured the essence of the problem in his book, *A Whack on the Side of the Head*. He observed, "The answers you get depend on the questions you ask." Taken to heart, this can keep us from doing some really dumb things, especially when it comes to choosing help for our "must win" proposal.

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Perhaps the most common—and most misunderstood—proposal metric is win rate. Regardless of whether we are trying to describe a company's overall capabilities in capturing new business or assess a prospective consultant's ability to help us win, we always ask the same question: "What's your win rate?"

The issue with win rate, as it is with almost any metrics question, is understanding the limitations of the question and the complexity of the answer(s). To make win rate meaningful, you have to ask enough of the right questions (plural) to ensure you learn what you really want to know. There are four key areas to investigate: the arithmetic of the calculation, the inherent difficulty of the jobs, the role that the proposal services supplier fills, and the identification of people contributing to the stated win rate.

Convenient Arithmetic

In most cases, the context of asking win rate is one that encourages a big number (a high win rate) rather than a small one. The problem is that there are lots of ways to calculate a win rate, and some of us show great originality when it comes to calculating it.

Here are just a couple of different—and fairly conservative—ways to calculate win rate that produce dramatically different answers. For each answer, the basic facts are the same: I work on five proposals for a single company. On one proposal, my client spends $1.7M to pursue and win a single contract worth $120M. For the other four, they spend an average of $80K each, losing four contracts worth an average of $12.5M each. What's my win rate? It depends…

What's The Valid Win Rate?

In this hypothetical example, all three "win rates" are true.

20% one contract won out of five pursued

71% $120M won out of a total of $170M pursued

84% $1.7M of B&P resulted in contracts compared with a total of $2.02M B&P spent

These are widely different answers, all equally valid, that produce different impressions if someone does not bother to investigate the answer more thoroughly. The right answer—at least from the perspective of the person asking the question—probably would depend on lots of factors, none of which are revealed through the simple question of "What's your win rate?" The start of understanding win rate is to understand how the answer to your win rate question is calculated.

Some Jobs are Harder than Others

A leading New York heart specialist was once asked about his success rate—the percent of patients he treated that lived long enough to leave the hospital. It was on the order of 50 percent. When challenged as to why it was "so low," his response was simply this: "I get all the hard cases, the ones no one else wants." For the patients he treated, his success rate was, in fact, phenomenally high. But not if all you looked at was a single statement of survival rate.

The issue with win rate, as it is with almost any metrics question, is understanding the limitations of the question and the complexity of the answer(s).

This story is as relevant to proposals as it is to surgery because it illustrates how the inherent difficulty of the project should guide expectations about what an acceptable success rate really is. This starts to sound like a grand rationalization until you stop to think about the diversity of people and companies who chase new business through proposals. Some do a very good job of deciding which jobs to bid, understanding what it takes to win them, and then actually following through with the necessary commitment to winning. Others are less informed, less prepared, and certainly less committed to winning. There are easy cases and there are hard cases: some patients are going to live and some will almost surely die, no matter what the "doctor" does (almost).

If our doctor had been a proposal consultant and quoted a win rate of "only" 50 percent, you might not think much of him. Until you stopped to ask about the difficulty of his "cases." If he was the sort of consultant who would try to help companies that were intent on bidding even if common sense would suggest they no bid, then 50 percent would be a pretty good win rate. But if he was a consultant who only worked on sure things, then 50 percent isn't impressive at all. Rob Ransone, of Ransone Associates Inc., for example, once analyzed wins and losses of a particular company over a 15-year period. He determined that 23 percent of those proposals that lost should have been no-bid from the start. To make win rate a useful metric, you must understand the competitive health of the pursuit opportunities included in the calculation. Were they almost surely winners, almost surely losers, or somewhere in between?

What's My Line?

The third aspect of understanding answers to the win rate question lies in the team nature of proposals. In all team efforts there are two key factors that can override everything else when it

comes to determining who wins: team chemistry and basic game strategy. Neither is the responsibility of individual players. In most proposals, company management picks the team and the Capture Manager sets key elements of the pursuit strategy. The members of the proposal team execute the overall company strategy, which—regardless of the extent of preparation, the amount of company commitment, or the skills of individual contributors—may simply be inadequate to win.

If you think winning really is the result of individual stars, consider the 1969 baseball season. The '69 Chicago Cubs had all-star talent in Ernie Banks, Billy Williams, and Fergie Jenkins—each good enough to be in the Hall of Fame. Yet the '69 Mets, coached by legendary Casey Stengel, won the World Series. That year, the Cubs had the star players, but they still were considered "losers" because they did not make it to "the big one." The Mets had team chemistry and a coach with an unmatched ability to set game strategy.

This distinction over role is important when choosing proposal support, regardless of whether you are looking in-house or to an outside consultant. There are some people you bring on to your proposal team because you expect them to help you staff your team, help you build team chemistry, or help you set fundamental strategies. There are other people, equally important to a successful proposal, whose job is "just the proposal." These are the people who devour and interpret the RFP, set outlines, guide writing, and serve as facilitator or conscience for strategy development. But, they do not set basic strategy. Our profession has lots of each kind, and each has its place in our industry. It is important to know the difference

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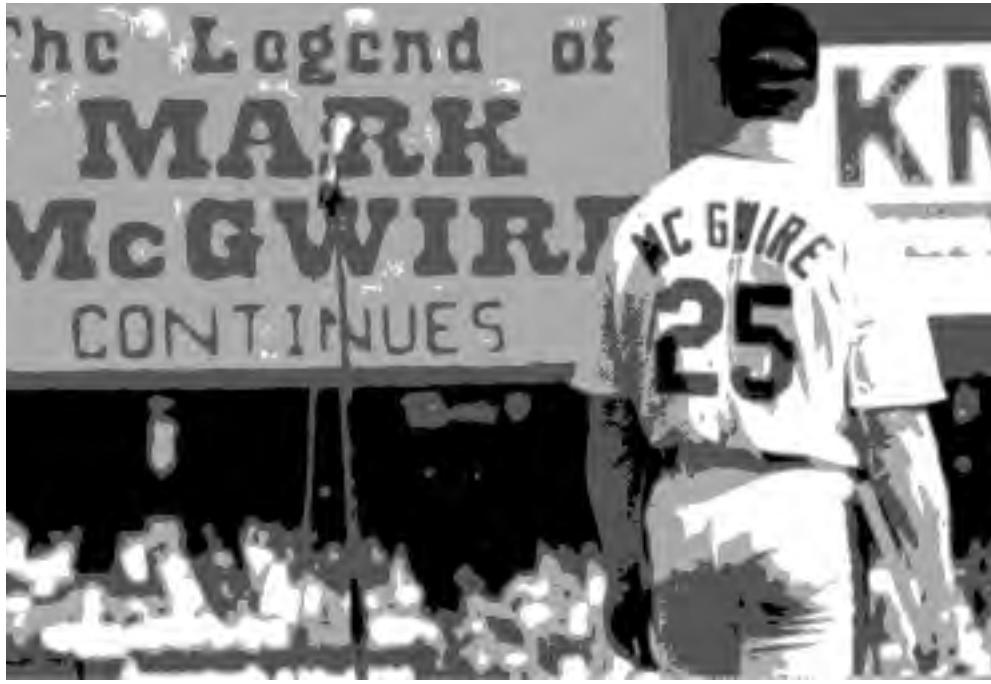
In all team efforts there are two key factors that can override everything else when it comes to determining who wins: team chemistry and basic game strategy.

and to know which type you need and want. You also need to know which type can truly influence winning so that you can count on win rate being a meaningful metric.

When it comes to proposal specialists, even some of the best ones cannot quote you an impressive win rate because of the roles they assume from proposal to proposal.



Although Mark McGwire set a new home run record in the 1999-2000 baseball season, the win rate of his team was inadequate to secure a playoff berth.

The first group presenting—those who have a fundamental impact on strategies—obviously has a large influence on winning or losing; the second group has a much smaller one. In fact, for those folks who "only work on the proposal," win rate becomes almost an irrelevant concept. Why? Because most reasonable people would agree that even the best proposal, like an outstanding resume, cannot win you the job; it can only lose it for you. When it comes to proposal specialists, even some of the best ones cannot quote you an impressive win rate because of the roles they assume from proposal to proposal. Many make significant individual contributions to the quality of the proposal but do not control the fundamental ingredients of winning. So if you are going to use win rate as a metric in choosing proposal support, be sure to investigate the role your prospective candidate had on his or her past projects. Find out whether or not he or she contributed to the factors that have the largest impact on winning, or was only responsible for communicating those factors in the proposal document.

Whose Win Rate Is It, Anyway?

The last important key to understanding win rate is really a subset of "what's my line," but it is something that is overlooked so often that it deserves its own discussion. If you are hiring a team, then the team's win rate is what you want to investigate. But if you are hiring an individual, then you want to know something about that particular person's skills and contributions. When you ask about win rate, who's win rate is being quoted?

The answer is obvious for lone-eagle proposal specialists who show up, do their jobs, and leave. But most proposal service providers—even the small ones—have "associates" that broaden the scope of clients and services beyond those that the principal, alone, can support. Because those associates are independent, they may switch the service provider they work for from job to job.

Back to sports once again. It may be valuable to get a player from last year's baseball champs to join your team, but only if it was someone who was also regarded as being an individual star. When hiring an individual—or even a group of individuals—the key is the skill of the individual, not necessarily the record of the team he played for. If I were making the decision, I would pick someone like Andre Dawson of the Chicago Cubs, baseball's perennial losers. While the Cubs finished last in 1987, Dawson was baseball's Most Valuable Player. He also hit 49 home runs, which led the league, and batted .342. In choosing between a third-string player from the champions or a star like Dawson on an also-ran team, win rate alone would probably not give you the best answer. Be specific in knowing who, exactly, will be on your team, and what their real contributions to the quoted win rate really were.

Ask <u>All</u> the Right Questions

The bottom line of all this is that win rate can be a helpful metric for assessing prospective proposal help, but only if you understand that the answer you get depends on all the questions you ask. Go ahead, ask about win rate if you must. But be sure to learn the context of that answer. Ask yourself what type of person or team you need for your proposal, then see if you can find a candidate to meet your particular needs. Recognize that skills that were not required, or used, on one team may be exactly what you need to win. Then ask your candidates sufficient questions to understand all four key elements of their win rate answers. You might even consider asking what may be a more meaningful question: Would those companies invite your candidate back to help again, regardless of whether or not the proposal won or lost? Then, if all the answers are consistent with your competitive needs, use win rate as one of many factors in choosing the right proposal services support.

Roger Dean is Managing Partner of Engineered Proposals, a proposal and program management services company established in 1987. Roger and his associates help defense, industrial, and commercial organizations pursue business opportunities. Roger can be reached at RogerDean@aol.com or through the EP Web site, www.proposalhelp.com.

Performance Measurement & Outsourcing Opportunities

The value of measurable accountability will become vital to government managers, and increasingly profitable for the contractors who can help them develop it.

By MARK MARTENS

In his book *The Measure of Reality* (1997), Alfred Crosby attributes the emerging dominance of western European societies after the Middle Ages to the increasing tendency and capability for quantification and measurement of the world around us. From temperature, to time, and even to music, these techniques quantified the world in a way that allowed a qualitatively superior mastery of our environment. More recently, direction from the Federal Acquisition Regulation (FAR) for Contracting Officers to use performance-based contracts (PBCs) are attempts to reap the benefits of quantification and measurement techniques in the arena of work performance. Although it is not clear whether much has resulted from the FAR directive yet, it is clearly part of a trend in government that is not going to fade any time soon.

Calls for government accountability from the public and from Congress increase every year. Every year increasing standardization of accounting procedures, financial techniques, commercial off-the-shelf (COTS) software, and technology advances make such accountability easier to provide. And, slowly, the resistance of government agencies to accountability is eroding. One arena at a time, the objection that "we just can't measure that" is becoming so obviously false as to be unacceptable.

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The first trend is the increasing public demand for government accountability and economic efficiency.

Quite apart from technological change, two complementary trends in particular are driving the emphasis on performance measurement in the government arena. The first trend is increasing public demand for government accountability and economic efficiency. The second trend is the outsourcing to commercial companies of government functions that are peripheral to the primary organizational mission or purpose. Commercial outsourcing is actually part of the strategy for economic efficiency. Even so, without quantification and performance measurement techniques competition cannot be harnessed effectively. And without competition, economic efficiency is a pipe dream. So consider that these trends are here to stay.

The Patron Saint of computers, computer users, computer programmers, and the Internet?

Isidore was born in Caragena, Spain, about 560 CE. He was born into a religious family and two brothers also became saints in the Catholic Church, and his sister a nun. Isidore was a prolific and versatile writer and a compiler of a great deal of knowledge.

The best-known of all his writings is the "Etymologiae," or "Origines." He wrote it shortly before his death in 636. The work of twenty volumes was a vast storehouse of classical information from Latin and Greek writings. He attempted to gather, systematize, and condense, all the learning of his time. Throughout the greater part of the Middle Ages it was the textbook most in use in educational institutions and its impact lasted for centuries. The work was printed ten more times between 1470 and 1529.

In 1998, St. Isidore was nominated by the Catholic Church as the patron saint of computers and the Internet.

The Vatican has not yet selected any of the candidates, despite numerous reports that St Isidore has been officially chosen.

"Take away number in all things and all things perish.
Take calculation from the world and all is developed in dark ignorance, nor can he who does not know the way to reckon be distinguished from the rest of the animals."

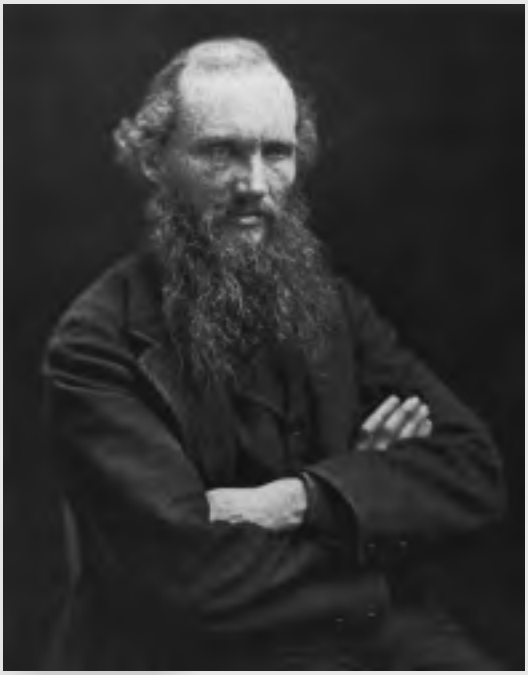
–St. Isidore of Seville (c. 600)

Arguments For Performance Measurements In Government

- It allows for effective (results-oriented) management
- It provides for credible, objective, management evaluation
- Technology advances are making it easier to provide
- It can make government more efficient
- It is the best way to get government to be more accountable
- The public and Congress want it

Arguments Against Performance Measurements In Government

- It requires standardization of work products, outputs, and results
- It requires changing the work environment
- It changes the previous "implicit contract" of government work
- It requires a change in the mindset/culture of public employees
- It requires a thorough and disciplined implementation to be effective; halfway measures are often useless or counter-productive
- Some government workers find it threatening
- Many employees do not want to be accountable and engage in "passive resistance"
- Performance-based contracting is not conducive to research type environments



"I often say that when you can measure what you are speaking about and express it in numbers you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind."

–William Thomson, Lord Kelvin (1891)

The Connection Between Outsourcing and Performance Measurement

The trend in outsourcing is based partly on the belief that specialization of labor facilitates greater efficiency. The trend towards work performance measurement has been occurring in both the government and commercial sectors for many years. In government, this is partly because of the increase in outsourcing.

For most of history, government has not been very accountable for economic efficiency. Due to the monopolistic nature of government functions and the fact that cost is borne by a third party (the taxpayer), there is rarely any internal incentive for an agency to pursue economic efficiency, performance measurement, or accountability. Government agency operations in general are simply examples of work environments that suffer from a lack of competition. In such environments, reliable performance measurement and economic accountability may not be rewarded.

Increasing outsourcing, privatization and performance measurement accountability are therefore synergistic and complementary trends.

Because criteria for promotion and reward of individuals in these environments do not include economic efficiency, it makes sense that managers will not necessarily pursue such efficiency. Even now, anything that sounds like "performance" or "measurement" may be perceived by many government officials to be a little like playing career Russian roulette.

When government functions are outsourced, however, accountability is not only specifically required by regulation, but also becomes less controversial. It is no accident that an emphasis on performance measurement in the government arena is emerging along with, or subsequent to, increases in privatization and outsourcing. A significant element is decreasing resistance to the use of performance metrics in government work environments: growing recognition by government employees of the value such metrics have for managing contractors. Also significant is the fact that technological advances are making it increasingly easy to implement such metrics.

The more measurements and accountability are implemented, the clearer it will become that government has much to gain from imitating the methods for accomplishing work used by competitive commercial enterprises. Increasing outsourcing, privatization, and performance measurement accountability are therefore synergistic and complementary trends within the government workplace.

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The Baseline Performance Issue

In most government agencies, and for much outsourcing, performance may never have been effectively measured at all. In these cases, it cannot be demonstrated that outsourcing has truly improved economic efficiency. If work was not effectively measured prior to outsourcing, it is not possible to credibly demonstrate improved efficiency after outsourcing. Even for services and functions that have been outsourced for years, effective performance measurement is rare.

Thus we find cases where, after many fixed labor rate Indefinite Delivery, Indefinite Quantity (IDIQ) contracts, it still cannot be demonstrated that one contractor has completed work more efficiently overall than another, or that either one was more efficient than the government itself. Why not? Because performance was never effectively measured in the first place. Without an established performance baseline, the government cannot award and monitor an effective performance-based contract.

It appears that the specificity the government most needs is also that which contractors are most reluctant to provide.

The FAR directive does not recognize this problem. Yet its strict interpretation may lead a Contracting Officer to pursue outsourcing by soliciting commercial proposals for a performance-based contract which has no reliable measurement data on which to base performance goals, and no credible performance baseline. In such cases, the government's best option is not necessarily to implement the performance-based contract immediately. A better idea may be to outsource the functions to a performance measurement contractor who can perform underlying work while reorganizing these functions and implementing an effective performance measurement system. The resulting performance measurement system and required baseline for functional performance would then allow effective, competitively priced PBC on future tasks.

How and Why to Outsource Performance Measurement

Performance-based measurement may be difficult to achieve in government agencies, but it is gaining acceptance. For example, RS Information Systems, Inc. (RSIS), an 8(a)-certified information technology and engineering firm based in McLean, Virginia, is a proven performance-based contractor. To ensure continuous process improvements and spend federal tax dollars effectively, RSIS monitors its program performance against customer-approved performance metrics and standards. The company is performing in accordance with mutually agreed upon performance metrics for NASA/Glenn Research Center (GRC), NASA/Goddard Space Flight Center (GSFC), and Department of Energy/Office of Civilian and Radioactive Waste Management (DOE/ OCRWM), where it has received 99.7, 93.3, and 98.5 percent award fees and client ratings.

RSIS has received consistently Outstanding and Highly Favorable past performance ratings from various clients. For the company's support of NASA/GRC in Cleveland, Ohio, it developed performance-based metrics and integrated them into each individual task supporting advanced networking, business and facilities, and computational sciences. RSIS analyzed more than 50 existing tasks and streamlined them by combining similar work under consolidated functional areas. The result has

If you want to become familiar with the government's Best Practices in Performance Measurement, visit the Web site below.

Contents

NATIONAL PERFORMANCE REVIEW

http://www.npr.gov/library/papers/benchmrk/nprbook.html

The Intent Of FAR Reform

- Save the government money through increased used of PBCs

The Result Of FAR Reform

- Increased use of poorly implemented PBCs, wasting government money and disrupting work performance

been expanded and enhanced tasking under a reduced number of task orders, and improved efficiency, economy, reduced administrative costs, and effective support services—all done by a team that includes three subcontractors. On the RSIS contract with the Department of Energy, regular performance review briefings—which include performance metrics—are captured in PowerPoint and made available in the meeting minutes placed in a Lotus Notes-based, enterprise-wide meeting database. RSIS's information technology professionals implement client-approved performance metrics throughout this contract.

So PBC can work. Yet there is a paradox to performance-based contracting. When a contractor establishes an effective performance measurement system and a functional performance baseline during one contract period, it becomes much more accountable during the next contract period. At the same time, the contractor changes an ID/IQ-type functionality with associated low accountability and comfortable profit margins into a highly accountable, and therefore competitive performance-based, contract with low profit margins.

Why would any contractor do this? Isn't the contractor incentivized to compromise the effectiveness of the measurement system it establishes so that it can continue this comfortable arrangement? The answer is yes, of course. This is one of the problems with the current process. The contract awardee that later becomes the incumbent is incentivized to behave in ways that are not in the government's best interest. This is one of the reasons why government customers consider many incumbent contractors frustrating and unsatisfactory.

The question therefore becomes how to incentivize a contractor to implement the most effective performance measurement system possible and establish a competitive performance baseline, even though these things can then be used to hold that contractor accountable?

My suggestion is to establish, at contract award, that the contractor implementing the performance measurement system and establishing the baseline performance will be ineligible for the follow-on. This implies the need for a different type of initial contractor: one who specifically establishes performance measurement systems and baselines, and then walks away. Much like companies that extinguish oil fires.

The Case for Proposing Performance Metrics

Proposal evaluation teams consistently look for proposals with specific, verifiable, or measurable benefits. Yet after reviewing hundreds of service-type (typically best value) proposals, these same proposal evaluation teams consistently come to rely on generic, non-verifiable, or non-measurable benefits as a basis for award. It appears that the specificity the government most needs is also that which contractors are most reluctant or unable to provide.

Part of this reluctance reflects the fact that contractors do not want to be held accountable for over-budget performances in a scenario of evolving customer requirements. This problem may be related to the practical limitations of the manner in which the government manages work and contractors. Contractors are reluctant to make contractual commitments that limit their profits or their flexibility to profitably stay within budget when contract requirements change.

At the moment, most of the impetus for the trend towards performance measurement in government work environments is being pushed from the government's side, through regulations like the CFO Act and GPRA. I use the term 'pushed' because PBC is typically more compelling to outside stakeholders than it is to those inside a government agency who most directly affect the success or failure of such systems. There is usually some significant risk or cost associated with rigorously implementing a performance-based contract, and it is rarely compelling for individuals inside the organizations to do so, particularly since some of them expect to then be held accountable for the contract's performance. So new rules are pushed on them from the outside.

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This implies the need for a different type of initial contractor: one who specifically establishes performance measurement systems and baselines, and then walks away.

The short run presents an opportunity for significant contract awards for individual contractors who show the ability to successfully help the government implement performance measurement systems.

At some point, I expect this trend to be complemented by commercial contractors who perceive that there is gain to be had from providing performance measurement tools, either to simplify and objectify their relationship with a customer, or to make a difference between winning and losing a contract award. For contractors, the process is more complex: a gain for an individual contractor in the short run may actually be a loss for the group in the long run. The short run presents an opportunity for significant contract awards for individual contractors who successfully help the government implement performance measurement systems. Yet doing so in the long run ultimately reduces profit margins available to all subsequent contractors.

What might not make sense for the group as a whole, however, is compelling for any individual contractor. For an individual contractor the likely short run gain is more compelling than the possible long-term loss to the industry. The highly probable short run marginal benefits from being the first are inevitably more compelling than long run uncertain costs. Logically enough, the situation is the reverse for the government, and their rationale for implementing performance measurement systems is clear: the long-term economic benefits alone are enormous, and fully justify even quite significant short-run costs.

Given these assertions, a proposal from a contractor that credibly provides for the comprehensive, accurate, and objective establishment of work performance measurement baselines would be of enormous value to the government in the long run, regardless of the initial level of actual work performance by the contractor. By establishing a credible baseline of measurable performance for outsourced tasks, a proposal provides a mechanism for real economic efficiency into the indefinite future, well beyond the current period of performance. Without such an effective performance baseline, economic efficiency in a services function will probably not materialize.

By standardizing work outputs, performance measurement provides credible measurement and verification of service-provided benefits. It also provides a mechanism to 'harness' competition. An organization demonstrating consistent willingness and ability to assist the government in developing ways to define, specify, objectify, quantify, and measure work performance and outputs would quickly become a sought-after contractor.

Examples of Metrics for Commodity Purchases

- Price per commodity/unit
- Number of British Thermal Units (BTUs) for electric power
- Processing speed and storage capacity for Personal Computers (PCs)
- Thousands of accurate searches per second for fingerprint software

Examples of Metrics in Services Performance

- Number of prisoners fed per day
- Accuracy rate for data entry services
- Number of duplicate files per day accurately consolidated
- Length of time to naturalize applicant
- Number of help desk calls resolved satisfactorily per day
- Index of customer satisfaction
- Number of function points programmed for software development
- Length of time to fill technical vacancies

We should recognize that performance measurement is not the latest Total Quality Management (TQM) fad. The forces that produced GPRA will, I expect, increase over time. As they are pushed by Congress, the Office of Management Bureau, and the public, those federal, state, and local government agencies that lag in measuring, quantifying, and accounting for economic efficiency and accountability will become increasingly visible and politically vulnerable. The potential benefits of implementing performance measurement are becoming obvious and compelling, and objections are becoming too small to hide behind.

If firm fixed price contracts can be viewed making goods into commodities, then PBCs may be considered making services into commodities. They are likely to be the trend for the next decade in government contracting. Much progress in performance measurement is still needed, and those companies that can support this need will establish a valuable market niche.

The direct financial value to the government of effective performance measurement can be enormous. I expect that soon the political value of this type of "credibly measurable accountability" will also become vital to government managers, and increasingly profitable in the short run for contractors that can help them develop it.

References

Crosby, Alfred W. *The Measure of Reality: Quantification and Western Society, 1250-1600.* Cambridge: Cambridge University Press, 1997.

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DIVINE INTERVENTION

One Man's Leadership In A New Commercial Proposal Paradigm

Proposal Management interviews CHARLIE DIVINE, a commercial proposal pioneer and visionary whose techniques and philosophy are sure to enlarge your view of what defines a proposal operation's success.

By R. DENNIS GREEN

It is hard not to like Charlie Divine. In addition to being a hard-working APMP board member, enthusiastic champion of the organization, and leader of its commercial sector initiative, he is also known for his love of people and hearty smile. But that smile belies a serious proposal innovator whose company, SBC Communications, Inc., is helping to define the industry's cutting edge.

Perfection Redefined

Based in San Antonio, Texas, SBC Communications is one of the largest local telecommunications providers in the United States and a worldwide leader in diversified telecommunications. In 1999, SBC had annual revenues of $49.5 billion. With approximately 210,000 employees, it is the country's thirteenth largest employer.

As General Manager of all SBC Communications proposal centers, Divine and his staff generate more than 3,500 custom proposals and RFP responses annually from a small number of sites. Moreover, they do this with client (i.e., sales staff) satisfaction approval ratings consistently exceeding 98 percent.

How do they do it? The answer surprised us. In fact, we think that Divine may have invented a whole new paradigm for proposal generation. He described it for us in his amiable, self-effacing, sometimes provocative style.

"We write a whole lot of imperfect proposals," Divine explained, at the same time making us wonder: how can imperfect proposals be good?

The secret is found in a business rule Divine concedes to have just stumbled on to. He embraced the notion "that the proposal center is not the end in itself. It is just another piece of the overall sales process."

Recognizing this interdependence of corporate groups within SBC, Divine has subordinated the proposal center to serve the broader interests of the company's sales groups. He works to make his center indispensable to the SBC sales staff. His center's resources and innovative energies are focused on making that sales staff shine.

"What we want to do is build a proposal center that works the way sales people work," he said. "Works with them when they need it, where they need it, how they need it."

"If I wanted to write perfect proposals from a proposal standpoint," he said, "I might have a different set of rules. Because it might not be so important then that the sales process ended in a victory as that the proposal was perfect."

The distinction is subtle but critical to Divine's successful opera-

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tion. His group's combination of chemistry and client service do miraculous things for internal corporate relations. The mutual respect exhibited there is something akin to a love fest. But the bottom line is its benefit to the company; it produces a generous revenue return.

30 Years With the Company, But Never In One Place

Divine is sometimes referred to as APMP's rocket scientist. The affectionate label is made in deference to Divine's degree in nuclear science from Texas Tech University. Following graduation, Divine joined Southwestern Bell, one of the firms that grew and evolved to become the Fortune 500 company that SBC is today. Divine has been with the firm 30 years.

From 1970 to 1983, Divine served in a variety of positions in the engineering, operations, information systems and strategic planning organizations. He developed a broad background in both the technical and operational aspects of his industry. In 1983, when the seven regional Bell operating companies were divested from AT&T, he moved to marketing and positions in sales management. Ultimately, he formed a group in sales that would help sell data solutions to national customers. How did this lead to the creation of the proposal center?

charlie divine . . . at a glance

Position: General Manager, Proposal Center Operations, SBC Communications. Responsible for generating 3,500 commercial proposals annually from 14 sites nationwide.
Office: St. Louis, Missouri.
Age: 53
Family: Wife and one son.
Hobbies: Fishing, cooking, and wine tasting.
Favorite Wine: Vincent Arroyo Winery, "Joy's Choice." Any year — every year!
Admired Quote: "Good counselors lack no clients." — Shakespeare, 1604.
APMP: Board of Directors, Commercial Programs; Member since 1995.

Divine and Steve Shipley (background) participate in the APMP Board of Director's meeting this past May.

The Accidental Proposal Center

According to Divine, "the SBC Proposal Center was started 13 years ago by a bunch of data design engineers who wrote proposals — almost as an afterthought — so salespeople could better explain the group's solutions to customers. However, soon the group's proposals became more popular than its data designs."

Since that time, the proposal center's operation has evolved from one office with eight people in St. Louis, Missouri, to 14 offices across the country and a staff of more than 100 proposal developers, writers, programmers, and artists. Centers have also been started in Mexico City; Mexico; Pretoria, South Africa; and Paris, France, for the company's international subsidiaries.

Marketplace-driven Philosophy and Tools

SBC's Proposal Center services a full range of customers "from Fortune 500 companies to the mom and pop grocery store." The size of proposals it develops may range "from $1 billion to a few thousand dollars" in value.

"Our customers are not all alike," said Divine, "so likewise our proposals are not all alike."

To keep the proposal center successful, SBC has made significant investments. One is its investment in technology-enhanced tools. Though proprietary designs prohibit any detailed disclosure here, Divine did give us overview glimpse.

The sales tools and services provided by his proposal center are classified into these four categories:

1. Sales Proposals - include traditional RFP responses, the development of custom proposals and sales presentations.
2. Wizards - automated sales proposals enabling sales people to create thousands of persuasive proposals on their own. The wizards are available for more than 100 services and applications. These use a combination of automated templates, intelligent prompts, and sophisticated logic to generate a very customized proposal through systematic means.
3. Online Sales Resources - include SalesOne, a proprietary Intranet resource with information on market management, products and services, and sales operations.
4. Customized Sales Collateral - includes tailored print pieces such as brochures, fliers, customer newsletters, and binders that showcase products and services.

Uniformity is only employed where that characteristic makes sense. According to Divine, "there are only two aspects we have made uniform in all of our proposals:

- All proposals carry approved SBC logos.
- All proposals are customized to the individual customer."

"We create personalized proposals that speak directly to the individual customer," Divine explained. "We include the customer's name, logo, and customer/industry specific information and images in our proposals. Our writers ensure the sales message is not only direct, effective, and easy-to-read, but also addresses the customer's needs."

SBC's market groups are bracketed by size. The top segment, Global Markets, supports the sales people calling on Fortune 500 customers. The next tier supports regionally large customers such as regional corporations and state and city governments. The next tier encompasses middle markets such as city-wide franchises or chains such as those for cleaners and grocery stores. Small businesses and "really small" home-based businesses are tiers that are also served.

How does the proposal center tailor support to each tier of customer? Divine explains:

"In that high end market," said Divine, "we write custom proposals and help our sales staff with RFP responses. At the very low end market, we're putting product and service information on databases that they can use or reference. It might be a letter they can download, or a wizard for a letter that they can attach a product profile to, then e-mail or mail out. For the markets in between, we've built standard proposals and mechanized proposal generators for sales people's use."

In an environment relying so heavily on automated tools and databases, a corresponding emphasis has evolved for keeping them current. According to Divine, "I probably dedicate 20 percent of my resources to keeping it up-to-date."

Among the five directors and directorates who report to him, for example, one is responsible for systems infrastructure and another is charged with maintaining the database. The effort encompasses everything from new product releases to stock service descriptions, past performance, and prior work. The other three are regional directorates, providing custom proposals to the sales force of 8,000 people from regional sites.

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SBC Proposal Center
PRINCIPLES

The SBC Proposal Center has adopted the following principles:

1. **Focus our proposals on the customer,** not on SBC, and how we can meet the customer's needs.
2. **Let the sales leadership teams set the priorities.** No project is too small or unimportant for the Proposal Center to tackle. As long as the sales team is willing to invest its time on the project, we are willing to invest ours.
3. **Make ourselves indispensable to the sales force.** Anticipate its needs. Stay ahead of the curve in creating services for the sales team. Provide the salespeople what they need, when they need it, where they need it.
4. **Set few rules.** Place the proposal developer in charge of the proposal. Let the proposal developer work with the sales team to select the right tools and processes to construct the customer proposal. The approach the proposal developer takes will depend on the personalities of the sales team and the customer.
5. **Leverage what we provide by making it available online.** Customize material the first time for a specific need, then save and adapt it for subsequent applications. When a new proposal tool succeeds for one sales group, we adapt it for several others.
6. **"Push the envelope"** on new ways to make information accessible while continuing the proven processes for creating effective content.

Mission of Service and Growth

The SBC Proposal Center has adopted a short set of bedrock principles (see inset on page 19) for its staff. Service to its front line clients, SBC's 8,000 sales people, figure prominently as the principal focus in this list. Divine prescribes a support policy that places the decision-making power in the hands of sales staff. It is a policy and principle refreshingly devoid of arrogance.

He counsels his developers to take an approach that considers sales team personalities. Though his developers normally run the proposal portion of any sales effort, some sales associates may be uncomfortable relinquishing this control. In such instances, "the proposal developers will subordinate themselves and coach them in the background. They usually let us take the lead the next time around," he said.

Divine added "Sometimes time plays a big part in this. You may use one process if you've got three weeks and another one if you've only got a week and a half. Some account teams come really well prepared and know their customers. Others don't. So the kind of Q&A process you have to do in the beginning—the kind of information gathering—is different in those situations. We try to equip our proposal developers with just a toolbox of things that work and let them pull out the right wrenches and sockets and screw drivers to put them in the right order for this project." He then noted, "And the next project will be a little different again."

Divine and proposal center staff performing an ad hoc review.

Charlie Divine's Lessons Learned

Divine's lessons learned are the product of building a nationwide, high volume and cutting edge proposal center that actively serves a client base of 8,000 sales personnel. They are:

- Make sure we have the right people in the right positions.
- Build an enterprise-wide memory. We have developed electronic archives of our proposals, Response Builder, a powerful online applications for creating RFP responses, and the RFP Q&A Search database, where proposal teams can go online and search for good answers to adapt and reuse.
- Envision ways to help salespeople apply that memory to the opportunities they're presented. Just creating the holding place for information doesn't help.
- Leverage what succeeds on individual proposals and RFPs to serve sales groups as a whole. This means using technology, such as automated proposals generators and online tools, to make good content and good practices available to the entire enterprise.

Evolution – What Works Within Given Constraints

When we asked Divine if he ever collocates proposal teams for his custom proposals, he acknowledged following the practice in the past, but said that now it is seldom done. Why has the practice become obsolete?

It's not a function of technology, he said. "We just don't have the luxury of doing that anymore. And by the way, we didn't come up with technology first to solve collocation issues. The problem was, we just didn't have time to do it anymore."

In 1987, for example, when the proposal center was first founded at SBC, it developed 12 large custom proposals. Divine explains, "We did them that old way, following that traditional command-and-control method."

Then, over a period of several years, proposal output doubled nearly every year. "Eventually we developed our knowledge base of information, reusability, and use of special technology – so we don't have to bring large teams together anymore. Plus," he said, "we've built ourselves one of those virtual proposal center tools – a Web-based tool – that allows us to bring an RFP in, post it on a Web site, assign individual questions to people and link them to supporting win themes for that question. The authors can go to the Web site, get their materials, see the win theme they're supposed to write to and search a database which shows them how we've addressed that question, product, service, or business function in the past."

"In the old days, you know, you'd give somebody an RFP question and they'd have to go write the first draft answer, but they'd never truly get around to customizing it for the customer. So we try to use our knowledge base to come up quickly with a good first answer – a good starting answer for them."

"Finally ... we package the proposal for maximum impact. The Proposal Center provides the winning edge, turning what may be a plain-looking, rambling document or presentation into a concise, readable, professional-looking proposal."

Quality Underpinnings

Another part of the bedrock that makes SBC's team so effective is its working knowledge of what makes a proposal persuasive and strong. Much of their knowledge comes from internal research. Over a 3-year period, for example, the center conducted intensive quality experiments to test a range of proposal variations.

To conduct a quality experiment, "You would start out with a problem," Divine explained, "do root cause analysis, brain storm possible solutions, then do as many as 100 proposals using different permutations and combinations of the things you wanted to assess. Then you would measure the customer's response to what worked or didn't."

"We learned, for example, that submitting a proposal in color, versus one in black and white, has a 17 percent better chance of winning," he said. A range of packaging and content questions were also tested at length.

Metrics

Part of SBC's formula for effectiveness is in its approach to performance measurement. The metrics it tracks include: revenue to expense ratios, client satisfaction, number of hours it saves the sales team, and win rates. We asked Divine if he could share some insights into his methodology and how the data are used.

"We have a database where we track every project," he said, listing them. "How much time we spend, how much time the proposal team has spent, whether it won or lost, and what the revenue impact to the company was of it. At the end of one of these major projects, we'll give the client – sales person (or lead person on the project) – a client satisfaction survey that asks about 10 questions about how we did. How we did for the sales team, and how we did for the customer. The bottom line question on that form is: did the proposal center meet your needs and did it meet the needs of the sales team?"

What is the response?

" I say 98 percent, but it's very seldom that we don't meet their needs."

"Another thing we ask on that client satisfaction survey is what percentage they think using this proposal center improved their chances of winning."

As an example, Divine described a scenario where the client might estimate a 50 percent chance of winning without the proposal center, but a 75 percent chance of winning with the proposal center, suggesting a 25 percent contribution. If the proposal

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Divine leads a discussion about APMP's Commercial Practices initiative at its national conference in Orlando this past May.

goes on to win a million dollar contract, the proposal center can fairly claim a $250,000 contribution to SBC's bottom line revenue for the year. Although subjective, it remains a valid and persuasive measure for assessing the center's contributions in the company. When a recent total of those center revenues was compared to total center expenses for the year, the ratio and rate of return for Divine's group was about 300 to one.

"If you feel like your proposal managers' jobs are in jeopardy, you need to make those positions and the value they bring to your company indispensable."

Divine adds that the client satisfaction form includes space to enter subjective reviewer comments. "There are always places for the sales people to write how we did and how hard people worked. And the fact that we're here to please sales people makes the feedback for my organization almost exclusively positive."

What could be better than that?

"What We're About"

We asked Divine if he thought that proposal managers and specialists might be a dying breed, whose specialty is soon to be eclipsed by a fast-moving marketplace, new technology, and the changing ways people work?

"On the contrary," he argued enthusiastically. "Proposal developers at SBC are thriving, because our company realizes that it is not enough to have great products and services. The customer must understand how our offers will benefit them on their terms. That is the major role of the technical communicator — not just to write about our products and solutions, but to make sure the customer understands them. Our proposal developers have become indispensable to the sale force. The Proposal Center and our proposal developers are viewed as a key part of the sales process."

He pointed out that several of his proposal developers have up to 10 years of experience on their jobs and are sometimes more seasoned than the sales representatives they work with. "Even so, we are all aware as technical writers and proposal developers — old and new — we must continually adopt new skill sets such as developing strategies," he said.

"Our proposal developers and graphic artists have become a valuable resource to the sales team for these reasons: They not only ensure the proposals are visually appealing, easy-to-read, and focus on the customer, but they also assist the sales force in effectively communicating their key sales message."

"Helping the sales team develop a winning strategy is critical, because it includes the key sales messages that gives the customers a reason to buy our services."

"Managing the information pertinent to a proposal is another new skill set that will ensure the value of proposal managers for years to come. This expertise has helped our team develop automated tools that have created new specialties for individuals and freed others to anticipate future trends in the discipline."

"Finally," he said, "we package the proposal for maximum impact. The Proposal Center provides the winning edge, turning what may be a plain-looking rambling document or presentation into a concise, readable professional-looking proposal."

"Our clients—the sales force—continually tell how much value we bring to the selling process and how we make jobs easier."

"If you feel like your proposal managers' jobs are in jeopardy, you need to make those positions and the value they bring to your company indispensable."

Divine's example is a powerful counter argument for any professionals in the commercial environment who pursue perfection or efficiency in isolation.

"Who wants a perfect proposal that antagonizes the sales team?" he asks. "We're not about a perfect proposal. And who wants the most efficient proposal center in the world if your client isn't fully served?"

"That's not what we're about," he advises. "What we're about is having the most efficient sales force in the world."

Competitors take note. Charlie Divine is a nice guy, but he's the kind of nice guy that finishes first.

Early Retirement Surprise: As *Proposal Management* went to press, it learned that Charlie Divine is accepting an unexpected but welcome retirement option. Divine's immediate plans are to do some fishing and things that are fun. He anticipates staying active in proposals, working as a trainer and coach. His new e-mail address will be: charliedivine@swbell.net.

R.Dennis Green is a management consultant, writer, and proposal practitioner with 20 years experience. In addition to serving as Proposal Management's Managing Editor, he was founder and first president of APMP's National Capital Area chapter. He can be reached at RDenGreen@aol.com.

What's Next for *Proposal Management*

SPRING2001

DOLLARS and SENSE

Price proposals in the new millennium and strategies for their success.

Issue five, to be published in the Spring of 2001, will tie together several of the next-hottest issues identified in last year's journal content query. Its primary focus will be Price Proposals, addressing how one collects pricing intelligence, evolves strategies, organizes data, communicates value, correlates price with technical approaches, and influences a win even when not the lowest price.

Secondarily, and time permitting, we will also address "Proposal Management Salaries and Career Paths," including a survey, anecdotal experiences, and job market advice.

We will round out the issue with some new case studies, another profile interview, more trends commentary, and book and product reviews.

Case Study

Process Improvement Methodology

Performance Measurement Techniques and Quality Improvement at Lockheed Martin Federal Systems (LMFS), Owego, NY

By MARIETTA SALAMIDA

LMFS Owego Quality Journey

Lockheed Martin Federal Systems (LMFS), Owego, began as a manufacturing facility (IBM Electronic Defense Systems) in 1956. Like other manufacturing facilities at the time, quality was being "inspected in" at the end of the processes.

The LMFS Owego quality improvement journey started almost 20 years ago with programs such as Quality Circles and Excellence Plus. These programs encouraged employees to identify and analyze critical department processes, establish process implementation metrics, and post those metrics in a highly visible place.

These metrics charts were called "The 4 Ups", because we typically picked "four" things to measure and posted them "up" on the wall, usually outside the manager's office. Over the years, we progressed through Quality Focus on the Business Process (QFBP), Six Sigma, Defect Prevention Process (DPP), Total Quality Management (TQM), and ISO 9000 certification. Processes were documented and meaningful measurements put in place. Through this entire time, top-down Executive Management remained involved and highly visible. Line managers had to have a brief, up-

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Over the years, LMFS progressed through Quality Focus on the Business Process (QFBP), Six Sigma, Defect Prevention Process (DPP), Total Quality Management (TQM), and ISO 9000 certification.

The LMFS Proposal Process Management department established its ongoing Quality Improvement Team (QIT) to investigate problems and recommend solutions, beginning in 1995.

to-date presentation ready for Executive Management upon request, and it was not unusual to see someone like the Director of Plans and Controls reviewing measurements charts posted outside a line manager's office. This kind of top-down involvement inspired and encouraged employees at all levels to buy into the quality methodology, and it helped lead to LMFS Owego's receipt of Software Engineering Institute (SEI) Capability Maturity Model (CMM) Level 5 Certification in 1998.

Our Approach to Proposal Metrics

In a manufacturing environment, it is relatively easy to define what measurements are meaningful to collect, and it is easy to use statistical methods to determine process efficiency. Producing X widgets per hour is good; filling and shipping Y orders per day is good; drilling to Z tolerance is good, etc. Solutions to process problems can be as clear-cut as upgrading technology or buying better drill bits. But once you get outside this environment, it is often much more difficult to define what is important to track and measure, and what makes tracking beneficial. I think this is particularly true in the world of proposals.

I have worked in the LMFS, Owego Proposal Process Management (PPM) department for 18 years, and have seen it evolve from a department of four people who were more or less glorified meeting clerks, to the current department of 14 people who coordinate 60 major new business proposals every year. This evolution happened because we took process improvement personally and committed ourselves to quality methodologies.

Without any way of measuring process efficiency, how would we know what needed to be improved?

Prior to 1995, our approach to proposal process improvement at LMFS, Owego left much to be desired. Our production processes were poorly documented, our approaches to proposal process control were inconsistently implemented, and we performed little or no measurements tracking. We knew there was something wrong with our processes, but we had no way to get to the bottom of the problems. We had no metrics. Without any way of measuring process efficiency, how would we know what needed to be improved? Without establishing process baselines, how could we move forward? Fortunately, our proposal teams were more than willing to give us their constructive comments, which helped identify what was important to them and gave us our initial metrics points.

So, now that we acknowledged our problems, what steps did we take to resolve them?

Step 1—QIT Established

A Quality Improvement Team (QIT) is a small group, usually 5-15 people from one or more departments or functional areas, brought together to address existing process issues or to proactively strategize for future issues. In 1995, PPM established an on-going "Production Process QIT" to investigate proposal production process problems, recommend solutions, and associate some dollar savings with implemented improvements.

Step 2—Issues and Responsibilities Defined

We invited Proposal Managers and key team leaders into our meetings and gave them the opportunity to tell us what they thought was good or bad about the proposal production process, and what recommendations they might have for improvements. Nothing was sacred! When all the interviews were complete, we compiled a list of responses (issues) and associated them with specific production processes. Responses and the processes they belonged to included:

- No real-time volume status was an issue belonging with Proposal Coordination
- Inconsistent text styles and formats belonged with Proposal Coordination
- Excessive preparation time before reviews belonged with Proposal Coordination
- Lost or back-level graphics belonged with Art Coordination
- Slow graphics turnaround time belonged with Art Coordination
- High amount of "throw-away" graphics belonged with Art Coordination.

Now that we had a baseline of process-linked issues, we were ready to determine their impact on the proposal process.

Step 3—Existing Processes Documented

We could not evaluate the impact on the proposal process until we documented what our processes actually were – remember, they were sketchy at best. At that time, the Proposal Coordinators carried most of the process management burden, so it was primarily up to them to flow out the existing processes – how they managed storyboards, generated documents, cre-

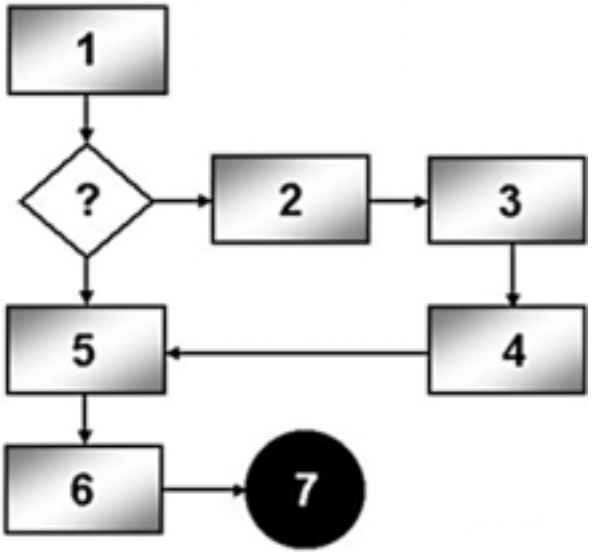
ated art, etc. Of course, no two coordinators did things the same way, but there were enough similarities to agree that "Yes, these are the processes as we know them today". Once we reached agreement, we fleshed out the processes in detail, and generated draft documentation.

As we flowed things out, it became obvious to us that certain points were prone to defects or poor cycle times, and that those points could be associated with traditional DPP categories such as Defect Prevention or Cycle Time Reduction. For instance:

In the art coordination process, there were defects such as excessive revisions and throw-away art (art that is generated and even revised, but never used in the final proposal). There were also cycle time problems with art generation turnaround time (too much time from initial submittal by the author to when it was returned to the author for review).

In the proposal coordination process, there were defects such as no access to reusable data, and cycle time problems with production preparation times.

We knew from experience and historical data that those same defects and cycle time problems were likely to have the most impact in driving proposal costs up, specifically the cost per page and the cost per graphic generated.

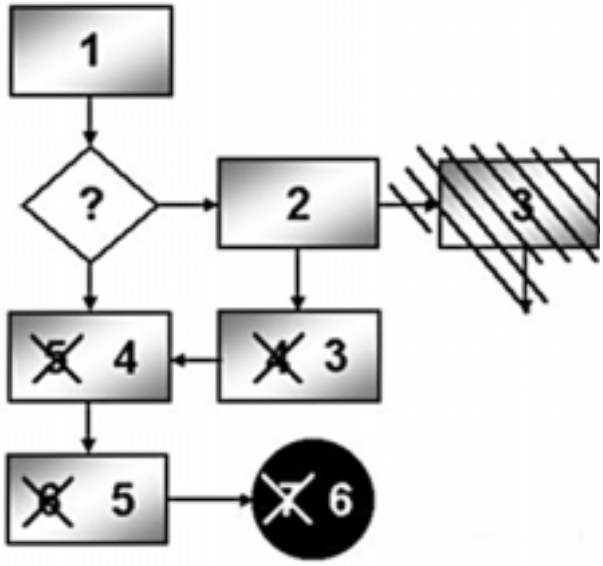


Once we had a baseline of process-linked issues, we were ready to assess their impact on the proposal process today.

Step 4—Measurement Points and Metrics Goals

It was those cost drivers that gave us our initial points to measure, but we needed to come up with meaningful metrics goals. As a starting point, we looked back over several years of historical data to see if there were existing trends in certain proposal costs. Issues related to production management, and specifically to the graphics process, were hot buttons to proposal teams. Were any of those trends in alignment with these issues? The answer was yes. Historical data supported some of the proposal team concerns, but it still took some digging to come up with baselines and derive new metrics goals from them. For example, one of the concerns was that the graphics turnaround cycle was too long. We reviewed historical data (art logs, vendor invoices) to see what the average turnaround had been, and chose a goal that reduced that cycle time by 50 percent. We also used this same methodology with other key process issues.

Step 5—Process Improvements Defined



New, more efficient processes evolved in an effort to reduce cycle times and lower costs.

Now that we had established what we believed were meaningful metrics goals, we took another look at the existing processes. What changes had to be made to achieve the new goals? The QIT decided there were several actions we could take:

- Developing a team approach to production management
- Defining and implementing two new positions on the production team
- Refining the existing proposal coordinator position.

This clearer definition of responsibilities allowed each production team member to concentrate on a specific set of tasks that would support the overall process, and relieved the burden of one person trying to manage everything.

Step 6—Process Improvements Tested

We believed that implementing these concepts would increase process efficiency and realize significant resource savings, but we needed to have a core team test them on a pilot proposal. For our implementation pilot, we chose the largest proposal ever generated in Owego – a 35,000 page international bid. This was a two-edged sword. If we succeeded, it would change the face of Owego proposals forever; if we failed…well, let's just say we all had a personal investment in success! Five of us were dedicated full-time for the 120-day proposal cycle. We kept meticulous records of our vendors and our own hours, art logs, production costs, any prob-

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lems that came up and their resolutions, and real-time feedback from the proposal team in this new environment.

Step 7—Data Collection

When the proposal was submitted, we started a data collection and analysis process by having Lessons Learned meetings – one with our own production staff that included vendors and one with key proposal team members. These meetings provided valuable feedback about how we and our customers felt the new processes had worked. In addition, we now had vast amounts of data from tracking mechanisms we had put in place as part of the new processes. These mechanisms included:

- Art tracking spreadsheets with details on every piece of art generated
- Word processing and graphics support vendor invoices with details of hours and dollars charged for each proposal task
- Logs, reports, or invoices related to other aspects of production, such as color copies, binders, and proposal team labor.

Step 8—Data Analysis and Iterative Process Refinement(s)

We analyzed the data and compared the results to our goals. This gave us an indication of our success, and also told us if our goals or processes needed to be adjusted before the next proposal effort. *We discovered that the metrics could drive process changes.* The results surpassed all our expectations. Not only did we achieve our goals, we came in under budget!

How All This Comes Together to Drive Process Improvements

So, there we were with a successful implementation of our new processes, and a validation that our metrics goals were reasonable. What could we do to keep moving forward and stay proactive in the changing proposal world?

The Production QIT that was established to address our initial process issues is now in its fifth year. We meet at least quarterly to review status and our direction. In addition, we implemented several quality initiatives, including:

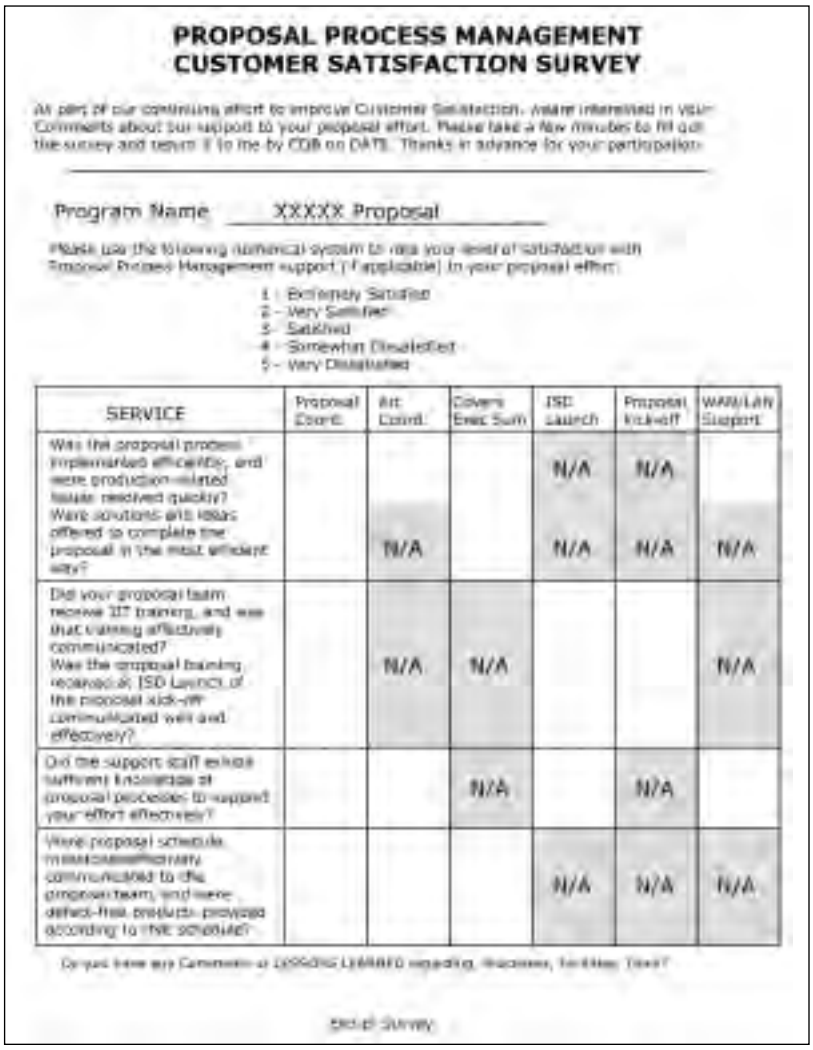
- Customer Satisfaction Surveys
- Lessons Learned Meetings
- Action Teams
- Continuous Measurements Collection.

Customer Satisfaction Surveys

We issue Customer Satisfaction Surveys to Proposal Managers and key team members shortly after proposal submittal, and ask them to give a predefined numerical rating to their level of satisfaction with our performance and processes. These surveys cover all the production roles in the PPM department (proposal coordination, art coordination, team training, design, and workstation support), and address topics such as:

- Efficient process implementation
- Issue resolution
- Innovative solutions
- Training
- General process knowledge
- Schedule management.

The results are tracked to show satisfaction trends, and either management or Action Teams address issues.



PROPOSAL PROCESS MANAGEMENT
CUSTOMER SATISFACTION SURVEY

As part of our continuing effort to improve Customer Satisfaction, we are interested in your Comments about our support to your proposal effort. Please take a few minutes to fill out the survey and return it to me by COB on DATE. Thanks in advance for your participation.

Program Name XXXXX Proposal

Please use the following numerical system to rate your level of satisfaction with Proposal Process Management support (if applicable) in your proposal effort:

1 - Extremely Satisfied
2 - Very Satisfied
3 - Satisfied
4 - Somewhat Dissatisfied
5 - Very Dissatisfied

SERVICE	Proposal Coord.	Art Coord.	Covers Exec Sum	ISD Launch	Proposal Kick-off	WAN/LAN Support
Was the proposal process implemented efficiently, and were production-related issues resolved quickly? Were solutions and ideas offered to complete the proposal in the most efficient way?		N/A		N/A N/A	N/A N/A	N/A
Did your proposal team receive IIT training, and was that training effectively communicated? Was the proposal training received at ISD Launch of the proposal kick-off communicated well and effectively?		N/A	N/A			N/A
Did the support staff evince sufficient knowledge of proposal processes to support your effort effectively?			N/A		N/A	
Were proposal schedule milestones/deliverables communicated to the proposal team, and were defect-free products provided according to the schedule?				N/A	N/A	N/A

Do you have any Comments or SUGGESTIONS regarding Processes, Facilities, Tools?

End of Survey

Article

A Metrics Toolbox—A Scoring System to Help You Evaluate Proposals and Proposal Processes

by RICH FREEMAN and JAMES SCOTT FREEMAN

This article offers a modular strategy for applying metrics to ten different proposal components—from basics (such as spelling and grammar) to more complex elements such as compliance and risk. It invites you to pick and choose the metrics "tools" most likely to help you. It also provides valuable guidance on how rating systems are best structured and applied.

This quantitative approach option can provide better information than typical system of review. It asks your subject matter experts to focus only on their core areas of expertise. It streamlines the review process for them and delegates the more tedious tasks to less costly reviewers. It can improve review accuracy by establishing a solid baseline for measurement. Finally, it can provide decision-making based on metrics with more objectivity.

Introduction

As individuals, your authors have worked on both sides of the proposal business—one of us writing and managing proposals, the other writing RFP specifications, reviewing and participating in selection committees for the U.S. Air Force and NASA. The quantitative approach to reviewing proposals presented here is a combination of tested methods and conceptual recommendations based on our experience.

We developed a modular approach to the review process to reduce review costs and provide a process that is easily adapted to managing geographically dispersed reviewers and Web-based or intranet proposal development. The metrics modules we describe here are probably most appropriate for very large proposal efforts in very large companies involving many people on a proposal team. However, some individual modules may apply to all proposals regardless of page size and level of effort. This is our toolbox approach.

People Tend to Rate High

Whether you rate your proposals from "A" to "Z," or "One" to "Ten," you must get everyone to agree on certain standards of evaluation. More than this, to be accurate, you must avoid what statisticians call "induced human error." This is the basic human tendency to "rate high." If they are uncertain of the answer to a question, they will tend to respond with what they believe the answer should be. The answers tend to be more positive.

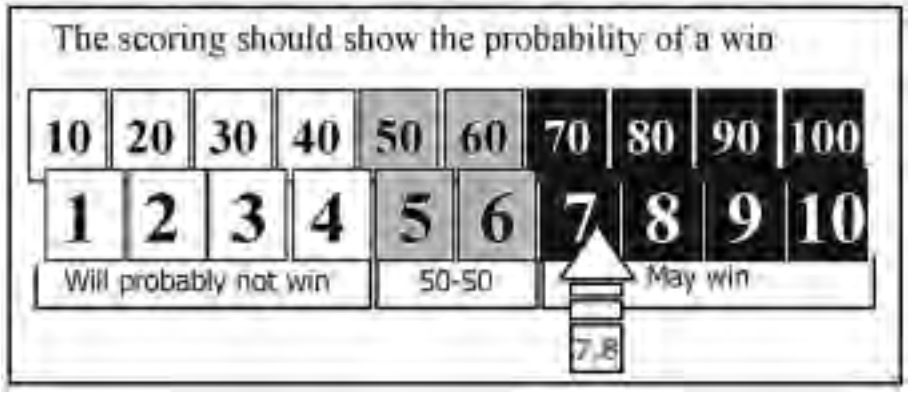
Intuition versus Quantitative Measurement

Proposal review is complicated, a good review takes time, and usually decision-makers want to know "Now." They typically do not want the details. What they do want is reassurance that the proposal is likely to win. Too many times they rely on someone who is not an expert in all things pertaining to the proposal. The purpose of the rating system is

to provide an accurate assessment of the proposal's likelihood of winning. We are not searching for opinions, so we use a quantitative system.

A Ten-Based Scale

A scale of zero-to-ten (or zero-to-100) seems to be easier for groups of people to understand, although from a academic standpoint, it is probably not the most accurate. Using questions that require "YES" or "NO" answers goes a long way towards solving the tendency to rate high. Asking questions that require quantifiable responses improves the quality of information.



Regardless of the scale used, the combined scoring should show an estimate of the probability of winning.

What the Scoring System Should Show

Your scoring system should show probability of winning and where the problems are located. The tool scoring templates in this article are built on a 100-point scale with win probablities, as bracketed (above.)

Why a Quantitative Rating System?

There are a number of reasons, but the best is that a quantitative data system provides better information to evaluate the strengths and weaknesses of your proposal or bid than typical systems of review. The process saves time and money. It asks your Subject Matter Experts to focus only on their core areas of expertise. It streamlines the review process and delegates the more tedious tasks to less costly reviewers. It improves review accuracy by establishing a solid baseline for measurement. The process and scoring are easy to understand. Aside from making sure that your reviewer has read the RFP, instructions for performing the review should take less than ten minutes. Finally, it forces decisionmaking based more on objective data than subjective data or opinion.

You can rerun individual categories of review as an on-going process during proposal development or between reviews. The quantitative data enables you to better measure and to track improvement.

The System and How to Gather the Metrics

There are three steps to the process.

Step 1—perform RFP format and technical compliance review. Step 2—gather the metrics through a review and scoring process. Step 3—"weight" the metrics according to the known weighting factors of the customer. The scoring process alone tells you a lot about your proposal, but you can refine this information later by applying a second set of evaluation factors or category weights.

Our scoring system covers ten categories or topics. Each category is valued at 100 points towards a perfect score of one thousand.

You can evaluate and apply scoring to the entire response, or in a large proposal you can perform the process on specific sections of the proposal and then compile the results to produce an overall score. Below, you will see ten review categories, and specific questions (evaluation factors) for each category. We explain how the information is gathered and provide suggestions on who the reviewer should be. We provide estimates on how much time each reviewer should spend on their part of the process, based on experience. You can use these to plan for the time required and estimate the cost of the process.

1. The Basics—Spelling, Grammar & Punctuation

Evaluation Factors—There are three evaluation factors, as shown in the accompanying table.

The Reviewer—The reviewer should be an experienced editor or writer and should be completely familiar with word-processing. This reviewer also gathers metrics for several categories shown below.

The Review—Always start clean. Check the document with software on a computer that has no exception dictionary (People add misspelled words to exception dictionaries.) Add acronyms to the exception dictionary only after verifying that they are correct and ensuring they have been called out at first appearance. The reviewer must know how to identify and deal with text in a file marked for "no proofing."

Tips on the Grammar Checker—Always set the writing style option in the grammar checker to the "technical" or "formal" setting. Make sure that ALL style option boxes are checked. Despite what many people say about the software grammar checker, it is a very, very accurate and useful tool.

Review Time—This review should take about one hour for every 50 pages of response.

more...

2. Knowledge About What the Customer Wants and Needs

2 Evaluation Criteria	Highest Possible Score	Reviewer
Is the RFP / RFB easy to understand?	20	Capture Manager
Have you asked questions of the customer and received good answers?	25	Capture Manager
Do you know who the competition is?	15	Capture Manager
Can you successfully compete against the competition?	15	Capture Manager
Do you have enough information to address each compliance item?	25	Capture Manager, Project Manager
Total	100	

Evaluation Criteria—There are five, as shown above.

The Reviewer—Capture Manager or Project Manager.

The Review—These are questions to ask during the Bid, No-Bid process. They have nothing to do with the written response. Why include them in an evaluation? These questions consider the environment in which the proposal was written. The answers all have an impact on the proposal's potential for winning.

Review Time—This evaluation may take just a few minutes, or with a thorough discussion in a group environment, up to an hour.

3. Proposal Organization

3 Evaluation Criteria	Highest Possible Score	Reviewer
Was the response organized according to the requirements?	14	Compliance Expert
Were the Table of Contents and references to Illustrations, Figures, Tables, Charts and Appendices Accurate?	13	Proofreader
Did the tables of contents make sense? Does it match the sequencing of the RFP?	20	Well Organized Person
Was the organization of the response "document" or "allover?"	12	Well Organized Person
Could you easily "skim" where you were at all times?	10	Well Organized Person
Were the major topics organized consistently and was the organization obvious?	20	Subject matter expert
Were the major topics sub-divided into topical sub-topics and was the organization obvious?	10	Subject matter expert
Total	100	

Evaluation Criteria—These questions focus on the proposal's organization and ease of access to information. Information is useless if you cannot find it. Your win rate will increase if your customers can find the information they are looking for.

The Reviewer—The reviewer needs to understand the customer's requirements and should have a talent for organizing a lot of information into a logical and manageable form. Better reviews come from people who are familiar with proposals but are unfamiliar with the prepared response. The Compliance Expert, the Proofreader and the Well-Organized Person can be the same individual.

The Review—There are seven easy questions, and the reviewers do not need to read the entire RFP or the response to be able to answer them. Use the more expensive Subject Matter Expert only to verify the answers to two specific questions.

Review Time—The review should take about one hour for every 100 pages.

4. Writing Style

Evaluation Criteria—There are eight objective questions followed by a single subjective question. The answers to the objective questions come straight from the readability statistics in MS Word's grammar checker. A subject matter expert who has at least read major samples

4 Evaluation Criteria	Highest Possible Score	Reviewer
Did the "true" percentage of "Passive Voice" sentences exceed 15%?	15	Proofreader
Were the table references, illustration references accurate and easy to understand? Were things easy to find?	15	Proofreader
Was the average number of words in a sentence less than 28?	7	Proofreader
Was the average number of characters in words used less than eight?	12	Proofreader
Was the average number of sentences in a paragraph less than six?	15	Proofreader
Were the acronyms in a single section less than six?	15	Proofreader
Was each acronym "called out" at first occurrence in the text?	18	Proofreader
Is your Flesch Score rating less than 60?	12	Proofreader
Is your Flesch-Kincaid Grade Level score 10.0 or less? Was the writing easy to understand?	8	Subject matter expert
Total	100	

of different sections of the response should answer the last question.

The Reviewer—A Proofreader can answer the first eight questions. A Subject Matter Expert should answer the last.

The Review—The Flesch scoring system uses an algorithm that samples the numbers of characters in words, the number of words in sentences, and the number of sentences in paragraphs. It rates text on a 100-point scale; the higher the score, the easier it is to understand the document. For most standard documents, aim for a score of approximately 60 to 70.

The Flesch-Kincaid system (also a part of MS Word's grammar checker) rates text on a U.S. grade-school level. For example, a score of 8.0 means that an eighth grader can understand the document. For most technical documents, aim at a score of 8.0 to 10.0. Your Executive Summary should be in the 8.0 to 9.0 range.

Review Time—One hour for every 50 pages by the Proofreader. One hour for every 25 pages for a thorough review by the Subject Matter Expert.

5. Visual Presentation/Balance

5 Evaluation Criteria	Highest Possible Score	Reviewer
Was "documentation" accurate? (This can include "widows," "orphans," "and "bad breaks.")	10	Proofreader
Were placements of illustrations, graphics tables appropriate?	10	Proofreader
Was the page layout sensible, attractive, and clean?	20	Desktop Publisher
Was there plenty of "white space?"	5	Desktop Publisher
Was the hyphen easy to read? Did the "typesetting" look professional?	10	Desktop Publisher
Were the graphics, illustrations, flow charts, tables, cartographics clean and clear?	15	Graphic Artist
Were there no unimportant illustrations?	5	Graphic Artist
Were all requirements for page limitations, illustrations, typeface style and size, and page layout met?	20	Compliance Expert
Total	100	

Evaluation Criteria—These questions focus on visual presentation. Television has conditioned all of us to respond favorably to visual signals. We now tend to place more importance on form than on content. A consistently good presentation supports an underlying message of quality.

The Reviewer—The questions are less subjective to someone who is an expert in layout and page design. Use a reviewer whose work looks great to you and others. This person does not need to have any background on the subject matter.

The Review—For speedy reviews, answer questions one at a time followed by a flip through of the proposal (that means eight separate flip-throughs.) For example, the Proofreader would complete one flip-through looking only for widows and orphans.

Review Time—This review can probably be completed in 15 minutes for every 100 pages for each type of reviewer.

6. Language Tone—Professional, Competent, Non-Arrogant

6 Evaluation Criteria (Questions)	Highest Possible Score	Reviewer
Did the writer connect with you in a personal and non-arrogant way?	25	Editor or Writer
Did the text convey enthusiasm and eagerness about the product, service and/or work to be performed?	25	Editor or Writer
Was the writing "smooth?" (Rather than staccato or "terse.")	25	Editor or Writer
The information was not boring or repetitious?	25	Editor or Writer
Total	100	

Evaluation Criteria—The four questions in this category are somewhat subjective. To make sure you understand how the reviewer has scored each question, ask the reviewer to provide two or three examples to support his or her score for each question.

You can argue that this category and the Writing Style Category above and the Credibility Category below, may be a subtle double counting or a duplication of effort. While this might confound a parametric statistical analysis there is a distinct reason for separating the tone or "sound" of the writing from the writing "style." Most readers sub-vocalize—that is they sound out the words in their minds while they read— unless they have taken an Evelyn Wood reading course. Thus, how the words "sound" can make an impact on an evaluator. Make sure your editor or writer understands that you want a subjective evaluation.

The Reviewer—An experienced Editor or Writer can answer these questions. However, you may also want to have your Marketing or Business Development people provide this review.

The Review—You can get a quick evaluation by asking the Editor or Writer to sample the text. Thorough review of the cover letter and Executive Summary is a must.

Review Time—Most editors or writers can thoroughly review about 25 pages and hour. Estimate 50 pages per hour if they are sampling or scanning.

7. Credibility and Completeness

Evaluation Criteria—This category is very important and in the best of worlds should be completed by a Subject Matter Expert shackled to a meticulous English major. Additional parallel reviews from your Capture Management Team and someone from Project Management may be useful.

The Reviewer—Subject Matter Expert and Editor

The Review—The first three questions are intended to be objective, so make sure your reviewers know the requirements and the subject matter thoroughly. The last two questions are more subjective and require a writer or editor to make the assessment. Sampling is permissible so the review process should proceed at a rate of about 50 pages an hour.

Review Time—For a very thorough review, figure 10 to 12 pages per hour.

7 Evaluation Criteria (Questions)	Highest Possible Score	Reviewer
Did the words say "what" was going to be done?	25	Subject matter expert
Did the words say "how" it was going to be done?	25	Subject matter expert
Did the words say "who" was going to do it?	25	Subject matter expert
Were the words "compelling?"	13	Editor or Writer
Were the words "believable?"	12	Editor or Writer
Total	100	

8. Compliance (Traceability)

8 Evaluation Criteria (Questions)	Highest Possible Score	Reviewer
Do you know how many compliance items there were in the RFP? (Or, do you have a separate listing of them?)	30	Compliance Expert
Do you know how many compliance items were specifically covered in the response? (Or do you have a separate listing of them?)	30	Compliance Expert
Did the response text say we are compliant or did it show we are compliant?	20	Compliance Expert
Did the response's illustrations, graphics, flow charts, and tables demonstrate compliance?	20	Compliance Expert
Total	100	

Evaluation Criteria—This category contains four questions about the response's approach to compliance and does not attempt to provide information about whether or not the proposal is compliant. (Note: RFP format and technical compliance are addressed as a separate step.)

The Reviewer—A Compliance Expert may come from Marketing or Business Development, but we have found that Engineers, Attorneys or Accounting types are better compliance reviewers.

The Review—This should be a very careful review of both the customer's actual requirements and your response. I have learned from experience that a compliance matrix with a "check-off" list does not always mean that the proposal is truly compliant.

Review Time—No time estimate provided. In our experience, the time required varies widely. In typical Federal government proposals the compliance reviews usually occur during the entire process, therefore the final reviews can take less time. Commercial proposal efforts normally do not focus on compliance until late in the proposal process.

9. Cost (Reasonableness, Basis and Clarity)

9 Evaluation Criteria (Questions)	Highest Possible Score	Reviewer
Is the cost of what you are proposing to do reasonable?	20	Project Manager
Is it easy to compare and understand your costs against those of your competitors?	15	Project Manager
Are the costs shown exactly as required by the RFP?	15	Accountant
Is it easy to see the cost components?	12	Accountant
Is it easy to find the bottom line?	12	Accountant
Did the text of the response show the basis of how the costs were determined?	12	Accountant
Did the text of the response show why the cost is the best value?	5	Accountant
Is the basis for estimating costs historical fact?	10	Accountant
Total	100	

Evaluation Criteria—The costing review scoring does not address the probability of your cost being the lowest or best.

more...

The Reviewer—If conducted by Marketing or Business Development, this review can lead to some heated discussions. For the first two questions, we suggest reviewers that are involved with the day-to-day delivery of the product or service—people familiar with the associated costs. A good corporate accountant can answer the remaining six questions.

The Review—Before review all of the figures should add up properly. The first question is the hardest, is subjective, and is best answered through a consensus of several knowledgeable cost experts.

Review Time—The review process should take only one or two hours.

10. Risk—Can You Deliver What You Promise?

Evaluation Criteria—Each question is a composite question. If any part of the question is untrue then the entire question should be answered with a "No"—or zero—life is hard.

The Reviewer—The answers for this category should come from an Executive of the company, or the project manager who knows the company's capabilities. This reviewer should have read the entire proposal—cover to cover.

The Review—We suggest that the reviewer conduct a full interview of the individuals who will be implementing or planning the project before scoring the last question in this category. Do you believe we can do it? This is especially true if the award process includes a presentation or oral briefing. The reviewer should keep the marketing folks quiet and listen to the doers.

Review Time—Allow for fifteen to twenty pages per hour for a thorough review.

How to Integrate Your Scoring with a Customer's Rating System

Customers sometimes provide a description of how they will weight various portions of your response. These scoring systems can be quite sophisticated. Obviously, you will want to organize your review of the proposal according to the customer's requirements and test your proposal against the customer's weighting factors. To convert the scoring from this system we re-assign the scores to new categories.

To my knowledge no proposal has ever been disqualified due to poor spelling, grammar and punctuation. According to Kano's *So, You want to build a rating scale*, these types of errors are "dissatisfiers" and reflect on the professional image, but are generally outside of the customer's evaluation criteria. Even though we often hear that arrogance can kill an otherwise winning proposal, we can also argue that the criteria under the Tone category are not specifically relevant to the customer's rating system. The extra, or value-added items are "delighters" and are not necessarily included in the customer's rating. Thus, we would post the results of our team's evaluations using only the eight remaining categories. The example below shows the range of a customer's evaluation criteria and a sampling of how the evaluation scoring is transferred.

We compute the cost category separately. Insert the scoring for each of the customer's four major categories for each of your eight scoring categories. With eight categories (each having a possible perfect score of 100) the total possible score is 700 for each of the customer's categories. Multiply the resulting percentage of your score by the percentage of the assigned customer's weight to give a score for each of the customer's criteria.

The score for cost across the customer's criteria are computed separately. The total possible score in this example is 300 and assumes that Management, Technical, and Implementation are costed and scored separately. In fact, evaluating your costs accurately involves a lot more than a simple questionnaire can normally provide.

Sample Integrated Rating Sheet

RFP Format and Technical Compliance—Pass/Fail, or Weighted

Don't ignore your formal existing system for checking compliance. This will normally include at least two components: i.e. technical specifications compliance and management compliance. Compliance checks are also driven by the language in your RFP, e.g., is a required Risk Management Plan included? Did you include the appropriate number of past performance examples?, etc.

If there is a Pass/Fail for the technical and RFP format compliance, you have the option of treating your RFP format and technical compliance on separate compliance evaluation sheets, and/or integrating that evaluation into the rating form sample above.

Is There a Better Way?

Companies assign proposal reviews to subject matter experts, marketing or customer service representatives. Project managers or other members of the project team also participate. Most reviews try to ensure the technical and management portions of the proposal are compliant and accurate. Some include a review of selling "themes." Many, but not all, include a check for compliance. Some include a basic check for spelling and grammar—although there is a logical argument that these things should be done before review. However, do technical accuracy and one-on-one compliance item checks mean that a proposal is likely to win? Just because you plant themes in the appropriate places, does that mean the proposal will sweep them off their feet?

Maybe not. Improve your reviews and your chances of winning by incorporating applicable review metrics from this modular approach.

References

Cohen, L. 1995, *Quality Function Deployment—How to Make QFD Work for You*, Engineering Process Improvement Series, Reading, Massachusetts, Addison-Wesley Publishing Company.

Dyer, R.F., Matthews, J.J., Stulac, J.F., Wright, C.E. & Yudowitch, K.L. 1976. *Questionnaire Construction Manual*. U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), Operations Research Associates, Fort Hood, Texas.

Edenborough, R. 2000. Using Psychometrics: A Practical Guide to Testing and Assessment, New York, Kogan Page Ltd.

Hutto, G.T., Rokicki, S.M., & Church, F. *Subjective Evaluation Handbook*. 1984. Air Force Operational Test & Evaluation Center. Kirtland Air Force Base, New Mexico.

Kline, P. 1994 *A Psychometrics Primer,* New Hamsphire, Routledge Publishing.

Thorndike, R.L., & Hagen E.P. 1977. *Measurement and Evaluation in Psychology and Education.* 4th Ed. New York: John Wiley & Sons.

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A PSYCHOMETRIC TUTORIAL

So, you want to build a rating scale

The onset of the information age has seen a proliferation in the use of questionnaires and rating scales. It is probably true that a great majority of the authors of these devices have never heard of the term "psychometrics."

Typically, most people base their questionnaires on or develop their rating scales by using another questionnaire or rating scale. Rarely have they read a book on or attended a class in this science. If you are truly interested in getting the most out of your questionnaires and ratings, the following brief outline will acquaint you with some of the basic psychometric considerations in building and using rating scales.

Rating Scale Construction

The Numbers Game

- Scales with 7 to 12 choices provides maximum discrimination—more highly educated subjects handle the greater number of choices better than the less educated
- Some subjects are biased against negative numbers—Use 1,2,3,4,5,6,7 versus –3,-2,-1,0,1,2,3
- Scales should incorporate an equal number of negative and positive choices—parallel wording of descriptors provides equal number of negative and positive choices (e.g., Highly Effective, Moderately Effective, Slightly Effective, Neutral, Slightly Effective, Moderately Effective, Highly Effective)
- Use of parametric statistics (mean, standard deviation, variance) requires the interval between choices to be approximately equal (e.g., the distance between 1 and 2 should equal distance between 2 and 3, etc.)
- To get an accurate predictor using parametric statistics, you need to have a sampling of 30 or more to have statistical confidence in the results. Non-parametric statistics (median, range, etc.) are more appropriate for small sample sizes (e.g., less than 30 samples)
- Numbers by themselves do not necessarily have interval properties. Use descriptive terms derived from research to help achieve interval properties.
- Raters shy away from absolute descriptors (Totally, Completely, Always, Never, etc.) Using them reduces the scale choices.

Pragmatic Concerns

- Your questionnaire or scale must support the intended use, the customer (whomever is responding to the questionnaire.) Use measurements in terms your customer can understand and use. For example, let's say you have asked fighter pilots to evaluate a jet aircraft using a response scale of six points from "Totally Inadequate" to "Totally Adequate."

Now let's say that your final report says "On the average, the $200 million-per-copy aircraft was rated as 'moderately adequate' by the pilots." This would be a poor choice of a rating system if you were trying to get congressional support for production funding. While "moderately adequate" may be high praise coming from a pilot, it conveys a meaning of uncertainty to the politician.

To ask more than one question and aggregate the answers into "The" answer, you must find a single standard scale that fits the phenomenon being measured. It must produce quantitative information that supports a decision (e.g., good or bad, win or lose, bid or no bid, etc.) To do this you must remove any middle or neutral choices to force the respondents to commit to the pass or fail side of the scale.

Other Pragmatic Concerns

- Cost
- Administration
- Subjects' time
- Obtaining results

Notes on Validity and Reliability

***Validity*—**device measures what it purports to measure

- ***Face validity*** is the most often used measure of validity —"It makes sense to me so it must be valid."
- ***Criterion validity*** is based upon some measurable criteria which predicts some specific future outcome.
- ***Construct validity*** is based upon some psychological construct—People with trait X make better proposal managers as measured by percentage of winning proposals produced.

***Reliability*—**device is stable; given same circumstances, device produces same results

- Must be reliable to be valid (e.g., must be stable to be a valid measure)
- Can be reliable and invalid (e.g., totally stable but doesn't measure anything)

Comments are a desirable, if not necessary feature.

- They provide valuable information not captured by the scale.
- They provide rater feedback on device validity (particularly important with "face validity" devices
- How raters interpret the questions
- How raters view the subject being measured.

Kano's Model

Lou Cohen's book on Quality Function Deployment has an excellent summary of Noriaki Kano's model of customer satisfaction, along with some criteria on quantifying or measuring product characteristics. If you take the view that a proposal is a product, you can use Kano's model to determine customer satisfaction as it relates to the product characteristics.

We believe that winning proposals is about making people happy. If we produce a proposal with a number of dissatisfiers the customer will be extremely unhappy. For example, all other things being equal, if our response has the customer's name spelled incorrectly and makes the information frustratingly hard to find, we'll probably lose. If we merely eliminate all of the dissatisfiers we still will not achieve a high level of customer satisfaction. All other things being equal, we will probably be in a dead heat with the competition and the decision may be decided on the flip of a coin.

If we produce a proposal with no dissatisfiers and provide all of the satisfiers (adequate solutions, reduced cost, greater speed, lower risk, etc.) we are simply delivering what the customer expected. The more satisfiers the better. These satisfiers are usually the benchmarks for decision-making. But, again, we will only achieve a normal level of customer satisfaction. To win, the proposal must have delighters.

Producing a proposal with delighters is the hardest thing to do. Customers usually never tell us what will delight them. Delighters are undefined, hidden, or latent needs. These are typically connected to incorrect perceptions or misunderstandings, or ignorance on the part of the customer. Unless you are introducing a brand new solution that no one else has at the moment, you must look for delighters in your knowledge of the customer, your customer's business needs, and your customer's understanding (or lack of) of the existing technology or environment.

Kano's Model

Kano's Product Characteristics		Applied to Proposal Characteristics
Dissatisfiers	"must be" "basic" or "expected"	poor spelling, poor grammar, lack of basic requirements, poor organization, long boring text
Satisfiers	"one-dimensional" "straight line"	concise responses, meets all requirements, information easy to find
Delighters	"attractive" "exciting"	customer-focused responses, insightful solutions tailored to customer's need, elegantly simple solutions (Ah Ha!)

Lessons Learned Surveys

We also make every effort to pull key members of the proposal team together shortly after submittal to get their input on topics such as:

- Processes
- Facilities
- Tools.

The comments and recommendations we gather through these Lessons Learned Surveys are then addressed by our Action Teams.

Action Teams

The PPM department initiated Action Teams to focus on specific areas of process concern. Everyone in PPM must lead an Action Team in his or her area of expertise, and is responsible for driving their team's progress in addressing issues and reporting status to management. In addition, everyone must also be a member of at least one other Action Team. We currently have 14 ongoing Action Teams that cover topics such as the art process, LAN strategy, data storage, customer satisfaction, international proposals, disaster recovery, the Orals process, and other areas critical to our proposal environment. We collect the results from Customer Satisfaction and Lessons Learned Surveys and pass issues to the appropriate Action Team for resolution. Some solutions these teams recommend may be as simple as getting more training, or can involve reassessing and refining an existing process.

Continuous Measurements Collection

As I said earlier, I truly believe that *measurements drive process improvements.* If you are not continuously measuring your performance, you will never be able to assess the state of your processes. Of course, your measurements must be meaningful. Lots of things CAN be measured, but that does not mean that they SHOULD be measured.

Look especially at the parts of the process that impact proposal costs. For instance, it does not make sense to measure on time delivery in the world of proposals. It really does not impact cost, and how many of us have ever delivered a competitive proposal *after* the customer-defined due date and time? On the other hand, measuring something like cost per graphic can give you an indication of the efficiency of your artwork generation process, and improvements in this area can lead to proposal resource savings.

Our PPM department continuously measures the following areas:

- Cost per delivered page against total dollar resources expended for proposal development
- Cost per delivered page against total production costs
- Cost per graphic generated
- Percent of throw-away graphics.

By implementing the quality improvement initiatives discussed above, we experienced the following efficiency improvements from an initial January 1996 baseline through December 1999:

- 48% reduction in total cost per page
- 54% reduction in production cost per page
- 67% reduction in cost per graphic generated
- 18% reduction in the amount of throw-away graphics.

Proposal metric initiatives have saved LMFS more than $1.5M since their introduction in 1996.

This is not to say that what makes sense to measure in 1997 still makes sense to measure in 2000. As technology and customer procurement practices change, we must rethink what processes to measure and how to measure them efficiently. The important thing is the ongoing process of taking measurements, analyzing trends, formally addressing process issues, and implementing improvements.

Seeing the Results

Of course, we have also experienced *intangible* results, such as less stress on the production staff and happier proposal teams. But the *tangible* results have been truly amazing. In 1996, we showed $146,000 in savings. That was enough to begin getting management attention and support for additional recommended improvement. (Sometimes you have to spend money to save money.) Since then, through year-end 1999, we have documented $1.5M in savings.

The quality improvement and performance measurement process takes a lot of work and commitment to be successful. It takes creative people willing to work as a team and to think creatively. But I can tell you from personal experience, it is a satisfying and worthwhile journey.

Marietta Salamida is an Advisory Project Engineer who has worked at Lockheed Martin Systems Integration, Owego, NY, for 23 years, the last 18 of those in the New Business proposal environment. During that time, she has supported more than 100 major proposal efforts, and is responsible for developing plans, setting schedules, and running the day-to-day mechanics of proposal production. Her on-going responsibilities also include providing process improvement guidance; developing and implementing Proposal Manager training; directing Proposal Facility strategies; maintaining process documentation; and establishing, collecting, and analyzing process metrics. She can be reached at Marietta.Salamida@lmco.com.

Article

Lies, Damned Lies, and Statistics

The Use and Abuse of Numbers

by DR. JAYME A. SOKOLOW

Benjamin Disraeli, Victorian England's most famous prime minister, once said there were three kinds of lies: "lies, damned lies, and statistics." There are actually countless forms of mathematical chicanery all around us, especially when we begin calculating the number of creative ways we use statistics to win arguments, sell products, or just plain bamboozle people. The potential for abuse may even exist with proposals, though there are no studies to prove or disprove this point. Some examples may be instructive and cautionary signposts of what to avoid.

As Darrel Huff has argued in his hilarious classic, *How to Lie with Statistics* (1954), now back in print, the "secret language of statistics, so appealing in a fact-minded culture, is employed to sensationalize, inflate, confuse, and oversimplify." Sometimes statistical methods and terms are unwittingly misused, especially in the media. On other occasions, however, statistics are consciously used to baffle, deceive, legitimize decisions, and bolster authority and power.

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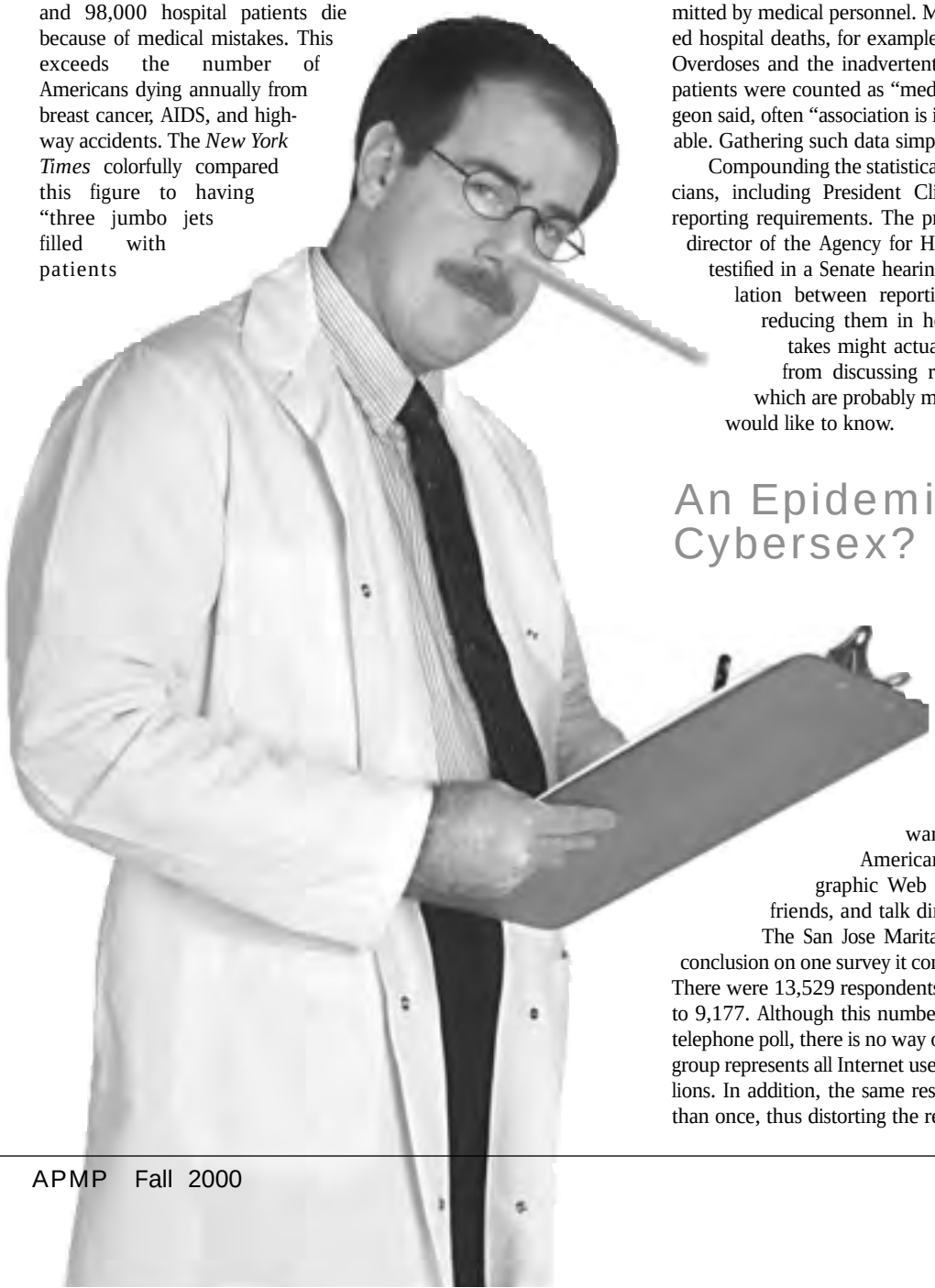
According to STATS, statistical confusion and inaccuracy are thriving in the United States.

Doctoring Statistics

To study the lively art of statistical misuse and manipulation, I recommend that you visit the Web site of the Statistical Assessment Service (www.stats.org), a nonprofit organization that examines the ways quantitative research is used by the media. According to STATS, statistical confusion and inaccuracy are thriving in the United States.

Two highly publicized recent reports highlight the misuse of statistics. According to the Institute of Medicine, every year between 44,000 and 98,000 hospital patients die because of medical mistakes. This exceeds the number of Americans dying annually from breast cancer, AIDS, and highway accidents. The *New York Times* colorfully compared this figure to having "three jumbo jets filled with patients crash every two days." These numbers, however, are very unreliable because the Institute of Medicine's report is riddled with questionable assumptions and dubious calculations.



The Institute of Medicine based its conclusions on two studies: a 1984 study of hospital discharges in New York with 129 fatalities in 30,000 cases and a 1992 study that covered Utah and Colorado with 59 deaths in 15,000 cases. The Institute of Medicine extrapolated these figures to the 1997 national hospital admissions figure of 33.6 million and arrived at their expansive numerical range.

One problem is the states that were used in the study. Are hospitals in New York, Utah, and Colorado representative of the entire country? Another problem is the use of hospital admissions. If estimates had been made based on hospital discharges, the 44,000 to 98,000 range would have decreased, becoming 39,650 to 88,450.

Another flaw with this study was its loose definition of medical error. Because errors were defined as "inappropriate decisions…when an appropriate alternative could have been chosen," it is very difficult to separate patient errors from those committed by medical personnel. More than 7,000 of the extrapolated hospital deaths, for example, were medication-related errors. Overdoses and the inadvertent use of the wrong medicines by patients were counted as "medical errors." As one skeptical surgeon said, often "association is indirect, hard to make, and debatable. Gathering such data simply isn't an exact science."

Compounding the statistical errors was the response of politicians, including President Clinton, who called for statutory reporting requirements. The problem with this solution, as the director of the Agency for Health Care Research and Quality testified in a Senate hearing, is that there is no direct correlation between reporting medical errors and actually reducing them in hospitals. In fact, publicizing mistakes might actually discourage hospital personnel from discussing real examples of medical errors, which are probably more widespread than most people would like to know.

An Epidemic of Cybersex?

In another highly publicized report, the San Jose Marital and Sexuality Center recently claimed that eight percent of all Internet users are cybersex addicts. Almost five million more people could be at risk, the report darkly warned. Is it possible that so many Americans feel compelled to visit pornographic Web sites, send lewd e-mail to their friends, and talk dirty in chat rooms?

The San Jose Marital and Sexuality Center based its conclusion on one survey it conducted on MSNBC.com last year. There were 13,529 respondents, which the Center filtered down to 9,177. Although this number is 13 times larger than a typical telephone poll, there is no way of ascertaining how accurately this group represents all Internet users, who number in the tens of millions. In addition, the same respondents could have voted more than once, thus distorting the results of the survey.

No research has yet established that there is a disorder of Internet addiction that is separable from problems such as loneliness ... or that a passion for using the Internet is long-lasting.

Another problem is the definition of cybersex addiction. The word addiction usually refers to activities that are compulsive, that involve withdrawal symptoms, and that physically alter the brain. As one scholar argued after the report was issued, it "seems misleading to characterize behaviors as 'addictions' on the basis that people say they do too much of them. No research has yet established that there is a disorder of Internet addiction that is separable from problems such as loneliness ...or that a passion for using the Internet is long-lasting."

Perhaps cybersex is a problem with a growing number of Internet users. But using a self-selecting group of 9,177 people who happened to learn about a survey on MSNBC.com to represent the nation's millions of Internet users is very questionable from a statistical standpoint. The sample is certainly not representative and probably too small.

Join the Navy!

My third example comes from Huff's *How to Lie with Statistics* and concerns the US Navy. During the Spanish-American War (1898), the death rate for Navy personnel was nine per thousand. In the same year, New York City's mortality rate was 16 per thousand. Navy recruiters later used these figures to argue that a career in the Navy was far safer than living in the Big Apple.

But these are not comparable population samples. Most Navy personnel are young men who have passed a stringent physical exam and are in excellent health. New York City's population, however, is very different. You do not need a physical exam to become a resident of the five boroughs, and the population includes the elderly and large numbers of people with serious illnesses.

Perhaps it was safer to be in the Navy than to live in the Bronx. Perhaps it was not. But the Navy's argument about its favorable differential mortality compared to New York City was simply statistical nonsense.

Statistical Miscalculations

These three examples are just the tip of the statistical iceberg. Newspapers, magazines, television, and radio are full of numerical misinformation. Too many statistical statements are based on bad mathematics; samples that are not randomized; samples so small that differences produced by chance are likely to be large; samples with low levels of statistical significance; and statistical conclusions that confuse correlation with cause.

The single most accurate single predictor of the S&P 500 stock index was Bangladesh's butter production!

Huff argues that non-randomized and small samples are the two most common causes for statistical inaccuracy, especially in the slippery world of advertising. In large data sets, mistaking correlation for cause may be a frequent error. As *Business Week* reported, one fund manager humorously claimed, based on his study of a United Nations CD-ROM, that the single most accurate single predictor of the S&P 500 stock index was Bangladesh's butter production!

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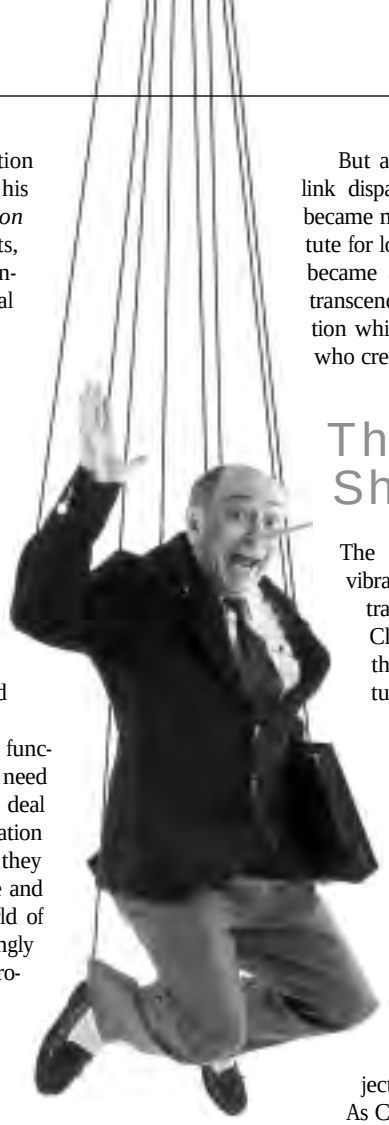
Another problem is the pictorial representation of numbers. As Edward Tufte demonstrated in his *The Visual Display of Quantitative Information* (1983), too many displays of statistics—charts, graphs, tables, and other representations of quantity—do not depict numbers and numerical trends accurately.

The Zeal for Quantification



Many cultures throughout history have been fascinated with numbers, but in the modern world quantification has a prestige and power unparalleled in ancient India or medieval Europe. One reason undoubtedly is its many successes in the physical and life sciences, technology, engineering, government, and the social sciences.

But quantification serves another important function. As we move beyond our own localities, we need to find ways to transact business from afar and deal with strangers. Because numbers convey information in a familiar, standardized, and reassuring form, they are superbly adapted to long-distance commerce and communications. In a large heterogeneous world of strangers, quantification functions as a seemingly neutral, objective, and value-free discourse that promotes interaction across time and space.

Until recently, few people were concerned about the lack of numerical standards. Before the nineteenth century, for example, many European towns had their own particular weights and measures, which they proudly defended as a symbol of their sovereignty and independence. In pre-Revolutionary France, every province coined its own money and had its own methods for calculating a bolt of silk or a bushel of wheat.

In 1860, when it was noon in Chicago it was 11:50 AM in St. Louis, 11:27 AM in Omaha, and 12:18 PM in Detroit.

In the United States, despite uniform coinage, weights and measures, and the absence of internal tariffs, the time of day was locally determined until after the Civil War. In 1860, when it was noon in Chicago it was 11:50 AM in St. Louis, 11:27 AM in Omaha, and 12:18 PM in Detroit. Railroad companies got so tired of setting their clocks to 53 different standards that on November, 18, 1883, they created four time zones, which encouraged communities to switch from local to railroad time.

This imprecision still survives informal conversations. Who has not heard a parent say, "I've told you 1,000 times" or been baffled by a manager's hope that "every team member gives us 110 percent." The only time precise statistics are used in everyday speech may be when males discuss baseball.

But as national and international commerce began to link disparate communities and as central governments became more powerful, quantification emerged as a substitute for local knowledge and personal trust. Quantification became an effective form of communication because it transcended local boundaries to produce credible information while bolstering the authority and expertise of those who created the numbers.

The City of the Big Shoulders

The rise of nineteenth-century Chicago provides a vibrant example of how numbers enable strangers to transact business over great distances. Grain made Chicago the most powerful city in the Midwest by the Civil War, and statistics played a vital role in turning crops into commodities.

Before the 1850s, in the absence of railroads and decent roads, farmers in the Midwest sent their wheat in personally marked sacks on river flatboats to Chicago, St. Louis, or New Orleans. Downstream, a miller or merchant would closely inspect each bushel sack with his eyes and hands and then offer the farmer a price. There were no uniform prices for a bushel of wheat or barley, and no standard definitions of what constituted high- or low-quality grain. Instead, millers and merchants used their personal experience to decide how much each bushel was worth. Knowledge was local, subjective, and imprecise.

As Chicago grew, the local world of Midwestern farmers and merchants dramatically changed. By 1860, thousands of miles of railroad lines brought wheat to Chicago from Chicago's hinterland. After it arrived, steam-powered conveyor belts moved a farmer's wheat sacks to the top of a grain elevator where they were weighed and then dumped into a bin. By 1857, the city had 12 grain elevators with a capacity of 4 million bushels.

Grain elevator operators, however, faced a major problem. It was not cost-effective to keep individual sacks of grain in separate bins. A new organization, the Chicago Board of Trade, solved this problem and unknowingly helped transform Midwestern agriculture. Founded in 1848, the same year as Chicago's first railroad, grain elevator, telegraph, canal, and stockyard, the Board established a standard weight for a bushel of grain. When farmers learned that Chicago businesses would pay them the same price for any bushel, they started adding dirt, chaff, and much worse to their wheat and barley.

In 1856, the Board responded by classifying grain into grades based on its quality. Now elevator operators could mix the grains of different farmers and give farmers a receipt for their produce. This made grains interchangeable between elevator bins, cities, and even continents. Now No. 3 spring wheat could be sold in New York City, London, and Moscow on the basis of prices quoted over the telegraph.

The next year, the Board appointed its own city grain inspector and assistants to certify the proper grades for all grain traded on the Chicago Exchange. In 1859, the Illinois state legislature authorized the Board to create standardized grades and inspection codes for its members. By the Civil War, Chicago dominated the Midwestern grain market because of its extensive railroads and

elevator warehouses and the grading and marketing systems established by the Board of Trade. At the same time, merchants and speculators began trading elevator receipts on the floor of the Exchange. The futures market had been born.

Grain prices were no longer established by local farmers, millers, and merchants as rural production grew more remote from the economic point of processing and consumption. Now, grain was bought and sold on the floor of the Chicago Exchange by businessmen who never touched or saw any natural produce. They could even speculate on grain that had yet to be harvested.

Gone were the days when merchants talked to farmers and personally knew their crops. Grain elevators and grading systems had transformed cereals from a crop into a numerical abstraction.

The futures market completed this process by freeing the market from the literal exchange of cereals. In 1875, Chicago's grain business was approximately $200 million. The volume of futures, in contrast, was $2 billion, ten times greater than the buying and selling of actual grain.

As one bemused visitor noted in 1880, "in the business centre of Chicago you see not even one 'original package' of the great cereals." Moving produce from farmers' sacks into grain elevators unintentionally started the revolutionary process of turning crops into statistics—elevator receipts, national and international prices, production data, railroad and shipping schedules, and the value of commodity futures. Chicago may have been the "City of the Big Shoulders," in Carl Sandberg's memorable phrase, but its power depended on numbers as well as muscle in its dominance of Midwestern agriculture.

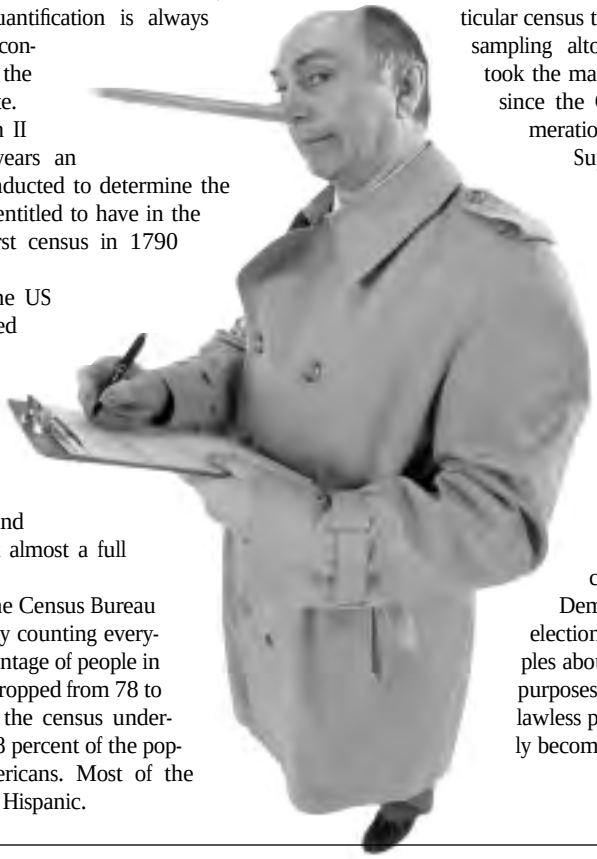
A Senseless Census?

The controversy over the 2000 Census illustrates an important point about the use of numbers by the government. Although they may be statistically sound, numbers are never neutral, value-free, or objective. Since quantification is always embedded in a social and political context, government numbers are often the subject of heated analysis and dispute.

According to Article I, Section II of the Constitution, every ten years an "actual enumeration" must be conducted to determine the number of members each state is entitled to have in the House of Representatives. The first census in 1790 recorded 3.9 million inhabitants.

As the nation grew, so did the US census. In 1810, the census asked questions about manufacturing and the amount and value of products. In 1850, new questions covered taxation, religion, the indigent, crime, and insanity. There were so many new questions in the censuses of 1880 and 1890 that it took the government almost a full decade to publish the results.

Over the past three decades, the Census Bureau has experienced increasing difficulty counting everyone. From 1970 to 1990, the percentage of people in houses mailing back census forms dropped from 78 to 65 percent. From 1980 to 1990, the census undercount also increased from 1.2 to 1.8 percent of the population, or almost 4 million Americans. Most of the undercounted were poor, Black, or Hispanic.



Several years ago, Congress directed the Bureau to devise plans for the 2000 Census that would reduce the undercount and also limit costs, which had sharply increased even after allowing for inflation and population growth. The Bureau responded by proposing to use statistical sampling once again because it seemed a scientific and non-partisan solution to the twin problems of undercounting and rising costs. Sampling had been used in previous censuses without much comment.

The Bureau expected little controversy over statistical sampling, which is widely used in medicine, industry, accounting, and other fields that demand mathematical rigor.

The Census Bureau worked closely with the American Statistical Science Association to develop an accurate sampling method for the 2000 Census. The Bureau expected little controversy over statistical sampling, which is widely used in medicine, industry, accounting, and other fields that demand mathematical rigor. The Bureau believed that it could develop carefully designed sampling techniques that would generate population data with a high degree of accuracy.

But Republicans became outraged over the Bureau's proposed use of statistical sampling. One Republican Congresswoman introduced a bill to use sampling only after direct contact had been made with 90 percent of households in a particular census tract. Another bill would have prohibited sampling altogether. Finally, dyspeptic Republicans took the matter to the Supreme Court, arguing that since the Constitution stipulated an "actual enumeration," sampling was unconstitutional. The Supreme Court agreed.

The battle over the 2000 Census was not really about the accuracy of statistical sampling. It was about two highly partisan political issues that had become entwined with discussions of census numbers.

First, many Republicans objected to any statistical sampling with President Clinton in the Oval Office. As one critic fulminated, "this is a White House that had no scruples about getting the Immigration and Naturalization Service to drop criminal checks on applicants for citizenship so that more Democrats could be naturalized for the 1996 election; why would it suddenly develop scruples about adjusting census numbers for political purposes?" Since the president was viewed as a lawless person, statistical sampling would logically become his latest form of political abuse.

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Their second objection was rarely voiced publicly. In a House of Representatives where Republicans have a slim majority, there are powerful political reasons to attack statistical sampling. Those counted in statistical sampling—primarily the poor and minorities—are overwhelmingly Democratic voters. Statistical sampling might help lead to the creation of new Congressional districts with potential Democratic majorities.

Even after the Bureau began the 2000 Census, Republicans continued attacking it. Trent Lott (R-Mississippi), the Senate Majority Leader, condemned the census as being too "intrusive" and urged his constituents not to return their census forms. After critics pointed out that the Senate had approved every question and category in the 2000 Census, Senator Lott hastily beat an ignominious retreat from the statistical battlefield. His press secretary lamely argued that the senator was actually "agnostic" about the census, a strange word to use from a politician strongly supported by the Christian Coalition.

"And by the same token any person can see that seven hundred and forty-two years from now the Lower Mississippi will be only a mile and three-quarters long."

Meanwhile, there is good news about the 2000 Census. Following the Supreme Court decision, the Bureau has undertaken a concerted media campaign to encourage all Americans and especially minorities to complete their census forms. Nationwide, as of June 2000, 65 percent of the 2000 Census questionnaires have been returned, a rate equal to the previous census.

Implications for Proposal Professionals

There is a great irony in our eagerness to use statistics and believe them. Quantification makes knowledge more open, understandable, and uniform. Numbers enable people to communicate across languages, cultures, and continents. Numerical standards promote interdependence by enabling strangers to transact business over vast distances. Quantification has fundamentally altered the way we understand the world.

As the articles in this issue demonstrate, some companies are using proposal metrics to become more efficient, which they associate with a higher win rate. In today's business environment, numbers can do more than measure success. They may also help us better understand what elements of the proposal development process work well and what elements need to be changed.

At the same time, the very power and persuasion of quantification obscures the fact that numbers are social and historical artifacts. They are never abstract, neutral, or value-free. As the grain market in mid-nineteenth-century Chicago and the 2000 Census demonstrate, statistics are not timeless, objective entities that exist outside society. When we use statistics in proposals, we are doing much more than merely counting or displaying numerical trends.

Usually, numbers in a proposal serve one purpose—to help convince reviewers that we are best qualified to be awarded a contract. In other words, proposal statistics primarily function as part of a persuasive argument to demonstrate that we are highly experienced and qualified, regardless of what the numbers may actually mean. Numbers augment our authority and expertise by making us appear scientific, rigorous, and credible, whether they are real, false, or misleading.

Let Mark Twain have the last word about the use and abuse of numbers. In *Life on the Mississippi* (1883), Twain entertained his readers with an explanation of the changing length of the Lower Mississippi River that I believe has rarely been equaled for its quantitative power:

"In the space of one hundred and seventy-six years the Lower Mississippi has shortened itself two hundred and forty-two miles. This is an average of a trifle over one mile and a third per year. Therefore, any calm person, who is not blind or idiotic, can see that in the Old Oölitic Silurian Period, just a million years ago next November, the Lower Mississippi River was upward of one million three hundred thousand miles long, and stuck out over the Gulf of Mexico like a fishing-rod. And by the same token any person can see that seven hundred and forty-two years from now the Lower Mississippi will be only a mile and three-quarters long, and Cairo and New Orleans will have joined their streets together, and be plodding comfortably along under a single mayor and a mutual board of aldermen. There is something fascinating about science. One gets such wholesale returns of conjecture out of such a trifling investment of fact."

The same might be said of many statistics, even those that appear in proposals.

References

Cronon, William. *Nature's Metropolis: Chicago and the Great West*. New York: W.W. Norton, 1991.

Huff, Darrell. *How to Lie with Statistics*. 1954, New York: W.W. Norton, 1993.

Mickle, Lee. "Lies, Damned Lies, and Statistics." *The Editorial Eye*, 1998 (21): 1-3.

Porter, Theodore M. *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*. Princeton, NJ: Princeton University, 1995.

Sandberg, Carl. *The Complete Poems of Carl Sandberg*. New York: Harcourt Brace Jovanovich, 1970.

Tufte, Edward. *The Visual Display of Quantitative Information*. Cheshire, CONN: Graphics Press, 1983.

Twain, Mark. *Life on the Mississippi*. 1883, New York: Penguin Books, 1984.

Urton, Gary. *The Social Life of Numbers: A Quechua Ontology of Numbers and Philosophy of Arithmetic*. Austin, TX: University of Texas, 1997.

Web Sites

Statistical Assessment Service: http://www.stats.org
2000 Census: http://www.census.gov; http://reporternews.com

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The Beginnings of STOP Storyboarding and the Modular Proposal

To separate fact from fanciful folklore, we asked Walter Starkey, co-author of the 1965 STOP Manual, to reflect on the genesis of that legendary manual and its then-revolutionary technique.

by WALTER S. STARKEY

Because proposal storyboarding began at Hughes-Fullerton (a division of Hughes Aircraft Company), I have been asked a number of times whether storyboarding was imported from Hollywood to the proposal management profession under the personal auspices of Howard Hughes. That is a fetching myth, but it is not the way the STOP (Sequential Thematic Organization of Publications) storyboarding technique began. To the best of my knowledge, Howard Hughes never graced Hughes-Fullerton's hallways, and movie-making influence had nothing to do with the conception and gestation of STOP.

The STOP technique, which eventually permeated much of the defense/aerospace industry as the preferred proposal development approach, began as a simple formatting idea, which then became the nucleus for a cluster of strategizing, composition, and publication disciplines focused on managing the complex task of proposal development.

The Dilemma

For people in the business of writing, editing, and producing engineering publications in the defense/aerospace industry, the early 1960s were an era of daunting challenges. Within the first two or three years of the decade, the relatively small engineering report lost its place as the chief publication product. Such reports had usually stemmed from the activities and intellect of a single author, or at most a handful of authors, and moved through the publication process at a sedate pace. With the seeming abruptness of a seismic event as our nation's military commands became increasingly ravenous for complex computer-based systems, engineering reports were supplanted by sales proposals typically running hundreds and sometimes thousands of pages. These proposals were generated by a large, multi-discipline author corps, and were driven by Red-Alert schedules imposed by the procuring customer (Department of Defense agencies or other equally demanding customers).

Often, just getting the books off the presses in time to hustle them onto a last-chance, red-eye flight was a victory in itself.

Under these circumstances, the hope of instilling qualities such as strategic unity and overall coherence into a proposal were dim at best. Often, just getting the books off the presses in time to hustle them onto a last-chance, red-eye flight was a victory in itself. Under particularly desperate schedules, niceties such as pre-print buyoff had to be forgone, and a scramble to deliver errata sheets followed hot on the heels of proposal delivery. At the climax of one short-fused proposal effort, I remember spending a long night in the print shop at Hughes-Fullerton, eyeballing pages for glitches as they came off the press while Jim Tracey sat next to me typing errata sheets that were printed on the spot and bundled up for delivery in the same package as the proposal volumes themselves.

I will resist the temptation to regale the reader with early-60s war stories, since anyone who was in the proposal business in that era could match them or top them with stories of their own. Even those who were not can appreciate the urgent need of publications specialists for some way to cope with the overwhelming matrix of dilemmas confronting them: How could the individual contributions of dozens or scores of authors be brought into line with the strategies management had in mind for the proposal? How could the proposal manager guard against unpleasant surprises when the authors' inputs finally reached his desk—surprises that could activate management's panic button by exposing the need for agonizing, eleventh-hour revisions? How could each author be assured that he was not spinning his wheels when he knuckled down to generate his inputs (i.e., that he was writing

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what the proposal manager really wanted)? How could the strong points of the company's approach be made glaringly clear to the proposal evaluator? How could the publications specialist make any meaningful contribution to the editorial caliber of the proposal?

As it turned out, workable (but not fail-proof) answers to these dilemmas were afforded by the storyboarding, composition, critiquing, troubleshooting, and editing disciplines embodied in the STOP process. The STOP disciplines, of course, did not, like Pallas Athena, instantaneously appear in full battle array from the head of one individual or the collective heads of a group of tech-pub specialists and proposal managers—but they did germinate at a pace that seems breathtaking in retrospect once the seed of the approach was planted.

An early impetus for the origination of this new publications approach came from a tough-minded program manager named Mike Rapport. The proposal he was charged with developing represented an entree into a product area deemed by Hughes-Fullerton's management luminaries to be crucially important to the company's future. With the spotlight on him, a fiery determination to make Hughes' proposal stand out from those of the competition marked Mike's discussion of his proposal plans with Jim Tracey and Dave Rugh. Tracey headed the publications group where Rugh worked as writing supervisor and I worked as editing supervisor, and which served the proposal needs of Hughes-Fullerton's Data Processing Products Division and Systems Division.

Figure 1. This photograph shows an early-days storyboarding session at Hughes-Fullerton.

There seems to be a natural passage length that is completely compatible with treating a specific topic within the confines of a two-page module.

In early 1963, Tracey, Rugh, and Rapport considered a number of approaches to making the proposal distinctive. At one point, I believe, Mike advocated some sort of comic-book treatment (my apologies to him if my memory is wrong), which clearly would have been too frivolous for proposal purposes. Finally, Tracey's suggestion of a modular approach won Mike's endorsement. The notion was to construct the proposal entirely of two-page modules, with text and any associated visual facing each other. Such a format, they agreed, would offer important reader advantages, and would certainly distinguish the proposal from any that had come down the pike thus far.

The Two-Page Module Evolves

Shortly after the meeting with Mike Rapport, Tracey convened our group for an after-hours brainstorming session to explore where the modular-proposal idea might take us. The response was enthusiastic. I voiced the thought that the two-page modules could be treated as self-contained themes, akin to college "blue-books." Others were quick to point out that treating them that way would help us to exploit some of the proven techniques of expository/persuasive composition that were often lost in the fog of loosely structured proposal discourse (e.g., clearly identifying the subject and its relevance, sticking to it, making a strategically persuasive point about Hughes' approach to the issues pertinent to it, and presenting an argument to prove this point via the module's text and visual). The desirable thematic character of the modules later led to the appellation Sequential Thematic Organization of Publications, and STOP was born.

It seemed probable that working at the level of two-page modules could solve a lot of problems in proposal-cadre communication. An author could jot down a paragraph outline for his module (call it a "storyboard", somebody said) and include a rough version of his visual. His storyboard, along with related storyboards from other authors, could then be pinned up and reviewed jointly by manager, editor, author, and anyone else concerned with the subject (Figure 1 shows an early-days storyboarding session at Hughes-Fullerton). The author's argument could be honed by discussing its pros and cons, and he could walk away with a marked-up storyboard like that shown in Figure 2, reflecting what input the manager really wanted. In other words, the module could be revised at the outline level before the author invested his time and energy in the difficult chore of composing it. What a boon that could be! I wish I could remember everyone who took part in that first brainstorming session, because, as things worked out, the meeting proved to be a momentous one. Writers and editors included Walt Starkey, Dave Rugh, Dave Gater, Mal Gable, Stu Jones, Ailleen Lang, Carole McCorkindale, and Larry McCollum. Art supervisor Jack Hunt and production supervisor Dorothy Morico also took part. I left the meeting, as I know others did, exhilarated by the feeling that we had hold of an idea that could

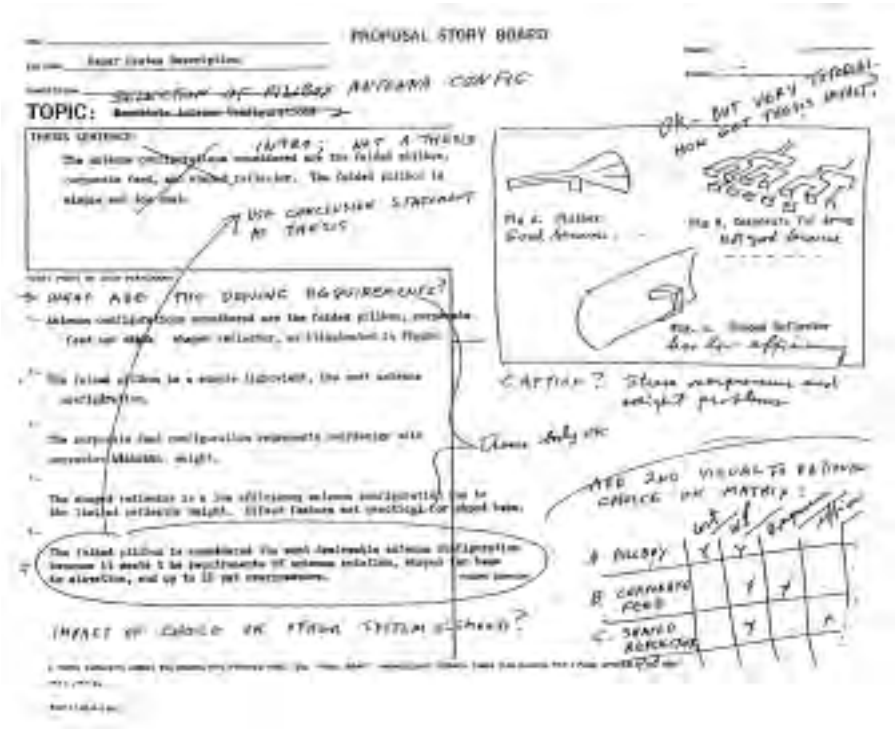

Figure 2. This is a sample of a marked-up storyboard showing the author the pros and cons of his or her argument.

reshape our professional lives in a rewarding way. We did not think of the meeting as the first shot of a revolution in proposal development at that moment, but we later became fond of thinking of it in that light.

Everyone at the meeting deserves credit for their constructive ideas about implementing the modular approach and their efforts of putting them into practice in the ensuing weeks, as we applied the approach to Mike Rapport's proposal and to two others that were active at the time.

Having acknowledged that, I want to make it clear that without Jim Tracey's influence, the STOP approach would not have taken root and flourished as it did. Jim passed away shortly after his retirement in 1989, but those of us who worked with him share indelible memories of his stubborn dedication to improving the quality of the proposal product.

The Challenge of Establishing a "Standard"

As we launched our campaign to establish the modular approach as the standard for Hughes-Fullerton proposals, the motto of our publications group was "sell STOP." Two aspects of the approach raised objections in some parts of the engineering community. First, limiting the discussion of a subject to the word count accommodated by a two-page spread appeared to some authors to infringe on their freedom to thoroughly develop their subject Second, other authors objected that mandatory visualization was an artificial requirement on the grounds that some subjects simply did not call for or support a figure.

The notion was to construct the proposal entirely of two-page modules, with text and any associated visual facing each other.

Relative to the first objection, Dave Gater and others did yeoman work in local libraries checking word counts of passages in various genres. Happily for the practicality of the two-page module, they discovered that many authors tend to change the subject on themselves after every 400 to 1,000 words. The clues are easy to spot: subheadings, phrases such as "On the other hand," "Another problem is" "Having determined that, the next step is," etc. There seems to be a natural passage length that is completely compatible with treating a specific topic within the confines of a two-page module. (Incidentally, we began referring to the modules as topics early on, and I will call them that for the rest of this article.)

The objection to mandatory visualization was overcome by inventiveness at the storyboard wall. A visual does not have to be a figure. Building on the line of argument in the text (or theme body, as we began calling it), we learned to develop several kinds of verbal visuals, all of which could illuminate and support a given argument. Examples are the dot and indented-dash list, which amounts to an X-ray view of the entire argument, and the dialectic verbal visual (problem vs. proposed solution, trade-off candidate vs. advantages and disadvantages, key requirements vs. Hughes' approach, etc.). These turned out to be valuable browsing aids for the evaluator.

Implementation Brought Improvements

Figure 3 shows several of the features that distinguish STOP topics. These features were incorporated one after another in the course of developing a fair number of proposals. A phrase-structured topic title that suggests the author's intention or attitude about a subject replaced the conventional, simple noun title of the subject almost immediately. Topic tie-back references under the title, which lead the evaluator from the topic back to his own requirements documentation, also appeared almost immediately. The two-part figure caption (a Tracey invention), which adds a strategic commentary about

more...

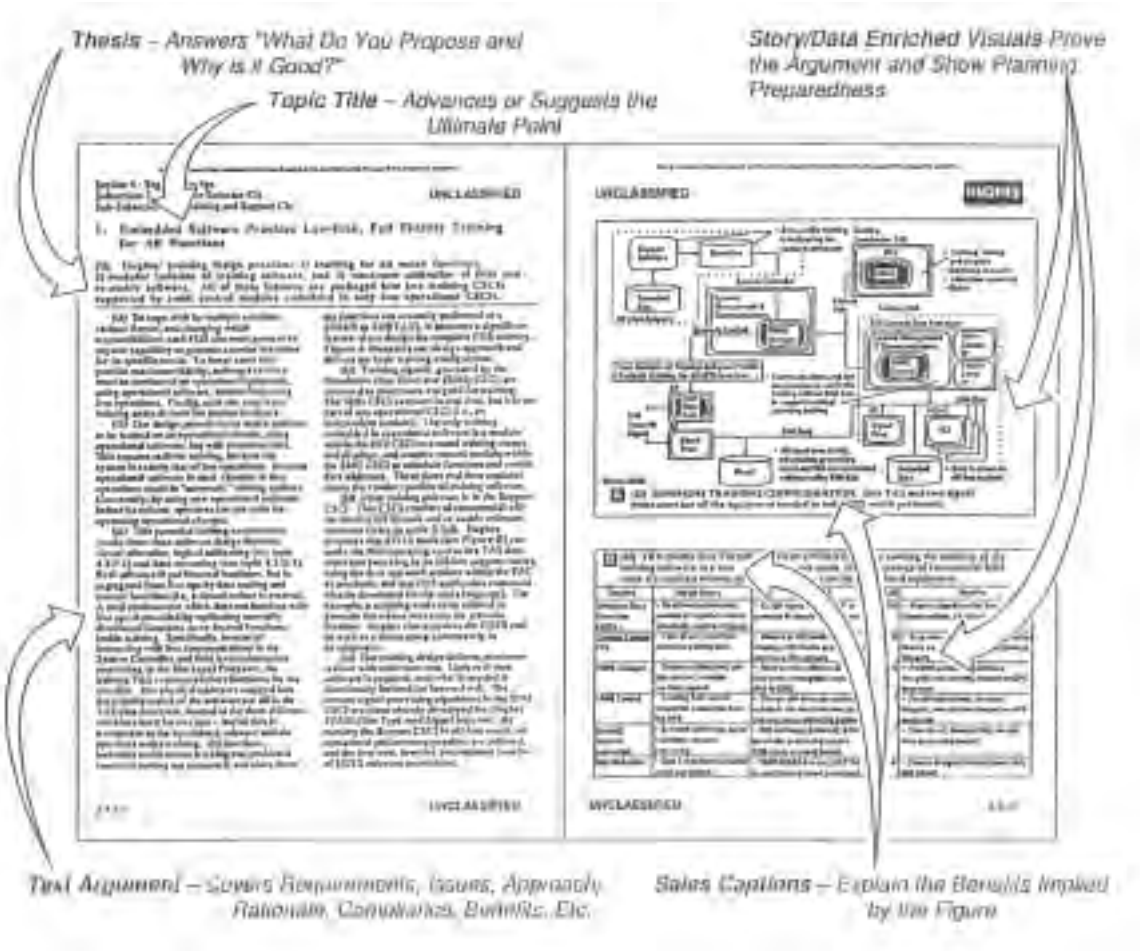

Figure 3 shows several of the features that distinguish STOP topics. These features were incorporated one after another in the course of developing a fair number of proposals.

the figure to its noun title, came a little later. Shortly after that, Mal Gable invented the "balloon rubric," which uses a comic-strip type of balloon to draw the evaluator's attention to some significant feature of the figure. Although we had all appreciated the thesis-driven nature of STOP topics for some time, several months went by before I wrote the first thesis sentences ever published in a proposal. The thesis sentence (displayed via bold type, underlining, or some such device) summarizes the main strategic point of each topic, hopefully leading the evaluator to mentally challenge the author to prove it, which, again hopefully, the theme body and visual proceed to do. (After I had written thesis sentences for the 50 or so topics in that first proposal, I copied them out in order, added some connective tissue, and found myself with a concise two-page summary of the proposal. This convinced us that if we displayed thesis sentences in all topics, an evaluator could gain a fair grasp of the thrust of a proposal just by reading them before delving into the details.)

These focusing features — phrase-structured title, verbal visual, figure, two-part caption, thesis sentence — found high favor among proposal evaluators.

Early Reviews Now Focused Our Message

As we implemented storyboard reviews, there was grumbling in some quarters that they imposed too much front-loading of the proposal effort — that too much time would be spent in the reviews before the actual composition task could begin. This objection faded away as it became clear that because each topic was a self-contained theme, authors could launch their writing chore as soon as the agreed-upon writing plan came down from the wall (i.e., writing could begin within an hour or two of beginning storyboard reviews). The self-contained nature of the topics also permitted lock-step scheduling, in which the phases of the development effort overlap (storyboarding, writing, technical/management approval, critiquing, troubleshooting, editing, production, preprint buyoff, and printing). In other words, no phase of the effort had to be completed before the next phase began. Suddenly, short-fuse proposals were easier to cope with than they ever had been. (The modular approach also eliminated the domino effect in which, under the conventional approach, late changes in one part of the proposal threatened the schedule by impacting other parts of the proposal.)

The author who came to the review with a skimpy storyboard left the review with a fleshed-out, agreed-upon writing plan.

As we put storyboard reviews into practice, we were struck by the creative force that group dynamics brought to bear on the proposal development process. The shared goal of making each topic and topic string as telling as possible on the proposal's chances of winning energized the review cadre to debate and improve upon the strategic point of each topic and the theme body/visual supporting it. The author who came to the review with a skimpy storyboard left the review with a fleshed-out, agreed-upon writing plan. At times the review process went far beyond topic-level critique once the review cadre's creative juices began to flow. I have seen systems redesigned and management plans retailored at the storyboard wall.

To ensure consistent steering of proposal strategy, we determined that, as a minimum, the review cadre should include the proposal manager and technical director or their representatives, section or topic-string honchos, the topic authors, and a STOP specialist to conduct the review.

See excerpts from the Hughes Aircraft STOP Report on the following pages

STOP Became a Way of Life

The STOP specialist was a new breed of technical editor, one equipped through mastery of STOP disciplines to be instrumental in developing and presenting sound proposal strategy. Our most senior STOP specialists were dubbed Managing Editors. They were supported by topic critiquers, troubleshooters, and copy editors.

Once the STOP storyboarding technique was adopted, it didn't take long for Hughes-Fullerton's win-percentage to mushroom. And it did not take long for the technique to be widely adopted in our industry, spread at first by our proposal-teaming efforts with other companies, and then by its own momentum as word got around.

In the mid 1960s, I served as managing editor for a consortium-generated proposal to implement the air-defense ground environment for the North Atlantic Treaty Organization. The proposal ran into thousands of pages and involved, on a limited schedule, teaching STOP and conducting storyboard reviews at companies in Italy, France, The Netherlands, West Germany, England, and Canada.[1] The coherence and strategic unity of the finished proposal were not perfect, of course, but they were good enough to beat the competition. Considering the diversity of contributors to the proposal, I believe they could have been achieved in no other way than by the application of STOP principles. As had been the case a number of times in the past and would be the case many times in the future, this effort demonstrated the effectiveness of the proposal storyboarding approach.

The promise we sensed at our initial brainstorming session was fulfilled. The challenges of the proposal adventure were still there and still real, but the STOP disciplines gave us the tools we needed to cope with them.

[1] As luck would have it, a general *greve* struck Paris at the beginning of the storyboard review schedule there, shutting down electricity among other things. Because the schedule, which could not be slipped, called for review sessions extending late into the night, these were the only storyboard reviews ever conducted by candlelight.

References

Tracey, J.R., Rugh, D.E., and Starkey, W.S., 1965, *STOP, How to Achieve Coherence in Proposals and Reports,* Fullerton, CA, Hughes Aircraft Company

Special Interest Group for Documentation, 1999, *The Journal of Computer Documentation,* Vol. 23, No. 3, New York, NY, Association for Computing Machinery

Except for four years at the University of Chicago, where he investigated infrared and cosmic-ray detection techniques as a research physicist, Walt Starkey's career has been spent in engineering publications. During his 29 years at Hughes Aircraft Company, he was one of the developers of the STOP storyboarding technique. Since he retired as head of Hughes-Fullerton's Proposal Development Section in 1989, his freelance articles, short stories, humor, and poetry have appeared in numerous periodicals. He can be reached at Starkeys@worldnet.att.net.

Excerpts from the Original STOP Report

Titled "Sequential Thematic Organization of Publications (STOP): How to Achieve Coherence in Proposals and Reports," the 65-page Hughes Aircraft Company manual published by J.R. Tracey, D.E. Rugh and W.S. Starkey in January 1965 was revolutionary in concept and in the affect it had on a burgeoning industry.

The STOP Technique at a Glance

STOP: A better method of organizing and writing reports and proposals

STOP is a systematic method of organizing and writing the technical report and proposal which significantly improves outlining control and editorial caliber of the content. Essentially, the method spoon-feeds the reader in "bite-size," 2-page topics.

STOP stands for Sequential Thematic Organization of Publications. It is a new and unorthodox method that is surprisingly effective for outlining and writing technical reports, and proposals, particularly the lengthy, detailed and technically complex publications prepared by teams under time stress. In a STOP report or proposal the subject matter is organized into a series of relatively brief themes, each presented in a "module" of two facing pages, complete with associated figure, if any. Thus, you change the subject whenever you turn the page and your attention is occupied with only one message at a time. This framing of message "modules" in a STOP book increases the impact of each and makes it easier to comprehend. What makes STOP work as a practical method for all thematic types of technical writing is that it makes use of the more-or-less uniform topical structure that exists naturally in ordinary expository discourse, but which is hidden by conventional outlining practices. It can be shown statistically that this natural topical structure exists and that the topics, once you recognize them, fit the 2-page spread in an overwhelming majority of the cases. Therefore, recasting or boiling down is not required in the STOP technique.

Conventional outlining practices not only hide the natural topics of a discourse, they allow the thesis of the topics to remain unstated, and this makes it easy for the reader to miss the most important points the author wants to make, and for the author to miss making them in the first place. The conventional outline is "categorical" rather than topical, so it is essentially a one-man tool. To supplant the categorical outline, Storyboards are used in the STOP technique to prepare a detailed, "team-visible" outline for each theme module. The traditional but neglected Thesis Sentence, which is the key to coherent outlining and writing, guides the design of each Storyboard for maximum thematic unity. The Thesis Sentence shows the reader at a glance the essential argument of the theme body, and since the total shape of the theme body is readily apparent, the reader is relieved of the common vexation: "When will this passage end, and what point is the author driving at?"

STOP is based on the principle of Thematic Quantization, which asserts that proper recognition and treatment of topical units of discourse is the essence of "coherence," and that the best way to achieve topic recognition is the device of uniform modules.

For a given subject area, the author always has the option of spinning off additional topics, provided each is treated in a unified manner, but he never exceeds a 2-page span of attention at any-one moment. The topical segmentation of natural expository structure is thus taken advantage of: it replaces the arbitrary and

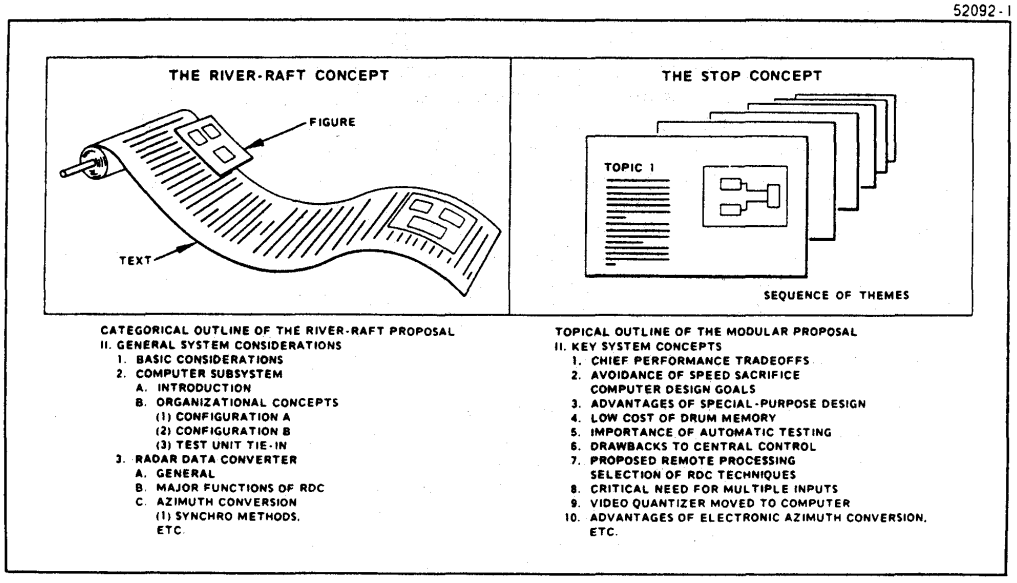

Figure 1. Page-by-page printing of the conventional "run-on" proposal tends to conceal the fact that it takes the form of a scroll or a river of words. Since the usage and location of the figures are unpredictable, figures are referred to as rafts. The permissive character of the river-raft proposal is reflected in the categorical outline on the left, whose riddle-like headings may be compared to the pertinent topics of the same material treated modularly on the right.

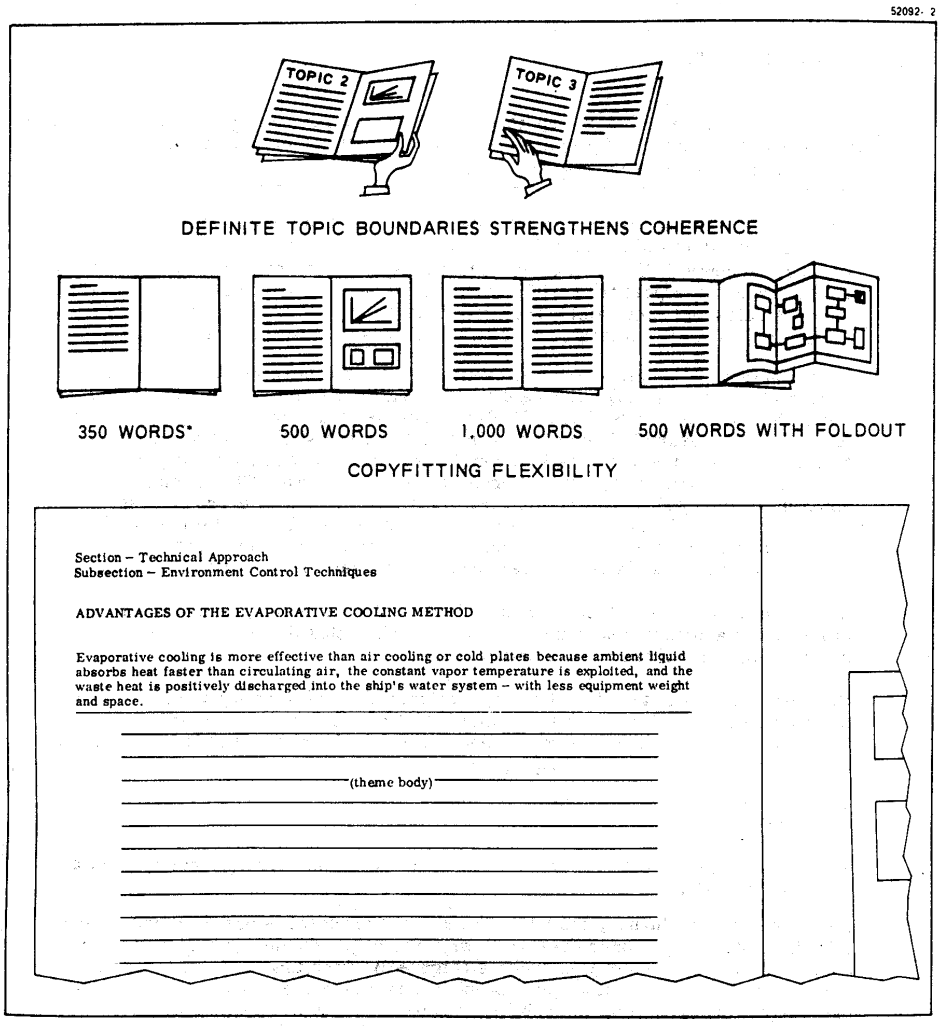

Figure 2. The modular organization with printed thesis promotes stronger coherence and continuity within the topic simply because the point is more clearly defined and the space restriction prevents the author from over-reaching it unwittingly.

artificial rules of "logical" categorizing as the issue of the "organizing" process.

Experience with STOP over a period of years has demonstrated the practicability of this seemingly brochure-like organizing method for detailed technical exposition. One hundred and twenty major STOP proposals and reports have been produced since November 1962. It is considered now to be demonstrated as a practical method for all types of subject matter, the usual mix of engineering writing talent, typical crash schedules, and conventional methods of multilith production.

As evidenced by reader reaction, increase in comprehensibility of STOP documents as compared to their River-Raft counterparts can only be described as dramatic. This has been especially true in the proposal field, where the quantizing methodology reveals company intention more plainly, and provides a standard "processing" framework for the evaluator, who is concerned with identifying points for scoring purposes, spotting areas of disagreement, and rank-ordering items for priority analysis.

CONCEPT OF THE TOPICAL MODULE

Because it has obvious boundaries (both physical and editorial) and an appropriate capacity, the self-contained theme of two-page proportions becomes a prescription for thematic coherence that is more objective to the author and reviewer, while being compatible with the natural behavior of the author and reader.

Application of Thematic Quantization to the printed document is illustrated in Figure 2. The reader is confronted with a se1f-contained and easily assimilated theme wherever he may open the document. Since all discourse on a topic ceases within the module boundary, turning the page means starting a new topic. The number of topics selected during initial outlining to cover a given subject category can be as few or many as desired, depending upon the emphasis intended and the overall page limit of the publication....

The only absolute requirement is that each resulting theme must be coherent, pertinent and not in excess of two pages. Violations of thematic unity are easier to spot and therefore more likely to be repaired early in the game. In the typical STOP publication, the text is placed on the left and the figures are placed arbitrarily on the right, but since the use of illustrations is not essential to the method, the text may "slop over" as desired. Conventional 8-1/2 by 11 reproduction methods allow about 500 words per page, for a maximum topic length of about 1,000 words without illustration. Multiple figures can be employed per page, to the limits of art-sizing ingenuity, as can fold-outs in the customary way, which, however, must be "backed up" with the text for the subsequent module.

It will be shown that the engineer writing a report or proposal invariably starts a new topic after about 500 words on the average. This is fortunate because it means that the STOP format accommodates normal writing habits without a lot of copyfitting trouble as might be feared... The essential argument of the topic is crisply summarized for the reader by the printed out Thesis Sentence, which facilitates scanning, and the figure is always found right there, without the nuisance of page flipping to locate it.

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Excerpts from the Original STOP Report (continued)

The STOP manual concludes with this eloquent appendix, offering more insights into the gestation of a successful process.

Appendix

Background and Acknowledgements

The STOP technique was not born by invention, but through the unfolding of numerous insights and accidental discoveries by a group of people over a 2-year period.

The idea of a modular treatment for organizing the full text of a technical document, and the decision to try it on a typical proposal, was reached by Jim Tracey and Dave Rugh at the close of a proposal crash in October 1962. It was their conclusion that the brochure-like, text-and-picture organizing method that presented story elements in a spread-by-spread sequence could offer the same reader advantage in the case of the fully detailed technical exposition as it did in the case of the slide and flip-chart presentational booklet. The assumption was that difficulties in writing and editing would necessarily have to be overcome to fit the detailed technical narrative into such a pattern. The plan was that the extra work of revising and rewriting would be shouldered by the technical editor .

The significant point is that this assumption was soon proved incorrect, but at that moment it was felt (in a mood of desperation) that the existing problems of achieving comprehensibility in the conventional production were already so difficult, and being so poorly resolved, that any change could only work for the better, especially if it entailed a modular end result of proven reader benefit. For implanting this attitude of letting the devil take the author for a change, credit must be given to Mike Rapport, who had propelled the authors into the recognition that traditional editorial elegance was incontestably beside the point when having to spoon feed hard arguments to soft customers .

The modular technique was therefore adopted on two proposals in November and December of 1962: the Small Ships Data Processor, and the Space-Ground Link Subsystem. Both of these proposals lost. Important discoveries were made, however, which justified the editorial efforts. First, it was seen that the topicizing operation inexorable shook out editorial defects (most material was being converted from River Raft) as though by formula. Second, it was observed that the text body was already naturally structured by topical segments, accomodating modular uniformity without extra work, but that the possibility was being concealed by the categorical headings . This was in January of 1963.

By February , the Storyboard concept of outlining was accepted as an essential step in planning the modular publication, and its superior role in managing proposal content was seen. A Storyboard form was printed up (on B-size vellum), though it did not include a Thesis Sentence. Instead, space was provided at the bottom of the sheet to answer this question: "What conclusions do you want the reader to draw from this write-up ?"

As the number of modular proposals grew through March and April of 1963, a realization dawned concerning thematic unity which, looking back, seems as though it should have been self evident. This odd discovery was voiced by Walt Starkey, who held up a topic in genuine surprise and said "Look, each of these is a self-contained theme."... This occurred during the edit of the first AADS-70 proposal, the eleventh modular document produced by the then Systems Publications Sections.

By the end of 1963, 44 modular publications had been produced. It was felt that a decided measure of control had been gained over the basic parameters of coherence, and enough customer favor was filtering back to verify that the improvement existed for the reader. But one dissatisfaction persisted, namely a sense of low pertinence or missing significance throughout the technical "descriptions" which. make up the bulk of the average proposal. Must proposals be dull ? This question led to a search for ways to insure that the author would elect and declare a propositional intent, rather than just describe. It was then found that the traditional Thesis Sentence could be applied repeatedly to the topic elements for this purpose... This was in November 1963, one year after the basic modular technique was adopted.

The first modular document employing the printed out Thesis Sentence was prepared as an experiment in December 1963. In July 1964 three modular proposals were also so prepared (an inexplicable delay, though there was as understandable reluctance to become committed to the "exposure and labor" of the technique).

Since then, the Thesis Sentence has lost its threat, becoming a highly useful standard device and the identifying symbol of both the Storyboard and the topic. Thus the various modular ideas had matured into the full STOP technique by the Summer of 1964. By the end of 1964 about 120 documents of major proportions had been produced by the method. Several technicalities were also clarified that year, such as the identification of the operational parameters of organizing, the essential procedural defects of the categorical outline, and some of the secrets of Storyboard reviewing.

The Audio-Visual technique of handling math writeups (a Tracey-Rugh production) was developed in detail in November 1964 with the encouragement and examples of Ron Long.

As can be seen, the development of the STOP technique was a gradual process of worry, speculation, brainstorming and fumbling experience. Members of the Writing Services Section contributed valuable assistance, particularly Dick McCormack, who provided a much needed layman's description of STOP, and Dave Gater,who assisted Rugh in proselyting a generation of skeptical authors. Walt Starkey proved the efficacy of Storyboarding once and for all on the 6,000-page cross-cultural NADGE program. Jack Hunt and Dorothy Morico led the revolution in graphics that was prerequisite to smooth production of STOP books. Bob Perry furnished the Storyboard clue, discovered Parkinson's Law of the Trivial, and endorsed all with an enthusiatic managerial indulgence.

Proposal Writing Metrics

Is it One Page Per Hour, or More, or Less?

How to apply the tools in today's word processing programs to measure and predict a writer's productivity.

by RICH FREEMAN and JAMES SCOTT FREEMAN

How long should it take to write a proposal? How much will it cost? A seasoned proposal professional once told us that you could expect to get a "page-an-hour" out of most people. We had been using that figure as a basis for estimating the time required to prepare proposal responses for years. Was that true? We wondered.

The following metrics, based on recent experience at a large telecommunications firm, may provide you with a useful baseline for planning and measuring proposal development. We call them "out-of-the-box metrics" and they come from a small sampling of proposal sections from nine commercial proposals (see Table 1, page 50). These study samples range from a two-page *Executive Summary* to an 85-page description of *WAN Managed Services.* All were submitted as draft documents ready for final editing. The selected text was generally process-oriented rather than highly technical in nature. All nine authors were different, and none can be considered to be a professional writer.

We provided an expanded outline in MS Word to the authors. After preparing the outline, we cut and pasted the material into a new document and saved it as a new document. This reset the Revision Number and Editing Time metrics in Word's "File/Properties/Statistics" counter. To see this counter, with the document open, you select "File," then "Properties" and then click on "Statistics."

We sent the writing assignment to the authors and recorded the metrics when they submitted their final documents for editing. Most of the nine assignments required responses to specific requirements in the RFP. Most of the assignments asked for three to four paragraphs in response to a single RFP requirement, although two of the assignments contained standard descriptions

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Table 1. OUR DATA SAMPLES AND DERIVED RATES

PROPOSAL SECTION SAMPLES	AUTHORS	TIME EXPENDED		WRITING SCOPE			WRITING RATE		REF.
Subject Matter	Job Title	Minutes	Hours	Edit Version	Number of Words	Number of Text Pages	Words Per Hour	Pages Per Hour	Boilerplate Page Count
Implementation Management	Project Manager	387	6.450	14	2,624	9.25	406.82	1.43	3.75
Back Office Systems Description	Network Engineer	598	9.967	28	3,375	12.25	338.63	1.23	0
New Service Platform	Account Manager - Sales	1,987	33.117	61	14,963	47.50	451.83	1.43	0
Network Management	Network Engineer	1,677	27.950	3	13,246	39.00	473.92	1.40	15.5
Project Profile	Network Engineer	556	9.267	10	4,567	19.75	492.84	2.13	5
WAN Managed Services	Network Engineer	2,262	37.700	18	21,295	85.50	564.85	2.27	42.75
Service Model	Program Manager	111	1.850	10	1,016	3.50	549.19	1.89	0
Service Level Agreements	Associate Counsel - Legal	1,162	19.367	7	11,000	32.50	567.99	1.68	8
Executive Summary	Account Manager – Sales	76	1.267	7	519	2.25	409.74	1.78	0
	TOTAL	8,816	146.933	15.8	72,605	251.50	494.14 avg.	1.71 avg.	75

that permitted the use of boilerplate.

Following submission of the documents, we spoke briefly with all authors to see if they had any work sessions where they left the document "open" for an extended period of time. We found they had not.

Collecting Metrics from MS Word

We collected word count and elapsed time metrics using features built into MS Word, as detailed in Figure 1 (below). Other word processing systems often have similar features.

To measure the word count, we deleted all of the graphics and tables. None of the material contained tabular material that originated with the authors. None of the authors produced graphics or other illustrations. Their task was to write. The page count was made for a one-and-one-half -space manuscript page (approximately 325 words) set at 12 point Times New Roman.

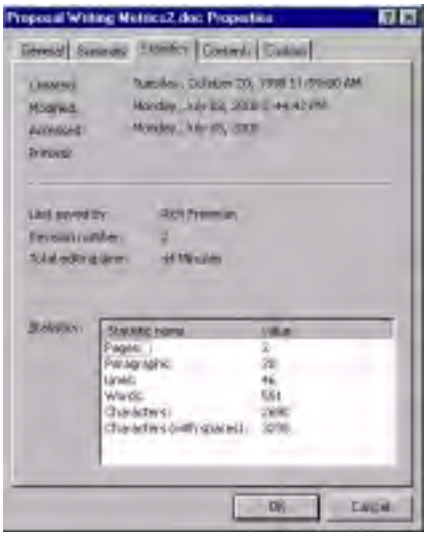

Figure 1. Collecting the metrics is easy. You open the submitted document and then select [File], [Properties] and choose the [Statistics] Tab to see the Revision Number, the editing time, and the Word Count. You can see from the popup window at the left that this is the second version of this article with a total writing time of 44 minutes. You can also see that the current version contains a little more than 500 words.

Table 2. CORRELATION MATRIX OF TABLE 1 FACTORS

Hours	Edit Versions	Number Of Words	Number Of Text Pages	Words Per Hour	Pages Per Hour	Boilerplate Page Count
0.00						
0.42	0					
0.99	0.31	0				
0.94	0.28	0.98	0			
0.36	-0.27	0.48	0.48	0		
0.07	-0.32	0.21	0.35	0.69	0	
0.69	-0.17	0.78	0.86	0.52	0.54	0

Shows strongest correcation between hours and number of words
Number of Text Pages versus Boilerplate Page Count
t test for significance - 4.766756361
coefficient of determinance - 0.7396

What Correlation Coefficients Tell Us—A Quick Review

Correlation coefficients tell us about strength and direction of relationships, but do not tell us anything about cause and effect. For example, there is a high correlation between heat stroke and asphalt paving softness. Heat stroke is not caused by soft asphalt, but by another factor that affects both—temperature. Relationship strength varies from a perfect correlation of 1.0 to no correlation of 0. A negative correlation means the variables are traveling in opposite directions. As one variable increases, the other decreases. A perfect negative correlation would be –1.0. One powerful feature of the Pearson Product Moment Correlation Coefficient is that when is squared (multiplied times itself), it provides a metric called the Coefficient of Determinance. This measure is the variance in one variable that is predictable in the other, e.g., strength of relationship. We developed a Coefficient of Determinance matrix simply by copying the correlation matrix data and squaring the cell values.

And the Answer Is...

Because there are so many variables and the sample we examined was a very small one, its statistical accuracy is necessarily constrained. But, the data were easy to gather and the answer surprised us. The average page per hour across these ten sam-

ples was 1.71. Nearly two pages an hour! Because this number exceeded our expectation, we considered the possible impact of boilerplate and added a boilerplate page count to our samples in Table 1. While 30 percent of the submitted material contained boilerplate, we reviewed the boilerplate carefully using MS Word's document compare feature, and the boilerplate had been changed by the authors. The author of the single document containing the most boilerplate (nearly 50 percent) did not seem to benefit too much from the use of boilerplate—this author's page rate was 2.27 pages per hour compared to an average of 1.71 pages per hour.

What We Learned

Data Snooping

We began our analysis by checking the statistical relatonships of data to verify their significance (their reliability) in making an accurate prediction. This is called "data snooping," and Excel provides the opportunity to "data snoop" your data. We built a correlation matrix (Table 2) using the data from Table 1. Then we did our snooping using the Pearson Product Moment Correlation selection—one of many valuable tools provided by Excel. In fact, there are 78 separate worksheet functions you can use.

The textbooks state that you should have a sample size of 30 (N=30) or greater when using parametric statistics, which the Pearson's tool is, but we wanted to see what we could learn about the various relationships in the data, even if only on a tenuous statistical basis. (Graduate school rules of engagement allow such transgressions for pilot studies.) In addition, we calculated the mean, median, minimum and maximum for each of the data table values.

Words per Hour is More Accurate

The average page-per-hour across the nine samples was 1.7 (mean and median). Page production ranged from a minimum of 1.23 to a maximum of 2.27 pages per hour. Our correlation matrix showed the strongest relationship is between hours and number of words (0.97); the relationship between hours and number of pages (0.89) is the third strongest. This suggests that words per hour is a more accurate measure than number of pages per hour (e.g., 97 percent versus 89 percent). The average words-per-hour across the nine samples was 473 for the mean and 474 for the median. The second strongest relationship is number of words versus number of pages (0.96). There are no surprises there.

What this means is that if you are using metrics to gather data on individual writers, use words per hour to predict future output. Use the pages per hour metrics to produce quick assessments of the time or budget that is needed to produce the response.

The Effect of Boilerplate

The effect of boilerplate shown in Table 1 is of particular interest. Thirty-three percent of the submitted material contained boilerplate that had been edited or changed by the authors. One author using boilerplate had a very high page rate of 2.27 per hour, another only 1.40 pages per hour.

The author of the document containing the most boilerplate (nearly 50 percent) produced 2.27 pages per hour. This is approximately *33 percent more than the average* of 1.7 pages per hour. A closer look reveals this individual, representing 11% of the labor pool, produced 29% of the total words during 26% of the total hours. This has a skewing effect upon the data.

Contrarily, the next biggest user of boilerplate produced 1.40 pages per hour, which is *21 percent below the 1.7 average* pages per hour.

Our conclusion is that the use of boilerplate may not necessarily help increase the pages-per-hour rate. Therefore, when predicting the total amount of time required to produce the response, be careful when someone says "Oh, we've got boilerplate for that."

Other Considerations

This approach to collecting metrics data may seem unnecessary, but we have found that some organizations do not account for these basics when they are planning proposal development. They apparently prefer guesswork. Regardless, the following rules endure.

- Complex jobs requiring research take longer than simpler jobs or those that rely on existing material.
- Most proposals are a combination of existing material and material developed to respond to a new set of requirements.
- Technical or legal writing takes longer than non-technical writing.
- The experience level of the writer impacts productivity.

When you are making estimates for the time required for writing assignments, make sure you allow for these factors. For example, complex jobs requiring research take longer than simpler jobs that rely on existing material. Some proposals may involve a lot of research or data gathering, which for the purposes of estimating are not formally part of the writing process. Research time adds many complex variables that skew the results or may even cause you to set unrealistic or unreasonable expectations. Then too, even an experienced technical writer may be new to the company and not have the ready knowledge of where to go and find specific answers to requirements.

How We Plan for the Writing Effort—An Example

Figure 2 (page 52) shows a planned response to a commercial Request for Proposal (RFP). The RFP from an international financial institution was about 150 pages. It evolved by following these efforts:

- Analyze the RFP and construct a high-level response storyboard following the customer's reponse requirements.
- Prepare a high-level response outline, and, after careful review with the Account Team, complete an expanded outline of our response. This expanded outline is one of the important keys to making an accurate page estimate.
- Following another review, prepare the response story-board with an estimate of the number of pages of writing, the number of engineering drawings, accounting spreadsheets, and addenda required for a complete response.

The storyboard in Figure 2 shows the page estimates for writing. The page number estimates for the written sections, the engineering drawings and the spreadsheets come from the Proposal Manager (Bid Manager) and section leaders or other team mem-

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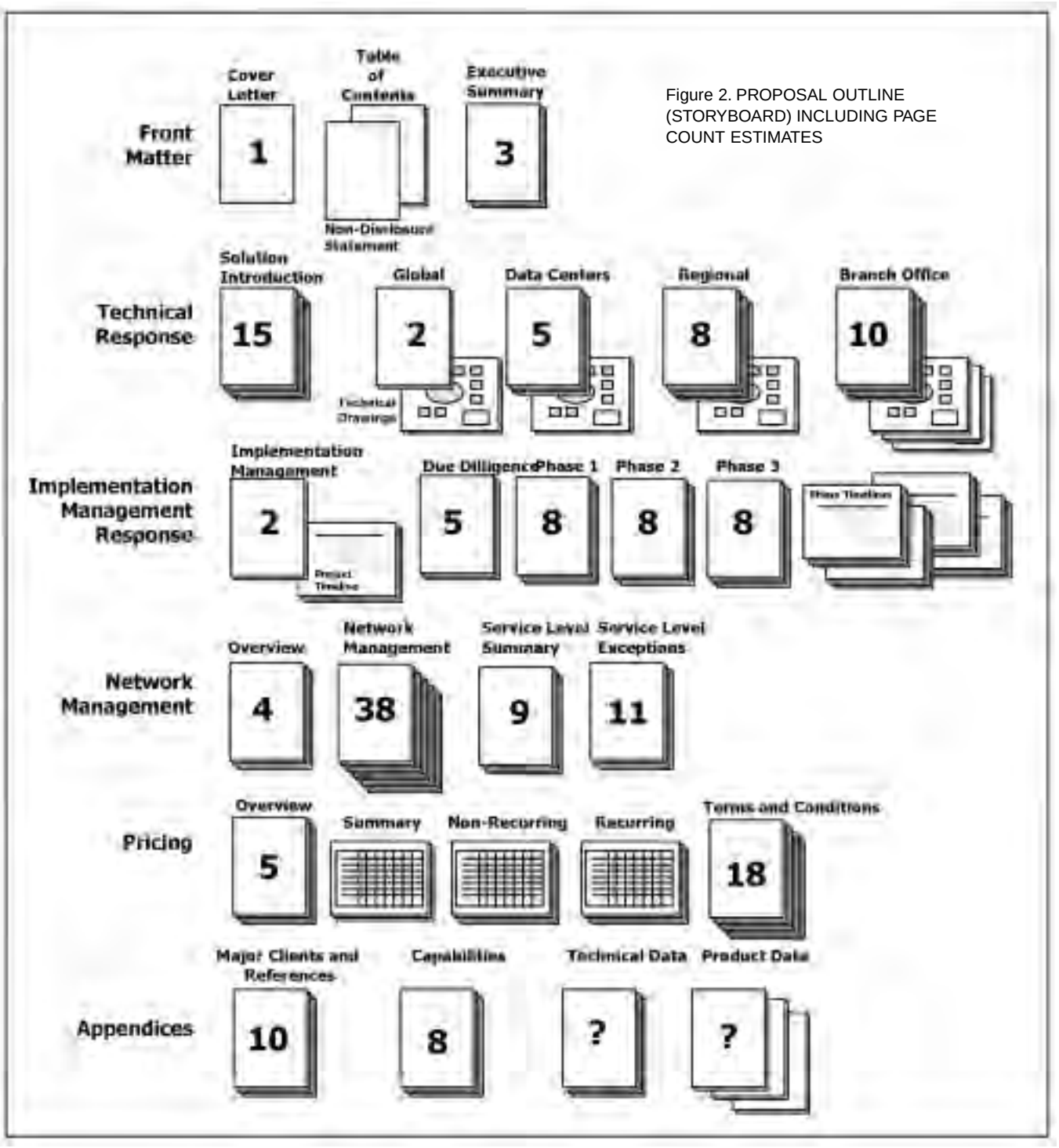


Figure 2. PROPOSAL OUTLINE (STORYBOARD) INCLUDING PAGE COUNT ESTIMATES

bers who have responded to a number of RFPs. In addition, because we track sections of responses of recent proposals for similar efforts, we can cross check to ensure that the estimates are as accurate as possible. We also use the page-counts from the library of existing templated material.

Since our "Out-of-the-Box" study, we updated the metrics set we use to estimate the amount of time required to produce specific sections. For original writing we rounded the 1.71 pages-per-hour to 1.75 pages per hour. For this proposal, the *Executive Summary* is a good example of original material. The authors may use existing material to get it started, but in the end it will be a unique document.

Our expanded outline provides a good idea of how much adapted and templated material we can use. "Adapted" means that some form of the response material already exists (boilerplate, similar recent proposals, other material), but the author will have to carefully revise and adapt the material for the specific response. For most authors this is faster than original writing—even when writing from an expanded outline.

The *Introduction – Solution Overview* is a good example of

CASE STUDY

Metrics at NCR's Proposal Center

By PAUL MESING

Like Diogenes' search for the truthful man, the quest for appropriate proposal metrics goes on diligently *ad infinitum*. This article is more about searching, than finding—there are no "quick fixes" or "silver bullets" here.

NCR Background

NCR Corporation (NYSE: NCR) is a recognized world leader in providing Relationship Technology solutions for the retail, financial, communications, travel and transportation, and insurance markets. NCR's Relationship Technology solutions include store automation, ATMs and privacy-enabled Teradata warehouses. The company's business solutions are built on the foundation of its long-established industry knowledge and consulting expertise, value-adding software, global customer support services, a complete line of consumable and media products, and world-leading hardware technology. More information about NCR and its solutions can be found on the Web at www.ncr.com.

NCR Proposal Centers

The Americas Proposal Center is the largest such organization in NCR with a staff of 11 (seven proposal managers, one writer and two production specialists plus the center manager at the time of this writing). Other proposal centers of various sizes and charters include those at NCR Government Systems, NCR Canada, plus some support in Germany and the UK for Europe/Middle East/Africa and in Australia for Asia/Pacific. Discussions are underway for a similar center in Japan. The rest of this article describes The Americas Proposal Center (TAPC) at NCR's home office in Dayton, Ohio.

The Americas Proposal Center

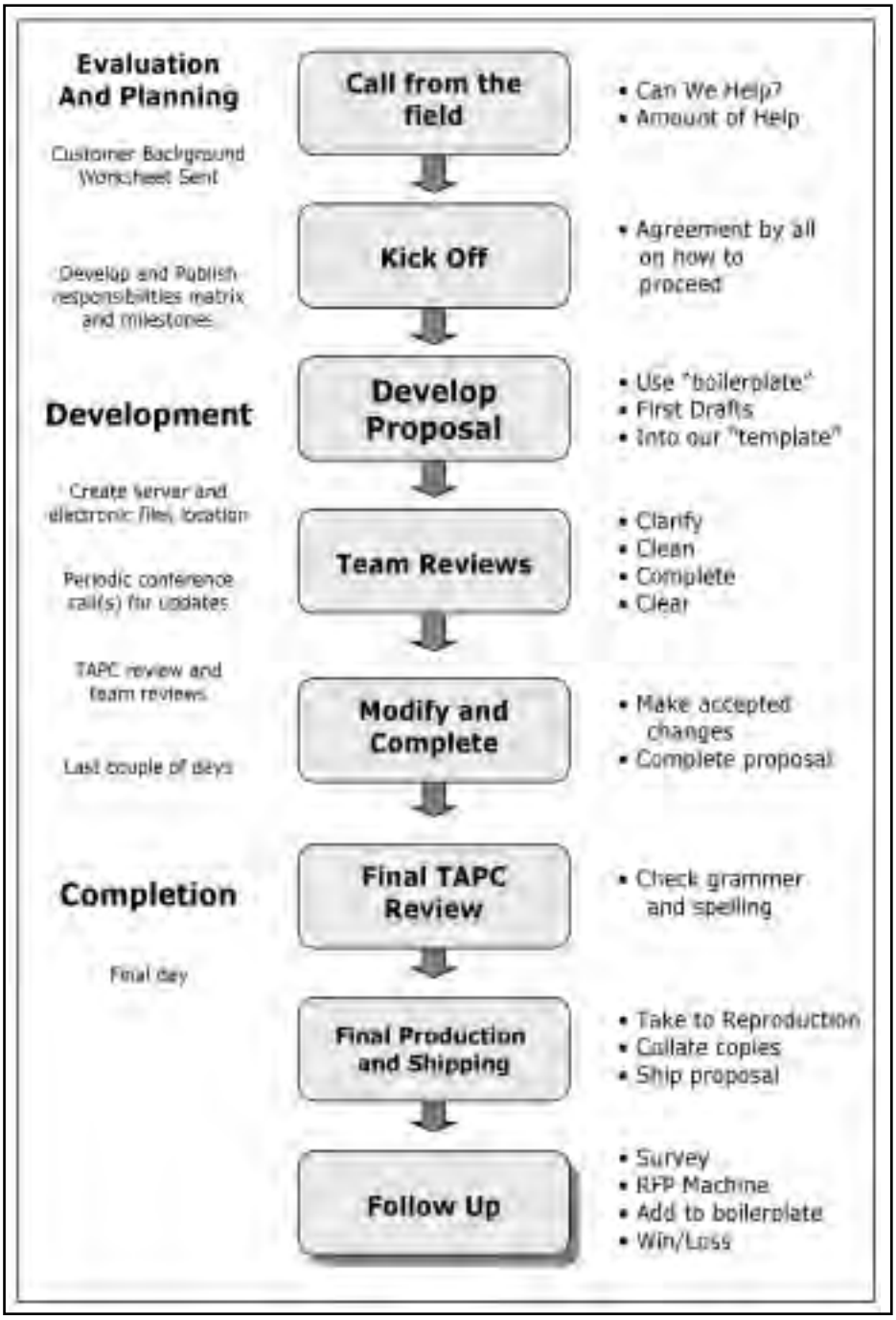
Our center focuses on commercial proposals, although we occasionally work on non-federal government proposals. The NCR sales representative (also referred to as "client") owns the relationship and interface with the customer and, hence, owns

Today's NCR grew out of the National Cash Register Company, founded by John Patterson in 1884.

the "deal." The proposal manager controls the proposal document and is the interface between the proposal center resources and the rest of the proposal team. The proposal manager determines the overall schedule to ensure that the proposal is delivered to the customer on time. The Proposal Center is a resource organization in support of the sales process, but its use is not mandatory. The Proposal Center completed nearly 400 proposals in 1999. Usually, there are between 20 and 30 active proposals in the center at any time.

TAPC's Proposal Development Process

TAPC's proposal process is simple and straightforward with a minimum of steps. The flowchart at right outlines our process:



Our Philosophy on Metrics

Our philosophy on metrics has a bias toward practicality. We distill that philosophy into these three guiding rules.

1. Metrics should, above all else, be useful. That is, they should be capable of providing useful information that will materially affect the operation of our process. Metrics not used for anything other than reporting should not be kept.
2. Metrics should, as much as possible, be natural by-products of the process they measure. Their collection should impose an absolute minimum amount of administrative overhead on staff and clients.
3. A maximum amount of information should be derived from a minimum amount of raw data. Again, the overhead of collecting and analyzing the data must not exceed the value of the information derived.

Consistent with this emphasis on being practical, we track 18 metric parameters or data elements, as shown in the table on page 56.

Metrics vs. Objectives: The Proposal Center's Volume Metrics

The count of proposals completed in each time period is an important and useful measure of the proposal center's value to the business, as well as being an aid to staffing and workload distribution decisions. We keep these metrics and utilize them, but do not set

more...

TAPC Metrics

These proposal metrics and data elements are tracked and recorded by TAPC

Data Element/Metric	Measured/Tracked	Reported	Value/Usage
Proposal Quality by Business Unit (BU)	Yes	Proposal count by BU	Business value & PR Workload/staffing (specialization)
Proposal Quality by Solution (product/ service)	Yes	Proposal count by Solution	Business value & PR Workload/staffing (specialization)
Duration	Computed from dates	Not summarized	Workload/staffing
Start Date (First contact)	Yes	Not summarized	Workload/staffing
End Date (Proposal Shipped)	Yes	Not summarized	Workload/staffing
Staff hours expended	Yes	Not summarized	Workload/staffing Also determines "Size" metric
Resource Names	Yes	Not summarized	Research
Win	Yes	Wins only (not "rate") reported with $ value, if known	Business value & PR
Size of Effort	Derived from staff hours	Proposal count by size (small/medium/large)	Workload/staffing
$ Value	Yes – rough estimates only	No	Research Internal marketing
Client (sales contact)	Yes	Not summarized	Research
Number of copies	Yes	Not summarized	Research
Page count	Yes	Not summarized	Business value & PR
Client Satisfaction	By survey	Average reported	Business value & PR
Client time saved	By survey	Yes	Business value & PR
Client propensity to return	By survey	Yes	Staff recognition, Business value & PR
Client comments	By survey	Yes	Research
Customer Name	Yes	No	

Explanations of Remarks

Internal marketing: TAPC, in conjunction with its parent organization, conducts internal (to NCR) awareness marketing from time to time.

Workload/staffing/specialization: TAPC's staff is specialized by solution within business unit. Detailed information about workload is kept in as "real-time" fashion as possible, as well as historically by month. This facilitates staff planning and resource loading decisions.

Research: Certain data are kept to facilitate retrieval of old proposals and for archival purposes.

Staff recognition: TAPC's parent organization operates a recognition program with monthly and quarterly awards based on peer and management nominations. TAPC associates are generally nominated for such recognition upon receipt of noteworthy comments from clients (sales persons).

Business Value and PR: Metrics highlighting TAPC's support for NCR's business are communicated regularly to a variety of internal audiences.

objectives based on them either individually or collectively. There should be no incentive for our proposal managers (our business generators) to attract a large number of small proposals for the sake of showing a high throughput rate or volume. We simply use volume measures as tools for "taking the pulse" of the business and leveling workload.

The Elusive Win Rate

Win rate is a popular metric for proposal centers. It is usually the first one that comes up in conversations about metrics because it seems so obvious. "You are chartered to improve your company's win rate, aren't you?" However, it is fraught with dangers of over-simplification. In our business, it is very difficult to precisely define what constitutes a "win." To illustrate, let's say we submit a proposal for a $1 million "solution" consisting of computer hardware, software and services. If, after six months have passed, the customer actually places an order for $100,000 worth of services to do a study and maybe a lab implementation, was that a "win" or a "loss?" What if the proposal is repriced twice by letter bid and results in an even greater order than originally proposed but over a year later?

This is the kind of thinking that can lead to insanity for proposal managers. So, while we celebrate our wins, we do not spend time tracking and reporting a win rate. That is, we do announce our successes (e.g. "ABC Co. ordered a $5 million data warehouse solution"), but we spend no time whatsoever trying to determine where an order is in the sales "funnel", when an order will close or whether one was lost or cancelled.

Further, from an accountability standpoint, if one wants to be rewarded for wins, then one also has to accept responsibility for losses. We set no objectives, individually or collectively, around wins. This is because in our company's culture, the sales person

owns the relationship with the customer, the proposal and any resulting business. We are an optional resource to help them spend more time with their customers and to help them produce better proposals than they could otherwise. Our proposal center does not price proposals (in that regard, we are not a bid and proposal center) so, if an opportunity is won or lost on price, that is unrelated to our services.

In our company's culture, the sales person owns the relationship with the customer, the proposal and any resulting business.

What We Do Not Currently Measure and Report

There are 11 additional metrics we are capable of monitoring but choose not to measure for reasons relating to value, priority, jurisdiction, or prior experience.

Time of day at which proposals are delivered to Reprographics department: We use an internal copy center. We have a very good working relationship with that department and proposals receive highest priority. However, in the interest of maintaining this good relationship, we want to accurately project the proposal workload on a daily basis and ensure that proposals arrive at their center as early as possible. Despite our best efforts, often proposals arrive late in the day, allowing their department minimal time to copy and bind in time to make shipping deadlines.

Reprographics department turnaround time: See above.

Shipping/delivery fidelity: Our success with shipping, both in working with our internal shipping department and in the services of the carriers themselves, has been excellent. In the past five years, we have lost only one opportunity due to a shipping problem and that was under very unusual circumstances.

Ease of working with client (sales associate): Every service organization encounters difficult clients. However, we have found that, with rare exception, our clients who are the most challenging are also the ones who are the most appreciative of our efforts.

Ease of working with subject matter expert: While the proposal managers in our center specialize in one or more of NCR's solution offerings, they are by no means technical experts. Thus, we rely heavily on subject matter experts as authors for RFP responses and as technical reviewers. Such a metric, like the one above, would be highly subjective and may be influenced too greatly by the personality of our own proposal manager.

Timeliness of receipt of pricing: Our proposal center is not a bid and proposal center. That is, we rely on the timely receipt of pricing information from pricing analysts in other organizations for nearly every proposal. The pricing development and approval processes in NCR, as in many large organizations, can be troublesome when trying to respond under tight deadlines. This is one area that, although we could measure it, we probably cannot do much about it, so we don't spend time developing metrics around it.

Timeliness of receipt of RFP from client: One perennial problem in most proposal centers is the delay between the issuance of RFPs and the time they arrive in the proposal center. There are a variety of legitimate reasons and some very creative excuses for this. Fortunately, this does not seriously plague our center and we have not felt a need to develop a metric around it at this time.

Number of aborted proposal projects: Because of the increasingly short time frames imposed by customers for RFP responses, we have found it expedient to assume that every proposal is going to be approved and delivered to the customer. Risk assessments and bid reviews are conducted by other organizations in NCR as the solution is developed and priced and we rely on those reviews for bid/no-bid decisions. Of course, there have been a few times when the response has been aborted by a no-bid decision, but it is rare. We like to think that is because our account teams have tight working relationships with their customers and that the RFPs are anticipated and the risks are well known before each RFP is released—or maybe we are just lucky.

Timeliness of receipt of answers from authors: As noted above, our proposal managers are not technical experts and, therefore, rely on the timely and accurate answers from subject matter experts. Although generally not as troublesome as pricing, it occasionally happens that we are waiting on answers late in the schedule. We are continually trying to tighten our links with our subject matter experts, but don't currently "rate" them on responsiveness.

Overtime of professional staff: Thanks to the miracle of technology, we can now work around the clock, 365 days a year. Unfortunately, for the same reason, much of the overtime of our professional staff (exempt employees) is not visible. We don't report or track overtime, except for hourly staff. We regard client satisfaction as a primary goal but neither encourage nor discourage overtime. We expect that our proposal managers will manage their clients' expectations to be reasonable with regard to the amount of overtime required. When overload situations arise, staff members are encouraged to discuss such matters with the center manager.

Cost per page: TAPC's budget is allocated at the business unit level, along with reprographics cost. Thus, although we do have the necessary data to easily compute a cost per page, there has been no interest in NCR in this metric. TAPC operates in a cost-conscious manner, keeping unnecessary expenses to a minimum. For instance, our proposal teams operate in a geographically dispersed virtual teaming manner that eliminates travel cost. Our reprographic cost is an allocated cost to the business units on an annual basis. That means one of the largest cost components of proposal generation would only be measurable indirectly.

Summary

This case study is intended to provide some insight into the rationale currently influencing the metrics applied to one proposal center. We do not claim to have all the answers in this matter (and may not even know all the questions), but we are learning. If this article were to be written a year from now, the description would probably be significantly different.

Paul Mesing currently manages NCR's Americas Proposal Center in Dayton, Ohio, which provides support to NCR sales teams on all sizes of proposal opportunities. Prior to joining NCR as a systems engineering manager in 1981, Mr. Mesing held information systems development positions with three Fortune 500 companies. He headed the NCR Indianapolis Systems Engineering district for seven years before joining NCR's home office as the contracts manager for the U.S. Group Systems Services Division (now Professional Services). He can be reached at PM130821@exchange.DAYTONOH.NCR.com.

FOCUS on BASICS

Using Red Teams Effectively

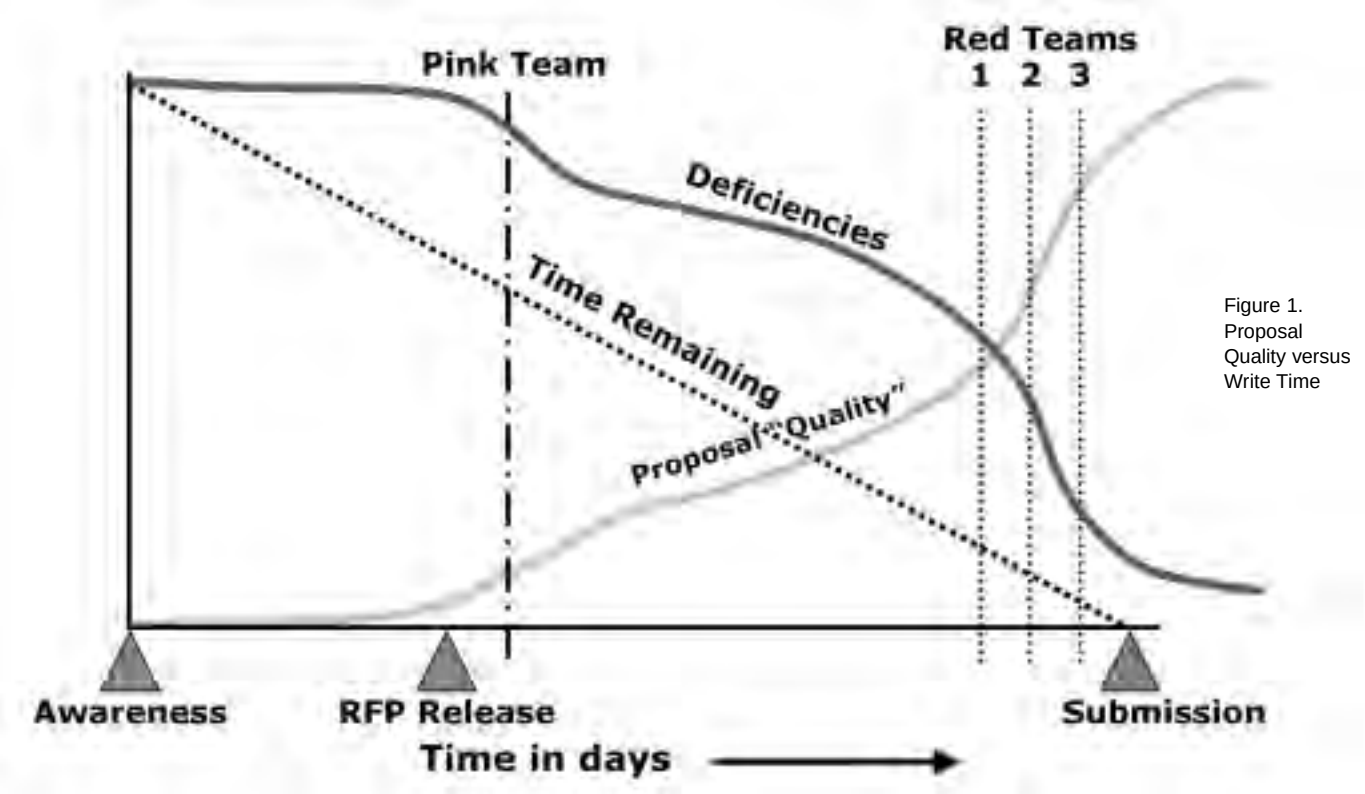


Figure 1. Proposal Quality versus Write Time

By DAVID H. HERNDON

The ultimate measurement of proposal quality is, "did it win or lose?" This question comes too late in the process to assist when writing the proposal. The primary tool used to measure proposal quality during the writing process, and thus before the proposal is submitted to the customer, is a red team review.

When the right people review a proposal in the most effective way, the final product will certainly benefit. Even the smallest proposal can benefit from a simple review. Because proposal authors often become too close to their sections and blind to proposal weaknesses, some review is essential. However, the review process can become cumbersome, time-consuming, confusing to writers, and highly ineffective if not handled correctly for the situation.

This article is based on practical experience obtained from both sides of the review process. It outlines several traditional and non-traditional approaches to proposal review, and suggests how to prepare for and implement effective red team reviews that can help ensure the best possible proposals.

WHEN TO REVIEW

Proposal quality improves significantly during the proposal process, particularly near the end when most sections are complete and have undergone some internal review (Figure 1). The later the review, the more completed sections there are to review and evaluate (Ransone, 1999), but the less available time there is to make corrections. If major structural problems exist, there may not be enough time to make major changes.

The best way to handle this dilemma is to conduct one or more

short reviews very early in the proposal writing process. These early reviews (blue teams, pink teams) check compliance matrices, outlines, and storyboards to ensure that the initial proposal structure, win strategy, and other features are properly designed. Early, interim reviews allow the traditional red team review to be performed when the proposal is nearly complete. Because the interim reviews have (ideally) caught and corrected major structural problems, red team recommendations should be limited and easier to fix in the short time remaining before final production.

TYPES OF PROPOSAL REVIEWS

The most common proposal review is conducted by a traditional red team after proposal text and graphics are essentially complete. While this traditional review can be effective under the right circumstances, it should not be the only review method considered.

If the proposal is on an extremely tight schedule, the delay caused by the traditional review process may actually hinder proposal preparation. Certain circumstances can make a traditional red team impractical or unnecessary, limited time being the most common reason. Other reasons include lack of available personnel, lack of funds to assemble the personnel needed for an effective formal review, or a proposal that is not big or important enough to spend the resources necessary for a formal group review.

Non-traditional review approaches can be used to work around these constraints. These approaches include staffing red teams, single person reviews, and internal proposal section reviews with members of the proposal team who have not been involved during the preparation of the section being reviewed.

The traditional red team is normally tasked with specific goals, such as evaluating and recommending fixes, and evaluating and scoring the proposal according to the solicitation evaluation factors. Various types of goal-oriented red team approaches are summarized in the following paragraphs.

Evaluating - and - Recommending - Fixes Red Team

An evaluating-and-recommending-fixes red team reviews the proposal for a broad range of factors, including:

- Compliance (Is the proposal structured according to solicitation proposal instructions, evaluation factors, and other solicitation requirements?)
- Completeness (Are all the proposal sections complete?)
- Responsiveness (Does the proposal respond to the evaluation criteria, answer all the solicitation questions and topics, and respond in a way thought to be desired by the customer?)
- Presentation (Do the proposal text and graphics flow properly and tell the company's intended story?)
- Sell (Does the proposal sell the company's proposed features/solutions by turning them into customer benefits?)

The evaluating-and-recommending-fixes red team also makes specific written recommendations on how deficiencies associated with compliance, completeness, responsiveness, presentation, and sell can be fixed. This type of red team should include individuals who are highly knowledgeable about the proposal process, because the red team members should work closely with the proposal team after the review to correct deficiencies.

Although this type of red team usually does not have the time or the customer expertise to formally score the proposal in accordance with the solicitation's evaluation factors, it is common and

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RED TEAM DOs AND DON'Ts

DOs

- Do organize and plan the proposal review process early in the proposal preparation.
- Do select the proposal review method that will do the most to increase win probability.
- Do consider using a running red team for a proposal that is to be written on a very tight schedule.
- Do consider dual red teams for major, must-win proposals.
- Do use a majority of outsiders and proposal professionals on red teams.
- Do make an early review of the proposal (sometimes called a "pink team") to ensure proper proposal structure and approach methodologies.
- Do have the proposal complete (including executive summaries, section/subsection introductions, and graphics) prior to red team review.
- Do hard edit a proposal prior to red team review.
- Do provide red team members with copies of both the solicitation and a comprehensive solicitation-to-proposal compliance matrix well before the proposal review.
- Do keep the red team members collocated during the proposal review.
- Do be specific in making comments and recommendations – general statements are usually useless.
- Do combine red team comments into a single volume.
- Do present proposal strengths and well-written areas during the red team debrief to the proposal team.
- Do remember that the proposal manager has total authority to accept or reject red team recommendations.

DON'Ts

- Don't select any red team member who is not fully committed to work full time on the review and to stay and participate in making recommended fixes.
- Don't use a formal red team review if the review process delay will hurt the proposal effort.
- Don't ask a red team to score a proposal against the evaluation factors unless the proposal is complete.
- Don't ask the red team to pick between multiple approaches or solutions.
- Don't present minor issues during the red team debrief — concentrate the presentation on important issues.

helpful for it to provide an informal quality score (e.g., excellent, good, acceptable, fair, and poor) for each reviewed section. This informal scoring, based as much as possible on the evaluation factors, imposes some discipline on the red team, and quickly identifies those proposal sections needing the most help.

This type of red team review can be effective even when minor parts of the proposal are incomplete or missing.

Customer-Evaluation-Simulation Red Team

This type of red team attempts to simulate the customer's formal proposal evaluation process. On federal agency procurements, the red team would be called a mock Source-Selection-Board-Evaluation red team. This red team measures the proposal by:

- Evaluating each solicitation requirement, listing major and minor proposer benefits and deficiencies, and identifying needed clarifications for each solicitation requirement.
- Grading and providing a specific score to each evaluated proposal section/subsection according to the solicitation evaluation factors.

In order for this red team to score a proposal effectively, its members must have a complete and comprehensive understanding of the customer's real and hidden requirements, including the customer's available budget for the proposed work and any political agendas. This type of red team should ideally include recent employees of the customer who have hands-on experience evaluating proposals in the solicitation's specific technical field.

If possible, this review should cover all proposal volumes. This includes the cost volume, because a major customer evaluation factor is "does the bidder's price fit our budget?" (Allston, 2000). A customer evaluation-simulation review must simulate as closely as possible the customer's actual evaluation process, and the reviewers should also consider any political ramifications of the customer's selection. For example, on federal procurements, the Source Selection Board recommendation is provided to the Source Selection Authority. This person makes the decision that is safest for his or her career, and can most easily be justified to the losing bidders' Congressman (Ransone, 1994).

Failing scores do little to promote a fix, and lower the morale of an already overworked proposal team.

A customer evaluation-simulation-review evaluation should be limited to cases where the proposal is complete (full text and graphics) and in a near-final edited format. If the proposal is incomplete, this type of red team review is a total waste of time. It is virtually impossible for a red team to review and score an incomplete proposal in any meaningful way. Failing scores do little to promote a fix, and lower the morale of an already overworked proposal team.

Combined Red Team: In an ideal world, red teams would score the proposal according to the customer's evaluation factors and would also recommend specific fixes to improve that score. In most cases this is not practical because of the time involved (a minimum of 3-5 days), the level of proposal completeness, and lack of detailed, inside knowledge about the customer.

Dual Red Teams: If a combined red team is not feasible only because of time constraints, an effective alternative is to use dual red teams (two separate red teams) running concurrently. One red team evaluates and recommends fixes, and the other red team serves as a mock selection board to grade and score the proposal. This approach is very effective for large, must-win proposals.

Several years ago, I managed one of two concurrent red teams for a large, must-win proposal. My red team evaluated the proposal for compliance, completeness, responsiveness, presentation, and sell. The other red team simulated the customer's source selection board, scored the proposal against the solicitation's written (and hidden) evaluation factors, and prepared a list of deficiencies, weaknesses, strengths, customer benefits, and needed clarifications.

My client had done extensive research on their customer's source selection board, and their selection-board-simulation red team had been meeting for several months to learn the personalities, interests, and idiosyncrasies of each source selection board member. They even assigned red team members to act out the roles of each anticipated customer evaluator.

During the red team debriefing, the two red teams had significantly different recommendations. My red team identified deficiencies and made recommendations relating to structure, compliance, and responsiveness. The other red team's scores and lists of deficiencies resulted in significant changes in subject emphasis based on the "believed interests" of the source selection board. The company made proposal modifications based on both red teams' recommendations, and the submitted proposal won a very large contract with a near perfect score.

A running red team only evaluates and recommends fixes — it performs no formal scoring.

Running Red Team. When a proposal is on an extremely tight schedule, a running red team (an evaluation that is concurrent with the writing of each section/subsection) is often an effective and efficient proposal evaluation method. When a writer completes a section draft, he or she immediately gives it to the running red team. The running red team reviews it, makes comments on it, and returns it to the writer — usually within a few hours. The red team remains active throughout the entire writing period, reviewing every draft of every section, and the proposal process is kept on schedule without any delays. A running red team only evaluates and recommends fixes — it performs no formal scoring. When the core proposal team is small (under six) and made up of proposal professionals, the running review may be performed internally by members of the core team. These members review sections they have not personally helped to develop.

I have been involved in writing several proposals using running red teams, and in each case, the review was highly successful, resulting in minimal or no loss in writing time. On one recent effort, a full-blown, end-to-end proposal had to be written and published within a four-day period. A formal red team was out of the question, and I set up a running red team using the client's CEO and senior staff. As each section was drafted, it was reviewed by the client's staff member responsible for that area, and then by the CEO. Comments were then incorporated into a final version. Review and re-write for each subsection took less than 15 minutes. We completed and published the entire proposal, including color graphics, within four days, and the company won a major contract. On another project, the proposal involved the preparation of five technical approach videos to be provided in a ten-day period. We set up a running red team to evaluate the proposal video script sections as they were drafted. The running red team members worked closely with me and with the other section managers, and returned fix recommendations within several hours of submission. This approach was highly successful, resulting in a billion dollar plus award for the client.

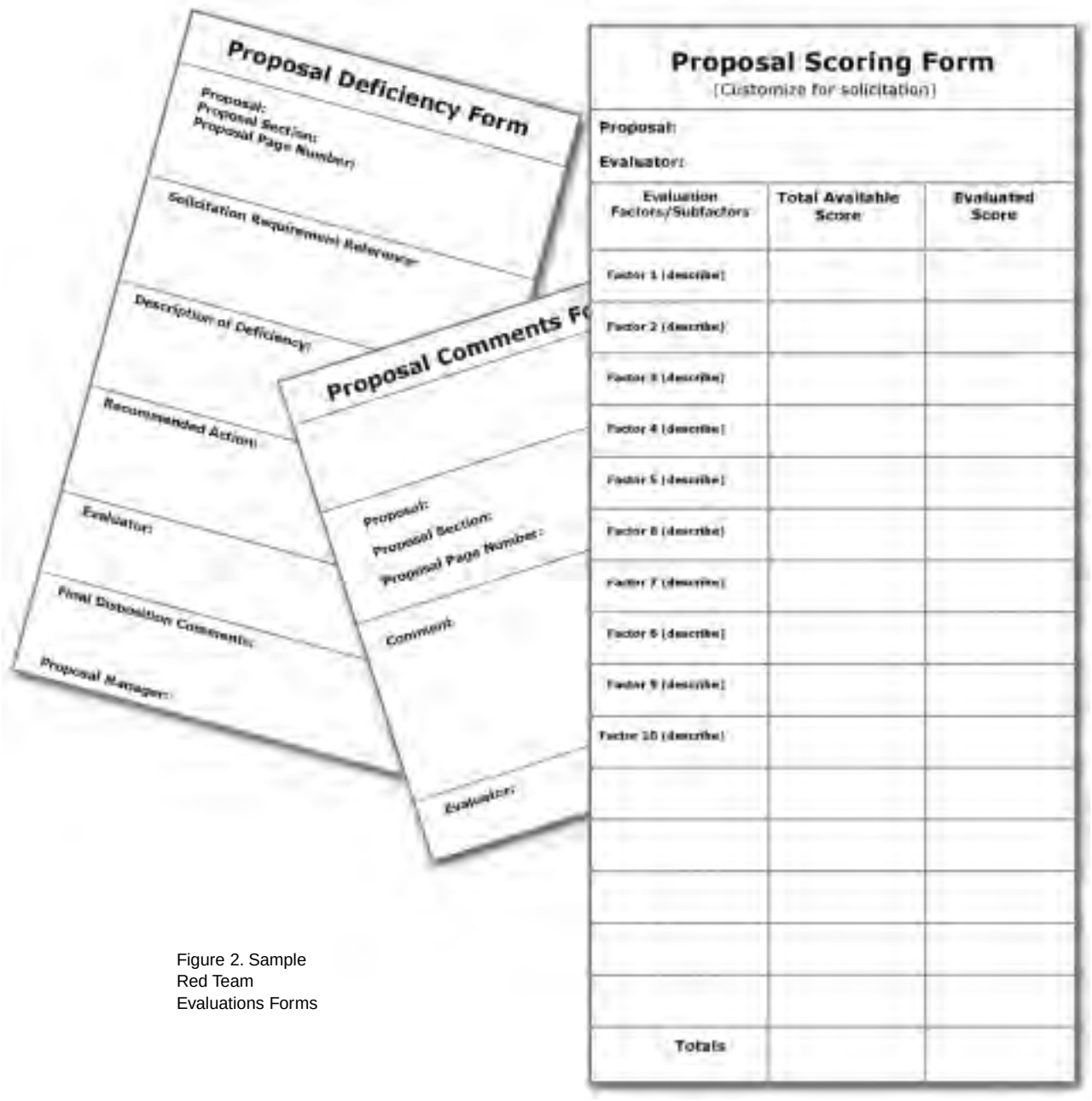

Figure 2. Sample Red Team Evaluations Forms

Selecting Red Teams and Preparing for Proposal Evaluation

For the most effective red team reviews, it is essential to select the right individuals, ensure that they are adequately prepared prior to the actual proposal review, and prepare the proposal properly for the review. Each of these steps is discussed in the following paragraphs.

Composition of Red Team. The foundation for an efficient red team is skilled, experienced reviewers. The better red teams usually contain a majority of members who are not company employees. Outsiders are generally more objective than company members because the outside red team members know nothing about the company or the program other than what they read in the proposal. This makes for a much more objective review. Members from inside the company already know how great they are, and may overlook deficiencies (Ransone, 2000).

Avoid using senior company executives on the red team unless they agree to give full-time effort to the review and to keep their management authorities (and company politics) away from the review process.

The most important member of a red team is the red team manager. The ideal manager is someone totally familiar with the proposal development process, the review process, and the customer's requirements. The red team manager must be able to objectively and diplomatically critique a proposal and recommend major proposal modifications if required.

Red team members normally include:

- Outside proposal professionals. These are the best overall

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evaluators. They are completely objective, and thoroughly understand both the proposal review process and the requirements for a winning proposal.
- Customer specialists. These could be retired or former employees of the customer who are *current* in the customer's proposal evaluation and selection procedures in the proposal subject area.
- Employees who thoroughly know the bidder's capabilities, products, services, and past performance history.
- Subject Matter Experts (SMEs), who may be helpful in some select cases for the evaluation of critical technical proposal areas.

Red team members should be limited to individuals who can spend sufficient time evaluating the proposal and can also help the core proposal team make fixes. If other proposal evaluations are performed while the proposal is being written (blue teams, pink teams, etc.), the reviewers should be the same as those on the red team. This is because using different personnel from review to review may result in conflicting recommendations that have a negative effect on the proposal.

Keep the red team small, even for large proposals. Large red teams (more than six members) generally slow down the review process.

One important review often omitted is the cost volume review. Many contracts are lost because of major inconsistencies between the technical and cost volumes of the proposal. The proposal manager should be closely involved with the preparation of the cost volume to establish a common win strategy and ensure all proposed labor and material items are properly costed. An outside review by one or more members of the red team or other reviewers should be performed on the cost proposal.

RED TEAM PLANNING PROCEDURES

The red team evaluation should be carefully planned early in the proposal process. The proposal manager and capture manager should jointly select the red team manager. If the capture manager and proposal manager are not the same individual, the capture manager is a logical candidate for red team manager if he or she is skilled in the proposal writing process and an outside proposal professional is not available. The capture manager, proposal manager, and selected red team manager should meet and determine the type of red team to be used, its exact function, and a list of desired red team members. These candidates (and alternates) should be contacted to obtain commitments for their time and participation. Red team members should be provided with copies of the solicitation as soon as possible. To be effective, red team members must read and become completely familiar with the solicitation prior to the proposal review. This may take a week or more for large solicitations. Giving the solicitation to the red team on the first day of proposal evaluation will ensure a weak red team review.

It is also beneficial to provide reviewers with red team procedures and evaluation forms prior to the evaluation. Red team procedures should include a breakdown of tasks for each red team member and a schedule for red team activities. Sample red team evaluation forms are illustrated in Figure 2. They include:
- Proposal Deficiency Form – This form, normally printed on red or pink paper, is used for noting any deficiency found during the review. The evaluators use it to provide a detailed description of each deficiency and, most importantly, a recommended action on how to fix that deficiency. A separate form is used for each deficiency found.
- Proposal Comments Form – This form is used to make comments not directly related to deficiencies, such as general comments or impressions and alternate approaches. Positive comments can be presented (such as where the author did a good job selling benefits to the customer, etc.).
- Proposal Scoring Form – This form is only used when the red team is tasked to actually simulate the customer's source selection board evaluation. The Proposal Scoring Form is normally customized to match the specific solicitation evaluation factors.

Some of the tasks that the red team should complete prior to receiving the proposal include the following:
- Discuss the relevant solicitation requirements (Proposal Instructions, Evaluation Factors, Statement of Work, etc.).
- Discuss any additional intelligence on the customer and other competitors that could influence the review.
- Determine the methodology to be used to evaluate the proposal,
- Discuss specific review assignments (whenever possible, all members should be instructed to read the entire proposal for inconsistencies among sections, even if they are only going to concentrate on one part of the proposal).
- Determine the tentative proposal review schedule,
- Review proposal evaluation forms and instructions on how to use these forms.

Preparing the Proposal for Red Team Evaluation

Assuming interim reviews have been used to guide the proposal development process, it becomes most important when preparing a proposal for red team review to make sure that proposal is complete. If important text and graphics are missing or incomplete, the review process is a waste of time. Make sure the proposal format and structure follow the solicitation instructions. Make it easy for the evaluator to find information that relates to the evaluation criteria (Edwards, 1999). The proposal numbering system and section titles should match as closely as possible those of the solicitation. To ensure that the red team (and customer's source section board) understand the proposal, it is also important to write the proposal with the reviewer in mind. Have totally completed executive summaries and section introductions that contain all major themes and discriminators.

Studies of government source selection boards found that a typical source selection board member normally does not understand 75% of what he or she reads in the proposal.

Some reviewers will read only the executive summary and section introductions and evaluate the proposal on these sections. Write the executive summary as if you were the source selection authority selecting your proposal (Edwards, 1999). Studies of government source selection boards found that that a typical source selection board member normally does not understand 75% of

what he or she reads in the proposal (Allston, 2000). A properly prepared executive summary and easy-to-read summary introductions for each heading and subheading significantly improve the evaluator's understanding. All proposal graphics should be complete and be readable and understandable, and should make a needed statement. Avoid complex illustrations: they will probably not be read or understood by the reviewer (Herndon, 1996).

If the proposal is not ready for review, the proposal manager should reschedule the review or arrange for a simplified or informal review of completed sections that does not interfere with proposal completion.

I highly recommend that the proposal be given a hard edit prior to red team review. Throughout most of my proposal career, I believed that significant editing prior to red team review was a waste of time. Why edit material that may be significantly modified or tossed? However, earlier this year I had a proposal assignment that changed my mind. I was managing two proposals for a client that were similar in type and content, and that were written concurrently by the same authors for the same federal customer. The client's standard policy was to give all proposals a hard edit prior to red team review. However, one of the proposals had a shorter due date, and we did not have the time to edit most of the proposal sections prior to its red team review.

The red teams for both proposals had the same members and received the same instructions. However, the review results from these very similar proposals were completely different. The comments on the proposal that had received the hard edit targeted deficiencies, weaknesses, strengths, and made recommendations for improvements. There were few red marks in the books. The proposal that had not received a hard edit was full of red ink comments related to minor editing. The review comments only partially targeted deficiencies, weaknesses, strengths, and recommendations for improvement.

I discussed the different results with the red team members, and they all agreed that when they read a proposal, their eyes immediately caught editing problems, no matter how minor. They could not resist marking these, *even when the instructions asked them not to!* The reviewers stated that it was difficult to concentrate on overall review objectives when faced with even minor typographical or grammatical errors. Based on this experience, I am now a firm believer in hard editing prior to red team review. This preparation allows the reviewers to concentrate on the most important evaluation areas.

When performing a hard edit, make sure that the editor immediately returns the edited text (hardcopy and electronic copy) to the author. This allows the author to retain text control and ensure that the editing has not inadvertently changed meaning. This is especially important if the author is assigned to incorporate red team recommendations. Loss of author text control usually causes multiple masters, which create

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The reviewers stated that it was difficult to concentrate on overall review objectives when faced with even minor typographical or grammatical errors.

significant prob-

lems if major rewrites or modifications are necessary after red team review.

The proposal should also present clear approaches and solutions. I have managed several red teams where the proposal team gave alternate approaches or solutions, and asked the red team to pick the best one. Selecting approaches and solutions is not a red team task; it is a proposal team task. The proposal team is tasked with doing the research needed to develop and prepare written solutions to the solicitation requirements. If the proposal team's selected approach or solution is deficient or does not sell, the red team should say so, and may also recommend an alternate approach.

In addition to complete text and graphics, a detailed solicitation-to-proposal compliance matrix should be included. This compliance matrix should be in a check-off-list format that follows the requested information of the solicitation proposal instructions, evaluation factors, and statement of work. Source selection board members (and red team members) regularly use check-off lists as a major factor to determine if a proposal meets the solicitation requirements (Allston, 2000).

RED TEAM EVALUATION

I have found it significantly better to have red team members located together during the review than to have them separated. Continual discussions among collocated red team members help them all identify points and recommend solutions. In red teams where members are not collocated, the resulting comments and recommendations may conflict, thus making it more difficult to improve the proposal.

After receiving the proposal, the red team evaluation procedures should include:

- Final assignment review
- Finalization of review schedule
- Coordination with proposal team for debrief and follow-up actions
- Review of the total proposal against the solicitation requirements (including format and page count)
- In-depth review of assigned sections, noting deficiencies and strengths, identifying needed clarifications, providing recommendations, and completing evaluation forms
- Compilation of comments into single book
- Debrief of proposal team.

Delivering criticism in a constructive manner is not easy. The red team members must understand and accept three facts when preparing their review presentations for the proposal team (Dean 1997). These are:

1. Receiving criticism is tough under the best of circumstances, and these probably are not the best of circumstances.
2. The red team exists to help, not just evaluate or criticize.
3. The red team function is only to recommend alternatives, not to direct solutions. (The proposal team normally knows more about the customer and its requirement than the review team).

Reviewers should be able to read through bad writing to find good approaches, and to see through good writing and selling to find a bad program. Reviewers should avoid general comments like, "motherhood," "marketing baloney," and "rewrite." These terms do nothing to aid the authors. Be specific when making comments or recommendations. Make it clear whether the review comment is on the program content or on the presentation (Dean, 2000).

The red team should concentrate their presentation on a realistic way to improve the proposal.

The red team should meet and prepare a formal debriefing to the proposal team. The presenters should emphasize only the major points relating to deficiencies, weaknesses, and strengths. Minor issues can be conveyed to the proposal team on written evaluation forms. The red team should concentrate their presentation on a realistic way to improve the proposal. They should never critique a proposal area without constructive and realistic recommendations on how to fix identified problems.

One thing I have noted over the years is that most red teams concentrate on negatives. Debriefing rarely includes any positive comments. This is the wrong approach. Of course, red team reviews should critique proposal problems and suggest fixes; however, hearing only negative comments is a real letdown to proposal team members who often have been slaving for several months. At this stage of the game, proposal teams need a morale boost and positive recommendations, not a putdown. Be sure to mention any well-written areas and proposal strengths during the red team debrief. Reference these good proposal sections as benchmarks for improving other areas. Besides giving encouragement, this also saves time; the proposal team will not be tempted to "improve" these sections during the re-write (Dean, 2000).

To avoid conflicting messages and recommendations, the red team manager should coordinate all red team comments before the presentation. Comments written in individual books should be combined into a single book. In the early 1980s, I managed a large proposal whose red team did not combine their individual comments into a single volume. The debrief consisted of receiving five red-inked volumes and comments from each red team member. I had to lay the volumes out on a table and go through them page by page to review and combine comments for consideration. There were many conflicting comments among the various reviewers, and I clearly remember one in particular. One red team volume had a paragraph circled in red with the statement, "This paragraph doesn't say anything — rewrite or remove." Another red team volume had the *same* paragraph circled in red with the reviewer's comment, "Excellent paragraph — it really sells our program".

POST-RED TEAM EVALUATION ACTIONS

After the red team evaluation, the red team members should help the proposal team make recommended fixes. When this responsibility is understood before the review begins, red team comments invariably are significantly more realistic. This is because reviewers are less inclined to make impossible or unrealistic recommendations when they know they will be involved in fixing the proposal.

The proposal manager is the person in charge of the proposal, and he or she will have final say on accepting and implementing any red team recommendations. The proposal manager must always remember that some red team recommendations may be wrong, and that

accepting these wrong recommendations will weaken the proposal (Dean, 1997).

References

Ransone, Rob, President, Ransone Associates, Inc., 2000. Internal company document (unpublished). Contact: Ransone@aol.com

Allston, Doug, President, Advantage Consulting, Inc., 2000. "How to Win New Business." Presentation at the APMP-NCA Roundtable (July 19). Contact: DAllston@acib.com

Ransone, Rob, President, Ransone Associates, Inc., 1994. " A Proposal Manager is—." Wall poster for proposal managers. Contact: Ransone@aol.com

Edwards, Marlin D., Jr., Vice President, Procurement Management Group, Integrated Data Systems, 1999 and 2000. "10 Principles Every Proposal Manager Should Know About the Government Evaluation Process." Presentation at the APMP Chesapeake Chapter Roundtable (October 1999) and the APMP National Meeting (May 2000). Contact: MEdwards@idshq.com

Herndon, David H., Independent Proposal Management Professional, 1996. "Developing Effective Proposal Graphics." *Persuasive Ink*, (Spring). Contact: DHHerndon@aol.com

Dean, Roger, Managing Partner, Engineered Proposals, 1997. "When the leader says, 'We're here to help'. . . " *Persuasive Ink*, Issue 11 (Spring). Contact: RogerDean@aol.com

Dean, Roger, Managing Partner, Engineered Proposals, 1997. "Conducting Effective Reviews " *Persuasive Ink*, Issue 24 (3rd Quarter). Contact: RogerDean@aol.com

Acknowledgements

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BOOKS

This issue's featured books include one on the art of proposal writing, another on technical writing, and three from the American Management Association's self development series on successful negotiating, business writing, and solving people problems, respectively. The opinions expressed in these reviews are those of the reviewers and do not necessarily represent the views of the APMP. Book review recommendations are always welcomed. Please send your recommendations or comments to the managing editor.

APMP would like to thank its outgoing book review co-editors, Nancy Brome and Paul Giguere, for their two years of distinguished service. Nancy joined our staff at the journal's inception; Paul first joined us for the second issue, published in the Fall of 1999. The APMP journal staff is now recruiting for a new Books editor and welcomes all inquiries in this regard.

Proposal Writing: The Art of Friendly and Winning Persuasion, First Edition

William S. Pfeiffer , Southern Polytechnic State University
Charles H. Keller Jr., Keller Proposal Development & Training
1999 (Copyright 2000) Prentice Hall
335 pages • $34.80 • ISBN 0-13-658213-3

Reviewed by PAUL GIGUERE
Proposal Development Coordinator
Anthem Blue Cross and Blue Shield in New Hampshire

Table of Contents

William Pfeiffer and Charles Keller are tried veterans of the proposal profession. *Proposal Writing* is their collaboration on the topic. In the *Introduction*, Pfeiffer and Keller say, "This book was written as a textbook to guide students through all stages of the proposal process. It also is intended to provide working professionals with a reference book for writing proposals on the job."

Proposal Writing is designed as a textbook. Each chapter begins with a list that alerts the reader to the authors' objectives and includes a well-developed summary at the end. The layout wholeheartedly practices the principles of chunking and information design; Pfeiffer and Keller are workmanlike stylists.

In Chapter One, the authors describe the importance of building personal relationships. They advise, "Your proposals are most successful when you know your audience." Though the book presents many common proposal development topics, its audience focus appears to be those large, dedicated proposal units that must deal almost entirely in large government contracts. The book provides that audience with staffing specifics, ideas on tracking development, and processes for having graphics produced.

The authors use Chapter 11 to describe what might happen after a proposal is submitted. They note that a presentation followed by negotiation typically will result when a proposal succeeds. The authors specify those who prepare the proposal will be in attendance during the client presentation and negotiation phase. This may be the case in some industries, but is certainly not the norm for many proposal departments in various industries. It would have been helpful if the authors had shown how proposal professionals could help prepare materials and support the person/team conducting the oral presentation and negotiations if they are not the ones presenting.

Where appropriate, the authors quote freely from other proposal preparation texts, such as those by Sant, Whalen, Shipley Associates/Franklin Covey and others. Most of the guidance found in *Proposal Writing: The Art of Friendly and Winning Persuasion* is consistent with proven industry practice, but could have been improved with more consideration of current technologies. The chapter on the use of graphics, for example, does not address the modern electronic environment and proposal automation tools. In addition, e-mail is not addressed, though it is now the predominant means of communication in business and proposal development. Also, there is no mention of the role of the proposal professional with the explosion of e-commerce or Web-based proposals, a void in those industries where proposal professionals must also serve as e-commerce coordinators.

The Pfeiffer-Keller text will probably be most useful to large proposal units in government service environments. As a course text, the combination of basic concepts with a rarefied notion of how proposals are developed seems most appropriate for upper-level proposal and technical writing instruction.

Technical Writing: A Practical Approach, Fourth Edition

William S. Pfeiffer
2000 Prentice Hall
653 pages, including appendices and index
$56.00 • ISBN 0130213721

Reviewed by STEVE BEELER
Manager, New Business Proposal Development
General Dynamics Armament Systems, Burlington, VT.

"It is a good thing, perhaps, to write for the amusement of the public, but it is a far higher and nobler thing to write for their instruction, their profit, their actual and tangible benefit."

William S. Pfeiffer uses this quote from Mark Twain's "Curing a Cold" in

the preface to the fourth edition of *Technical Writing: A Practical Approach.* The author surmises that, although Mr. Twain might have concocted these words in a moment of weakness, he nevertheless acknowledges the importance of "the writing that makes the world function, the kind of prose we call 'technical writing' today."

In his textbook, Pfeiffer, department head and English professor at Southern Polytechnic State University, clearly points out the value and importance of communication and effective writing. In this latest edition, he continues to focus on its practical application.

Technical Writing: A Practical Approach comprises 15 chapters covering:

1. Process in Technical Writing
2. McDuff, Inc.: Ethics and Globalism in the Workplace
3. Information
4. Page Design
5. Patterns of Organization
6. Process Descriptions and Instructions
7. Letters, Memos, and Electronic Communication
8. Informal Reports
9. Formal Reports
10. Proposals and Feasibility Studies
11. Graphics
12. Oral Communication
13. Technical Research
14. The Job Search
15. Style in Technical Writing

The author immediately grabs his audience by linking good technical writing and good communication in general to future success. "Jobs, promotions, raises, and professional prestige result from your ability to present both written and visual information effectively."

The author's primary audience is the technical writing student, and he provides examples, templates, checklists and other "how to" tools for that student. He simplifies the writing process by breaking it down to an "A-B-C format" that structures the basics of all writing into the following areas:

- A - Abstract (a summary of main points)
- B - Body (provides supporting details)
- C - Conclusion (gives readers what they need to act).

In covering other forms of writing and other audiences, however, he effectively bridges the chasm between traditional academic writing and job-related technical writing.

For those who wonder if a technical writing book has practical application in the proposal world, many of his points are applicable. For instance, the author recommends that writers analyze their audiences to understand what makes them tick. He identifies four main obstacles for readers:

- Obstacle 1: Readers Are Always Interrupted
- Obstacle 2: Readers Are Impatient
- Obstacle 3: Readers Lack Your Technical Knowledge
- Obstacle 4: Most Documents Have More Than One Reader

Of course, those in the proposal management profession might substitute *evaluator* for *reader* and generally be right on target.

Concerning "organization" as another common writing problem area, the author devotes an entire chapter titled, "Organizing Information." In this chapter, Pfeiffer offers strategies for organization as you plan, draft, and revise your writing. He asserts that technical writers have three options in organizing information for a mixed audience. The first two options are to aim high or low: Option A organizes information for the most technical readers, Option B is to write to the level of the least technical person. However, he says, both options satisfy one audience segment at the expense of the other. Instead, he recommends taking a third option, Option C, in which the writer organizes documents so that all readers, both technical and non-technical, get what they need.

I found this topic particularly applicable to proposal writing because proposal teams are constantly challenged with writing level tradeoffs. How technical or non-technical should a section be to best get the message through to evaluator teams that often include a mixed audience of high-level managers, grizzled engineers, or a combination of the two? This is a question that often arises in proposal planning and writing.

To address this issue, Pfeiffer recommends that overviews and introductions be tailored for the less technical reader, on the grounds that managers and non-technical readers rely heavily on these sections for information and understanding. This is good, practical advice for executive summary authors in the proposal world.

Correspondingly, Pfeiffer favors shifting the level of writing within the body of sections, where experts and operators will be looking for the gritty details. But, Pfeiffer warns, this ratcheting of writing levels based on readers' perspectives and needs should be approached carefully. "Of course, you walk a thin line in designing different parts of the document for different readers. Although technical language and other stylistic features may change from section to section, your document must hang together as one piece of work. Common threads of organization, theme, and tone must keep it from appearing fragmented or pieced together."

Overall, the author follows his own advice and uses an informal and conversational style at times, switching to a more formal approach when discussing specifics in the body of each chapter. Based on style, content, and potential value as a reference source, I would recommend this book to anyone interested in good writing, technical or otherwise. At $56, the price is comparable with other technical writing texts published in the last five years.

American Management Association—Self Development for Success Series

Reviewed by ROBERT BRAGAW
EG&G Technical Services

In the tight labor market that is defining the opening years of the new millennium, businesses are increasingly required to conduct training of their employees to increase their capabilities and productivity. The American Management Association, long noted for its contributions in the field of professional business training, has introduced a fifteen book series called *Self Development for Success.* Three of the books in the series *Business Writing, Successful Negotiating, and Solving People Problems* were reviewed to determine their fitness for internal training departments. This reviewer feels that the *Self Development for Success* series lacks the depth necessary to meet the needs of corporate trainers, and proposal departments in particular.

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Midge Gillies
Business Writing
London, AMACOM, 2000
95 pages • $12.95 • ISBN 0-8144-7068-8

Business Writing is the kind of book that is bought in bulk to accompany half-day seminars on how to write memos and business letters.

The author's expertise appears to be derived from her experience as a journalist for several major newspapers, a background that certainly adds substance to her writing credentials, but does not indicate her qualifications in business writing. Gillies proselytizes a single, modern writing style that may or may not be consistent with the style in practice within a given company. Her examples are replete with grammatical errors, such as:

- On page 27, the example that explains the difference in using the pronouns who and whom ends in a preposition – *"whom shall I give this to?"*
- On page 26, the author attempts to interject political correctness into the business writing arena by suggesting that the pronoun *they* may be used in the singular as an acceptable singular *gender-neutral* pronoun. This is grammatically incorrect.
- On page 28, the author suggests that it is appropriate to use a colon after a verb, *"Snow White's dwarves were: Sleepy, Dopey,…"*

The author's examples were predominantly taken from newspapers or marketing communications. The only reference to electronic communications is a brief chapter on e-mail that focuses more on time management skills than writing. There is no mention of communications via bulletin boards or website comment pages, nor does the author even mention the Internet in Chapter 5, where she discusses research.

A comparison with other books in the genre *Business Writing for Dummies* ($16.99), *How to Write It: A Complete Guide to Everything You'll Ever Write* ($19.95), and *Barron's Business English* ($13.95) revealed that this book's table of contents was not as well organized. Chapter titles were missing and would have helped to clarify the book's organization. Although *Business Writing* makes excellent use of graphics to illustrate points, the other books use actual written examples to far greater effect.

The other books provide more information than *Business Writing.* The indices in the other books are more thorough. *Barron's Business English* contained a glossary of fundamental business terms and a list of common spelling problems.

Business Writing remains the leading choice for bulk purchase to accompany handouts at half-day seminars.

Bobbi Linkemer
Solving People Problems
London, AMACOM, 2000
96 pages • $12.95 • ISBN 0-8144-7069-6

If Warren M. Hoffman had not already taken the title, *Dealing With Difficult People,* it would be perfect for *Solving People Problems.* In fact, that is what the book is about. *Solving People Problems* is about conflict management and resolution. It does not take into account the other pressing people problems that occur in the workplace, such as sexual harassment, poor performance, racial tension, morale problems, formal labor relations, or any of the multitude of other "people problems" that are encountered by working people every day.

What Ms. Linkemer does cover—how to get along with peers, bosses, and subordinates in a work environment—is covered well. The book follows a logical organization that becomes apparent to the reader in spite of a table of contents that does not have chapter titles. The author's premise that controlling one's own behavior is more than half the battle in a tense situation is argued well and supported by practical advice on controlling responses to various common workplace situations. I was particularly impressed with the timely inclusion of a section on dealing with workplace violence. Graphics and margin notes are used to great effect to illustrate processes and to drive home important points. The informal style and graphics make reader retention of the information easy.

The index does not measure up to indices in other books in this genre. Although the book discusses attitude in several case studies (pp 67-71, 74-77), it does not appear in the index.

This book appears to be designed to accompany a seminar – or at least it appears to be in need of a seminar. The independent reader may be left wanting more information. I did not get this feeling from other books I read to compare *Solving People Problems.*

Julia Tipler
Successful Negotiating
London, AMACOM, 2000
95 pages • $12.95 • ISBN 0-8144-7066-1

Julia Tipler does an admirable job of presenting the human relations aspects of negotiation. Included in the text are some standard self-assessments that can help first-time negotiators understand both their own propensities and the negotiating styles of some hypothetical counterparts. The presentation of information is dry and impersonal.

The book's focus is primarily on the personal skills required in a negotiation. The author makes an assumption that the negotiation will be face-to-face. Although many important negotiations take place over the telephone, or by written or e-mail correspondence, these media are ignored in the book. Negotiation tools such as a basic matrix of wants and needs are not addressed. The author does mention the importance of organization and preparation, but does not address any specific tools or rate their relative effectiveness.

A comparison of *Successful Negotiating* with other books of similar price left it wanting. The value in this publication is its brevity and may be helpful to an experienced negotiator who just needs to brush up on some of the basics. The author's credentials are not as impressive as some other writers in this subject area. For example, Peter Economy, author of *Business Negotiating Basics,* brings several years of negotiating experience in both the public and private sector to his book. His depth of experience is evident by the number and effective use of personal anecdotes to illustrate his major points. Likewise, Mark H. McCormack, author of *Mark H. McCormack on Negotiating,* presents his material in an informal, personal style that exudes confidence in his subject matter. McCormack acknowledges the competitive nature of negotiations. He does not use "win-win" strategies to suggest that negotiations can be conducted in an emotional vacuum as does Tipler.

Although the author attempts to cast her approach in a modern light (by comparing her "modern" negotiating approach with the older "win-lose" model), she misses some of the modern negotiation concepts addressed in other texts. For example, *Guerrilla Negotiating: Unconventional Weapons and Tactics to Get What You Want,* presents competitive intelligence as a major tool to assist modern negotiators. *Successful Negotiating* excludes any reference to competitive intelligence as a tool of the modern negotiator.

Consider this book only if you want a refresher or need "Cliff notes" explanations of some tricks of the negotiator's trade.

adapted material. Our library holds five pages of standard boilerplate and a 12-page overview from a similar proposal to be adapted by the author. We estimated five pages of original material to meet the unique RFP requirements. We can forecast a 22-page response document and use an estimated 2.00 pages per hour. A similar 20-page document using five pages of boilerplate from the study shows 2.13 pages-per-hour.

Our study indicates that the time requirements for templated material (boilerplate) is probably the most difficult to estimate accurately.

Back in the days of "hot metal" typesetting, newspapers were printed from metal plates of type, cast from mats created by typesetters in the newspaper's composition room. Certain parts of the newspaper, however, such as advertisements or syndicated columns, were supplied to the printers in ready-to-use form as heavy iron prefabricated printing plates that were not and indeed could not be modified before printing. These never-changed plates came to be known in the late 19th century as "boilerplate" because they resembled the plates used to construct boilers (the most common form of heating buildings at that time.) Eventually any part of the paper that rarely changed such as the masthead came to be called "boilerplate."

The term "boilerplate" was later adopted by lawyers to describe those parts of a contract that are considered "standard language." Any really good lawyer will tell you to always read the "boilerplate" in any contract you plan to sign, and any really good proposal manager will give you the same advice for "boilerplate" in proposals.

The storyboard section on *Network Management* is the best example of why boilerplate estimates are difficult. A four-page *Overview* is forecast as requiring original writing followed by 38 pages of descriptions of our network management facilities, methodologies and tools that can probably be provided by using standard boilerplate. If the customer is establishing a new network, and will accept our existing facilities and tools as they stand, then we can safely estimate the time required for the 38 pages as five minutes. But, what if they have an existing network management facility of their own and they want us to take over management of *their* tools or use *their* methodologies. Our boilerplate describes a standard set of regular reports. What if the client wants special reports? Experience tells me that using a 5-minute estimate for the 38 pages is very dangerous. Someone should at least understand the requirements and re-read and approve the 38 pages. Experience and common sense tells us that a safe estimate for boilerplate is probably 2.25 pages per hour shown in Table 3.

Table 3. DERIVATION OF TIME FROM PAGE ESTIMATES (WRITING)

Section	Original	Adapted	Templated
Cover Letter			1
Non-disclosure Statement			1
Executive Summary	3		
Introduction - Solution Overview	5	12	5
Global Network	2		
Data Center Network	5		
Regional Network	6		2
Branch Office Network	6		4
Implementation Overview	2		
Due Dilligence		5	
Implementation - Phase 1, 2, 3	16	8	
Network Management Overview	4		
Network Management	3	8	27
Service Level Summary	4		5
Service Level Exceptions	6		5
Pricing Overview	5		
Terms and Conditions	6		12
Major Clients and References	4	6	
Capabilities			8
Estimated Number of Pages	62	21	96
Pages per hour factor	**1.75**	**2.00**	**2.25**
Estimated Hours by Type	**35**	**11**	**43**
Total Pages			**179**
Total Hours Writing			**89**

Estimating Engineering Drawings, Pricing Spreadsheets and Timelines

Our storyboard example shows engineering drawings, pricing spreadsheets, project management timelines, and legal terms and conditions. We include an estimated time for completion based on a careful review of what we predict the final product will be with each of the experts that will prepare the response. Generally, we use the number of pages of spreadsheet, timelines, etc. from past proposals as a baseline, but we depend on estimates of time from the experts who will provide the information.

Conclusion

As we strive to produce winning proposals, yet reduce the operating budgets that are required to produce them, we need to constantly obtain, maintain, and analyze accurate and meaningful metrics. While predicting how long it will take an author to write a proposal response may not be an exact science, tracking the numbers over time does help improve the estimating process.

References

Ask Jeeves. 2000, http://www.ask.com/index.asp, Ask.com (Where does the word "boilerplate" come from?)

Berensen, M and Levine, D. 1998 *Basic Business Statistics: Concepts and Applications*, 7th Ed. New York, Prentice Hall.

Hays, W. 1981. *Statistics*, 3rd Ed. New York: Holt, Rinehart and Winston Publishing Company.

Spatz, C., & Johnston, J.O. 1981. *Basic Statistics: Tales of Distributions*, 2nd Ed. Monterey, California: Brooks/Cole Publishing Company.

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Competitive Intelligence Product Review

Knowledge.Works Product Demonstration Review

"How to know what your competitors will do next."

In this edition, we feature the product review of a competitive intelligence tool. Our Spring 2001 edition will update the Proposal Automation Tools survey that first ran in Proposal Management's premiere issue. If you have a proposal automation product that you would like to see listed, please contract Greg Wilson at GWilson@caci.com or contact the Managing Editor.

Review By GREG WILSON, CACI

This review of *Knowledge.Works*, a Competitive Intelligence (CI) tool designed by Cipher, is based on the reviewer's examination of a comprehensive product demonstration disk, review of available web site materials, and discussions with product representatives and a user.

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Knowledge.Works is developed and distributed by:
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DESCRIPTION—FEATURES AND HOW IT WORKS

The slogan that Cipher trumpets across its *Knowledge.Works* demonstration CD ROM cover states, "How to know what your competitors will do next." That is indeed the primary goal of competitive intelligence. Based on Cipher's demonstration disc, *Knowledge.Works* offers a capable software solution for searching, collecting, and sharing competitive intelligence data.

Cipher concentrates exclusively on competitive intelligence. The purpose of *Knowledge.Works* is to establish an electronic competitive intelligence infrastructure that gathers pertinent data, distributes it to the appropriate people, assists personnel in identifying issues and action items, and makes a decision based on the data.

The demonstration consists of numerous Powerpoint presentations. A narrator comments on the slides, and uses a pointer to focus audience attention. The initial presentation begins by describing Cipher and defining competitive intelligence. Cipher is quick to point out that competitive intelligence is not random reports, facts, and figures, and that it does not exist until the data is thoroughly processed, analyzed, and converted into an actionable item. The competitive intelligence effort should focus on the future. For example, historical data on a competitor's prices is certainly good information, but it is not valuable until it is analyzed with other factors to predict what a competitor's prices will be in the future.

Knowledge management is an often-used industry buzzword. Cipher illustrates how competitive intelligence is an essential part of knowledge management, and notes that starting a competitive intelligence process can be a logical first step in implementing knowledge management. Cipher also states that knowledge management is in its infancy, and concentrates primarily on information gathering, storage, and organization. Competitive intelligence uses this information to make decisions and take action.

Cipher's *Knowledge.Works* application is available for IBM Lotus Notes or Microsoft Outlook and Exchange. The demonstration CD includes eight examples that show the product in action. Examples include organizations in fields such as Telecommunications, Banking, and Health Care. More so than the previous "explanatory" presentation, these examples enabled this reviewer to fully grasp the idea behind *Knowledge.Works*, and were thus the most important portion of the demonstration.

Knowledge.Works acts as a depository where employees can input data from field reports, trade show contact reports, interviews, etc. The application also actively mines the news, web pages, and other reference web sites for pertinent data, based on the user's guidelines. These functions are fully integrated into the organization's e-mail system, enabling *Knowledge.Works* to send out e-mails notifying interested parties of specific "Hit Reports." These parties can then confer (via e-mail or chat session) and assign a level of importance to an issue.

The most important issues identified become Key Intelligence Topics (KITs). The program takes the KIT initiator through the KIT process. The process begins by identifying relevant questions that need answering before a decision is made. Personnel are then assigned to each question. This, in effect, creates a list of action items with responsible parties and due dates. The application can then be used to display related "evidence" already residing within the system. Analysts use this data as supporting evidence when they answer their assigned questions. Based on their answers and existing evidence, a decision can be made. *Knowledge.Works* facilitates this entire process, prompting the user when necessary, notifying personnel via e-mail, and storing the data when it is created.

The layout of the program is simple and easy to follow (this was particularly true with the Lotus Notes version, probably due to this reviewer's familiarity with Lotus Notes as opposed to the Microsoft product). Various, easy to understand options are listed on the left hand side of the screen. These options include "Get Information," "Share Information," "Ask for Information," and "Create Intelligence." From that

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starting point, the user is prompted through every stage of the process.

APPLICATION TO PROPOSAL MANAGEMENT

The most important issue for any product review is: "How can this product help my proposal organization?" If your company has an active market research team with the time and resources to invest, this product can provide a first-class tool for storing, organizing, sharing, and creating competitive intelligence data. It can directly benefit proposal development in a number of ways. The proposal team will have a repository of easily searchable, organized competitive data. This data can be used to "ghost the competition" (differentiating your company from a competitor by pointing out their weaknesses and highlighting your strengths.

STRENGTHS

If a proposal issue regarding a competitor or a particular market needs to be addressed, proposal personnel can quickly and efficiently create a tailored information request via *Knowledge.Works.* They can select key subjects they are interested in and *Knowledge.Works* will e-mail hit reports to them related to that topic. Proposal managers will be continuously alerted to competitive/market issues, without the need to manually monitor numerous websites and other information sources.

WEAKNESSES

As a proposal manager, having such a tool at your fingertips would be an excellent resource. But the value of *Knowledge.Works* is directly proportional to the number of users, and their diligence in regularly reporting competitive data. If used properly, this product can be a great tool; however, if your organization does not have a team of researchers, marketers, and sales staff dedicated to using the product correctly, *Knowledge.Works* probably is not for you.

CUSTOMER EXPERIENCE

SAP (the large ERP software maker) chose *Knowledge.Works* after trying two other CI products they found difficult to populate and use. At SAP, any staff member (particularly sales people) enters the Intranet side of the application to ask for information about competitors. The system searches for documents inside the company and on the Internet, and delivers the information to the requester. If there are no documents, the system finds an expert within the company and routes the request to him or her. If the expert cannot help, the request is routed to the CI team who created the new information asset for the requester. Documents and people are thus leveraged to the maximum extent on an enterprise scale. Through the use of *Knowledge.Works,* SAP's group of 30 CI professionals support a staff of 9,000 and respond to any inquiry within 24 hours or less, 365 days a year.

TCI, a large international cable television, Internet access, and telecommunications provider decided to implement *Knowledge.Works* to effectively disseminate competitive and market data among its 450 franchise operations. The solution enabled various franchises to trade, compare, and contrast information, and automatically broadcast "hot" information to the right groups.

SYSTEM REQUIREMENTS

	Microsoft	Lotus
Server Requirements	Exchange 5.5 SiteServer Pentium II - 400 Mhz 2x 512 Mb Memory 300 Mb Free Disk Space SQL 7.0 for Personalization Only	Domino 4.5 or higer Pentium II - 233 Mhz 64 Mb Memory 300 Mb Free Disk Space
Enterprise Users	Thin Client - IE4.02+ or Netscape 4.5+	Thin Client - IE4.02+ or Netscape 4.5+
Competitive Intelligence Group	Internet Explorer 4.02 Pentium II 133 Mhz 32 Mb Memory 100 Mb Free Disk Space Outlook 98+ Mail Client	Lotus Notes 4.54 or higher Pentium II 133 Mhz 32 Mb Memory 100 Mb Free Disk Space Notes 4.6+ Mail Client
Unique Application Functionality	Communities Personalization More expanded search capabilities than Domino	Remote/offline use (via client server application) Multiple servers (via server-server replication) More robust client (multiple document selection for copying, pasting, deleting, and easier document navigation and location)

COST

The software-only cost starts at $50,000 and goes up depending on the number of business units (users) and level of customization. Cipher suggests that corporations perform at least one CI project jointly with Cipher to transfer skills, fully exercise the software, and train employees. This brings a typical engagement closer to $120,000. Full implementations of skills, education courseware, and multiple project examples can easily run to $500,000.

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