A Guide to Pursuit, Capture, and Management of Unprecedented or High Technology Projects

By Evin Stump.

About the Author

Evin Stump has had a varied career of over 60 years in the aerospace and construction industries. In the aerospace industry, he has been a laboratory test engineer, flight test engineer, flight test instrumentation design engineer, cost engineer, systems engineer, project engineer, or engineering supervisor in seven major aerospace companies. As a consultant to three major aerospace companies, he has led or played a key role in proposal writing or pricing. In the construction industry, for two years he consulted as a trainer for a major international oil company in construction project risk management. For five years, he coordinated construction proposals and prices to the government of a Middle-Eastern country. For two years he managed a mechanical contracting company, specializing in commercial buildings. For the past twelve years he has divided his time between assisting companies with proposals and building mathematical models for project cost and risk analysis.

Mr. Stump holds the BS in Engineering (mechanical) from Loyola University of Los Angeles, and the MS in Operations Research and Industrial Engineering from the University of Texas at Austin. He also holds the Professional Designation in Government Contract Management from UCLA / NCMA. He is a member of Alpha Sigma Nu Jesuit National Honor Society. Prior to his recent retirement, he was a registered professional engineer (Texas) and was certified as a Cost Estimator / Analyst by the Society of Cost Estimating and Analysis. He is a past president of the Southern California chapter of the International Society of Parametric Analysts.

Distributed by Galorath, Inc.

Rights in this work

About Case Histories

I have worked at several companies that are now or have been engaged in the kinds of proposal activities described herein. These activities are typically shrouded in secrecy either for competitive reasons or because of customer requirements, or both. For that reason, I do not present specific case histories in the book. I also do not name any employers anywhere in the book. I feel that to do so could be a betrayal of confidences.

In lieu of case histories, I have written a novella that addresses many of the topics discussed in this book in a realistic but purely fictional context. The novella is titled *"Saving SEIC: An Industrial Love Story*." It concerns a small high tech company called SEIC that is struggling to survive and grow. The novella is a useful and entertaining companion to "*Bid to Win!"*

Evin Stump

Contents

Preface

This book is aimed at people involved in what I choose to call "advanced contracting." Who are they? They certainly include all of the teams involved in bidding defense contracts in North and South America, Europe, and elsewhere, as well as those who bid contracts involved in launch and operation of systems in space. Also included are many who bid a variety of contracts with federal or local governments, other than routine procurements and smaller or traditional construction contracts. Larger service contracts of various kinds may also come under this umbrella. Excluded are all contracts where the low bidder automatically wins. Some bidding situations where this book may be useful are shown nearby.

Exhibit P-1 Bidding Situations Where This Book May Be Useful

Aerospace
Agency
Catering
Communications
Concessions
Construction
Defense
Environment
Housing
Insurance
Legal Services
Maintenance
Outfitting
Security
Special Analyses
Testing
Training
Transportation
Upgrades

Anywhere factors other than cost influence the award

As a member of an advanced contracting project team, to survive you must win projects in open competition. Your work is "high tech" or unique in that what your customers want is not routine, either for you or for them. In bidding competitions that you enter, the low bidder generally wins the contract, but not if the bid is so low that the customer believes it to be reckless and non-responsive, or if the low bid is based on a concept the customer views as not meeting perceived needs.

You can't win every job you bid, but you must win your "share," or risk having to go out of the contracting business. A long dry spell with no wins could be fatal.

In the bidding competitions you enter, "project design" is important in many ways. Project design comprises ***both*** the design of the deliverable product ***and*** the means you choose to develop and implement it. It drives cost and therefore the amount you must bid in order to be profitable. The customer must also perceive it as meeting his or her minimum needs. Moreover, costs must have a reasonable correspondence to benefits as perceived by the customer, not only at the level of the total project, but also at the level of major features of the project.

On a given bid, typically you may not have a large number of strong competitors seeking the same work, but at least some of the competitors you do have will be smart, entrepreneurial, and resourceful. If you win, the margin by which you beat them generally will not be large. This means that to beat them you must fully understand the customer's needs, and fully provide for them, and you must do it in a way that is highly visible and cost effective.

Your customers generally are astute and knowledgeable, and are able independently to assess the quality of your offerings and the prices you ask for your product or services. Still, they are not immune from mistake, and you must be adept at guiding them away from mistakes that might damage them and perhaps you as well.

You perceive that your competitors get harder to beat all of the time, and you are concerned that your win / loss ratio is suffering or will suffer. You are looking for help to improve your chances of winning, without having to bid so low that you are likely to lose money.

If all or most of the above is true of you, this book was written to help you. The book distills in one place expertise and wisdom from several fields of knowledge that bear on the problem of designing and bidding to win in a market where design and cost both matter. It points a way for you to proceed in the direction of increased win probability, and a better chance of long-term survival.

This book does not pretend to be a silver bullet that will slay all of your dragons and make you a sure winner on your next project, and on every project after that. In the real world, there is no such thing as a silver bullet; there is only continual striving to do better.

This book certainly cannot overcome organizational sloth or ineptitude. Only eventual failure, or a new broom sweeping clean, can do that.

Finally, this book cannot make you a successful bidder in an area of expertise where your team has little experience or is outclassed by one or more serious competitors. Hopefully, you are able to recognize those situations and avoid them. Or, you are willing to invest the time and money to rise to your competitors' level.

If we offer no silver bullet, just how do we help? What we offer is useful ideas integrated into a consistent strategy, which if followed rigorously should result in your winning at least your share of the available work. The strategy is neither magical nor mysterious. But it is coherent and logical. As you progress through this book, we hope and believe that you will agree that it makes sense.

You may fairly ask: What if your competitors follow this or a similar win strategy? Here is our answer:

- If they are already following such a strategy, and you are not, they are probably winning more than their share of the work. (Are you already feeling the pain?)

- If you want to win your share of the work, you must maintain your competitive edge. This book can help whatever your competitors are doing.

- Regardless of your strategy you can't expect to win it all, all of the time. The world doesn't work that way. In the world of biddable projects monopolies tend to have a short life.

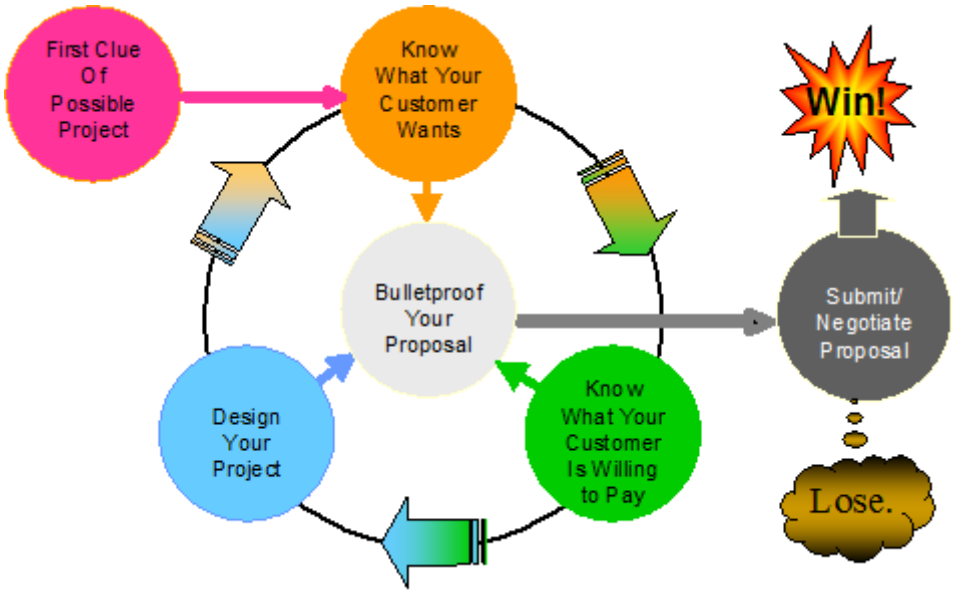
What are our prescriptions for successful bidding? In a nutshell, you must understand and act upon:

- The minimal project design that satisfies your customer at the lowest possible price, considering the risks (you can't afford to lose money on very many projects).
- What your customer is able and willing to pay for your project design.
- How your customer values various aspects of your design baseline (the issue of design balance).

As a prerequisite to doing these things, you should have early and frequent contact with the customer. You must have the ability to:

- Help the customer define needs.
- Research the customer's ability to pay.
- Persuade the customer away from mistakes[1].

Exhibit P-2—Pursuit Cycle



[1] CAUTION: Do not approach a customer as a mentor or an instructor unless specifically asked to do training. It could easily be interpreted as condescending. Also, don't approach as a guru, inducing in the customer a sense of inferiority. Tact and humility are vital. The customer is always the alpha dog. See chapter 6.

Moreover, you must be willing to:

- Reject traditional “gold-plated” design solutions in favor of balanced, minimal solutions — this may be a cultural change for your *creative* people.

- Carefully estimate and manage project risk and consistently bid near the bottom of the competitive range — this may be a cultural change for your *business* people.

The book discusses all of these subjects in detail. It is organized into six major sections with a total of 18 chapters, plus five appendices.

Most businesses are cyclic in some sense. Retailers regularly have a big push at Christmas and smaller flurries of activity at other times. The demand for gasoline slows in winter months, but the demand for fuel oil picks up. Machine tool manufacture typically follows a larger business cycle related to economic booms and recessions. Some types of projects are affected by these various cycles, but companies that have substantial “propose / bid” activity have a unique type of cycle of their own.

We might call it the “project cycle.” It may not be tied to the calendar at all, but it is nevertheless a cycle of repeated activities. It begins with learning of a project opportunity. If the project is ultimately lost in competition, it ends with the customer’s rejection of the contractor’s bid. If the project is won, it ends with completion and acceptance of the work by the customer. Small contractors may have only one project cycle ongoing at a time. Some very large contractors may have hundreds of projects ongoing at the same time, typically a few large, and many small.

In this book we have some interest in the overall project cycle, and it will be discussed. But our main focus is a subset of the project cycle.

We call it the *pursuit cycle*.

While excellent execution of an awarded project is certainly something contractors *should* be concerned about, excellent execution in the pursuit cycle is something they *must* be concerned about; else they will not long survive. What is the pursuit cycle?

As its name implies, the pursuit cycle is the part of the project that extends from first hint of a project opportunity to acquisition of the project by the contractor (the win scenario) or rejection of the contractor’s proposal (the loss scenario). The ratio of wins to losses typically is strongly correlated with the financial health of a contractor. Lose too often, and a contractor could be forced out of business.

We call it the pursuit “cycle” in this book, rather than just the pursuit “phase,” because we believe that the activities that lead to a competitive win probability must be cyclical in nature. A cyclical activity can lead to much desired continuous improvement of the win probability, while a one-time linear activity by definition cannot.

Exhibit P-1 illustrates the pursuit cycle. In this preface we will convey only an elementary notion of what each sub-activity is about. Later chapters will discuss them in much more detail.

The pursuit cycle activities are not necessarily repeated in precisely the order shown in Exhibit P-1. Typically, the order is adapted to the flow of information and the necessities of the proposal situation. Frequently, more than one of the activities will be ongoing at a particular point in time.

Here are brief descriptions of the activities shown in Exhibit P-1. They will be the main focus of this book, each in its own section.

I. Get Off to the Right Start—this section discusses "early start" business practices and promotes better understanding of who the customer really is. Customers do not always speak with one voice.

II. Know What Your Customer Wants—customers have particular goals and values. You need to understand them. You may be able to influence them and help your customer avoid mistakes to your mutual benefit.

III. Know What Your Customer Is Willing to Spend—the better you understand your customer's spending habits and perceptions of appropriate costs, the more likely you are to be a successful bidder. This section focuses on helping you identify the competitive bidding range.

IV. Design Your Project—in a project, you do both programmatic design and product design. Your customer is certainly interested in what kind of product you intend to design and eventually build for him. Will it meet his needs? Is it affordable? But your customer may also be highly concerned about your programmatic design. How will the project be managed? Where and by whom will the work be done? What kind of management tools will be used? How will you manage project risks? These important issues are thoroughly discussed.

V. Bulletproof Your Proposal—your proposal will be "shot at" in your competitor's proposals and may be criticized by members of your customer's team. You must carefully analyze what your critics are likely to say and do and counter it to the extent you can. One of the toughest things to do is to choose the best bid amount. This section discusses the Best Bid model which can help you make that decision, keeping the right balance between bidding too high and bidding dangerously low. Also discussed are proposal content and critiquing the proposal.

VI. For the Future—Thoughts on planning between proposals. More thoughts on balancing profitability and stability.

We also provide five appendices. They contain supplemental information that can be helpful in a successful pursuit. They are:

Appendix A — Be All that You Can Be. This appendix discusses ways the project team can be as efficient as it can possibly be.

Appendix B — Maintaining Cost Discipline. Cost discipline is increasingly important to a well managed project. This appendix contains a thorough treatment of the subject.

Appendix C — Miscellaneous Tools. This appendix discusses several very practical tools that can help make the pursuit more effective.

Appendix D — Cost Estimating Checklist. All of your hard proposal work may be for naught if your cost estimate for performing the work is seriously flawed. This appendix contains a checklist that you can (and should) use to guard against both under and over estimates of cost.

Appendix E --- Risk Identification Checklists.

Most chapters of this book contain review questions. They are designed to stimulate thinking about issues surrounding the pursuit process. Most of the questions don't have just one set answer. The best answer may depend on your particular circumstances.

Acknowledgements

The authors would like to express gratitude to the people who helped make this book possible or who helped improve it.

Evin Stump gratefully acknowledges:

- My wife of 49 years, Evelyn Helen Stump without whose forbearance and loyalty this book would not have been possible.
- Our sons John, Michael, and Mark. John provided comments on the book from his perspective as a CPA and financial consultant. Michael reviewed the book from his perspective as a manager of plant maintenance working in a highly regulated industry. Mark is an attorney in private practice who studied the manuscript for lack of clarity, logical disconnects, or prolix language.
- And our five grandchildren Rachel, Sarah, twins Isabel and Claire, and Getty, all of whom (still children as this is written!) helped just by being their sweet selves.
- My faculty advisors at the University of Texas at Austin in the 1960's, who encouraged me to pursue some of the key ideas in this book. They were Dr William Lesso and Dr Gerald Wagner, both of the Department of Operations Research and Industrial Engineering, School of Engineering. (Dr Wagner headed the department.)
- My nephew Mr Alan Garrett, professional artist, writer, inventor, and entrepreneur whose encyclopedic knowledge prevented many an error of fact, belief, or nuance.
- Ms Karen McRitchie, VP of Development, Galorath Incorporated. Ms McRitchie helped me better understand the views of professional women in leadership positions, and how the book could be more helpful to them.

I Get Off to the Right Start

Chapter 1—Use early start business development practices

It is enormously helpful to be in on the ground floor of a new project. These two scenarios illustrate why.

- *Scenario 1.* You have some new ideas that you believe will be of interest to a potential customer. Your technical[2] people create a "dog and pony show" and visit the potential customer to demonstrate what you can do. You bring with you not only presentation materials but also concept sketches, a mockup or perhaps even a functional model. Your potential customer sees value in what you have done and enters into a dialog about how your ideas can best be adapted to his needs. Along the way, you get an excellent understanding of his goals and how you can best satisfy them. You give your potential customer information about likely costs and schedules so a realistic project plan can be structured and sold internally. Eventually, your potential customer issues a request for proposal (RFP). Because of policy, often others must also be invited to bid. All bidders have the same, limited number of days to submit their proposals. Your pursuit team has been working with the customer for several months. You give your proposal a final few tweaks and submit your bid.

- *Scenario 2.* You are one of the bidders receiving the RFP mentioned above in Scenario 1. The technology is within your capability, but until now you have not been aware of this opportunity. You send a few people to the bidder's conference. You form a proposal team and submit your bid after 45 days of crash effort, with some members of the pursuit team working all night in the last few days. Daily, empty pizza and Chinese food takeout boxes fill the wastebaskets in the pursuit work area.

Who is most likely to win this contract? Perhaps a better question is: should the team in Scenario 2 even bother to bid?

The Scenario 2 team probably has little chance of winning. Even though they can read the same RFP that goes to the Scenario 1 team, they haven't nearly the detailed understanding of what the customer wants and what his priorities are. They may have a

[2] The words "technical" and "technology" have been much overworked in recent years. Our use of those words will refer to any specialized body of knowledge which may be the subject of a bidding situation, where expertise in that body of knowledge will be a factor in who wins the bidding contest. Although many technologies in this sense are the subjects of scientific or engineering study, many are not. For example, in a bidding situation for the right to cater food to some organization, quality, variety, nutrition, and presentation of the food could all be factors which influence the award.

poor understanding of the competitive bidding range. They may have an even poorer understanding of what their efficient competitors can offer.

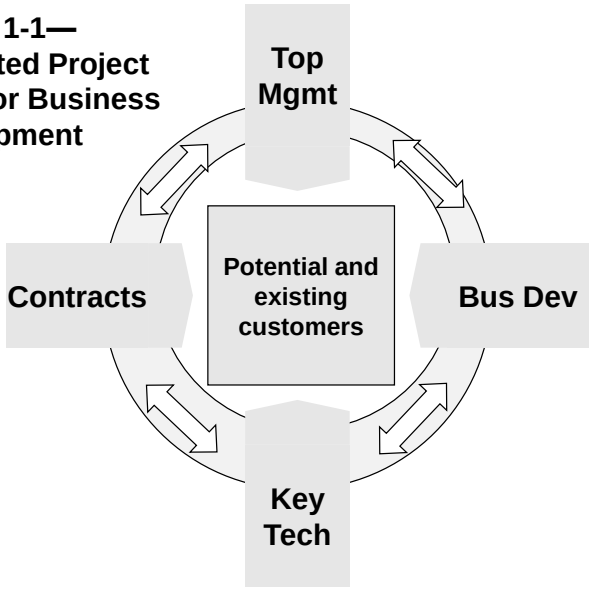
Between Scenario 1 and Scenario 2 lies a continuum of other possibilities. For example, there might be a Scenario 3:

- *Scenario 3.* Your business development people hear rumblings that one of your customers or potential customers is getting interested in a particular idea. An internal champion may have proposed it, or a competitor may have. But there is definitely interest. As it happens, the interest is closely related to an area where your company has expertise and has been doing internally funded research and development. Your management believes this to be a growth area, and that a major project will develop and be funded in a year or so. You form a small pursuit team to go after it. The team visits the customer, learns about (and helps define) what the customer wants, and has the proposal half written when the RFP becomes available. The team has studied the competition, and has a good understanding of what it has to offer. It also has a good handle on the competitive bidding range, and is convinced it corresponds to reality.

While the Scenario 1 team has the advantage of being first, and will probably overwhelm the Scenario 2 team, it will not necessarily overwhelm the Scenario 3 team. Many examples exist of come from behind wins by aggressive and powerful competitors. But always to start from far behind is a sign of poor business development practices.

In the kind of advanced contracting this book discusses, business development is much more than simply going down to the lobby every day to see if a customer happens to have dropped by, or waiting for bidder's notices to arrive in the mail. It is a coherent mix of activities and policies. We offer now some thoughts on how those should be structured based on our observations and experience.

Exhibit 1-1— Integrated Project Team for Business Development



In some contracting firms, business development focuses on selling existing strengths. In this paradigm, the sales people mostly approach existing customers to squeeze out more projects based on an essentially static base of knowledge. The business development and key technical

people are only loosely coupled. An organizational wall divides them. There is little or no internal research and development.

This approach will surely lead to a declining business base. Today, ten years is a long life for many products; two years is long for many others. The ones that manage to live longer are usually the ones that are frequently upgraded to meet new needs.

An excellent remedy for such a stagnant state of affairs is to extend the concept of integrated project teams to business development.[3] In this approach, historical skills and achievements are merely the foundation for leveraging new ideas that may attract customers. They are not the entire business.

Exhibit 1-1 suggests a business development team and process that stresses a "full frontal attack" emphasizing new ideas and giving customers maximum exposure to your company.

The team comprises four major skills: top management, business development, contracts, and key technical innovators. The circle and arrows in the exhibit indicate that team members are in frequent communication and work closely together, even though they may "belong" to separate organizations.

The mission of the business development team (BDT) is to:

- Assist pursuit and project teams in maintaining good customer relations and close ties with key customer decision makers.[4]
- Work with pursuit teams to obtain from customers (and other sources) information about what customers want and what they can afford to pay.
- Analyze competitors ethically to obtain as much information as possible about what they are likely to offer, and provide that information to pursuit and project teams.
- Continuously analyze the market for current or similar products and identify opportunities for pursuit.
- Continuously innovate, leveraging from existing products into new and sustainable technologies that will interest current and new customers.
- Convey needed information to customers and potential customers to help them make better decisions about acquisitions.

---

[3] In this book we use the expression "integrated project teams" in preference to the expression "integrated product teams" which is often heard. The reason is that we expect the team to address the entire project (product + programmatics) in an integrated fashion, and not just the product.

[4] The role of the BDT is to identify for the customer a need which should be pursued. The pursuit team is the team formed to respond to a specific customer request for proposal. The project team is the team formed to work an awarded project. Some high value persons may be members of all three teams.

- Assist in the formation of new pursuit teams.

Here are typical roles within that mission:

- *Top management.* A single senior executive should be appointed to the BDT. His presence gives the team cachet and access to the highest levels of the company. His network of contacts will frequently lead to opportunities to be explored. He or she can expedite the flow of information and the mustering of resources.

- *Contracts.* The traditional role of contracts people is to negotiate and administer projects contractually. A problem that sometimes arises is that they do this without adequate input from others. As members of the BDT, contracts people will have better insights into what drives costs and schedule, and what is important and what is not. They will be better prepared to develop a negotiating floor position and to trade off scope versus cost.

- *Business Development.* As members of the BDT, the sales people will be more aware of current and developing technologies, and the status of current work. They will be better able to identify the right customer people to approach with new ideas. And they will have a better understanding of where and how to look for clues as to burgeoning customer interests that have barely begun to surface.

- *Key technical people.* These are sometimes called "technology superheroes." Sometimes, but not always, they are also "gray beards." They are senior technical people who have a demonstrated capability to imagine and follow through with viable product ideas, especially those that "push the envelope." Theirs is a central role in the BDT. They maintain awareness of the current technological capabilities of their company, their competitors, and their customers and potential customers. They acquire information about competitor products and use it to analyze product performance. They go to trade shows, attend meetings of professional societies, and otherwise stay abreast of developments in the world at large. They are either directly involved in their company's internal research and development, or they monitor it closely. When new pursuit teams are forming, they advise on who should be involved, and may participate themselves at least for a time.

Among the key technical people should be one or more persons who are well versed in costs of the company's products. Such a person is sometimes referred to as a cost engineer or a cost analyst. What makes this role necessary and even critical is the inevitable need to assign costs or at least cost ranges to new product ideas and to competitor's products. Such a role is beyond the typical "pricer" who works in the finance department assembling cost estimates into a format suitable for bidding. The role requires a strong technical background, and training in statistics and cost accounting.

Chapter 1 Review Questions

1. In general, are your efforts to acquire new contracts more like Scenario 1, Scenario 2, or Scenario 3, as described in this chapter?
2. Does your organization tend to focus too long on existing strengths until it is forced to propose new ideas and approaches?
3. Does your organization routinely present new ideas to potential customers?
4. Considering your competitive situation, do you feel your organization does enough internal research and development? Is what you do truly innovative, or does it focus mostly on minor improvements to existing products?
5. Does your business development effort more closely resemble an integrated project team, or a bunch of separate companies? How could you improve its effectiveness?
6. Do your business development people attempt to convey information about likely costs and schedules to potential customers as well as technical and other information? Either way, why?
7. Do your business development balk at having engineers or other technical people go along on customer visits? (This used to be quite common, but fortunately has been changing. It can have huge advantages.)