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Business Capture Estimating System Assessment

White Paper

Abstract

As a critical dimension to an organization's ability to capture new business, the estimating system must be at least as capable as the technical and management systems used to prepare a best value proposal. An assessment of the system will help identify the strengths and weaknesses of the existing system and a path of actions that lead to improvement.

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Best Value

Capturing new business requires a convincing case for a customer to buy from a supplier. Regardless of the situation, be it a consumer buying a washing machine, or a government buying a missile, there are usually three dimensions to the source selection decision: product features, supplier performance, and price. Just as we all want a feature rich washing machine made by a reputable company at a fair price, so too do governments want reliable, capable missiles developed and manufactured by experts in the business at a fair price. A term that is often used for what we want is, "best value."

Best value is a combination of the strengths of the technical, management, and price offerings of a supplier. Those who achieve the most success in business capture are likely to exhibit consistency of strength and balance in the three best value dimensions. Like a tripod, the entire mechanism fails if one leg gives way and the objective is precarious if the legs are not equally developed. Another characteristic of successful business capture organizations is the consistent use of best practices in preparing offerings to prospects.

It's natural then, for unsuccessful business capture organizations (at least those that believe they are not capturing their fair share of the market) to conclude that failure to routinely employ best practices is to blame for lack of success. This conclusion begets a number of questions: Where is the problem most acute? How do we compare to others? What are our strengths and weaknesses? Where should we invest time and money to become more successful? Let's look at the pricing dimension and consider an assessment that drills into these questions.

Estimating System Attributes

There are five general attributes that can be used to gauge the health of a business capture estimating system. They are:

- Accuracy
- Substantiation
- Responsiveness
- Repeatability/Institutionalization
- Efficiency

These attributes are the aspects by which an estimating system is rated; they cover all important business capture facets of estimating and do not overlap. And, like the weakest link characteristic of the three business capture dimensions, the estimating system needs to be strong and balanced in these five attributes to be effective. A brief description of each attribute follows.

Accuracy: This attribute addresses the question, "Are estimates reasonably accurate representations of reality?" Eventually, an estimate becomes a budget. The budget is the financial plan and is a measuring stick of project success. Therefore, accuracy is important to the creation of a good plan.

Substantiation: This attribute addresses the question of credibility of the estimate. This is probably the most important attribute to those who must approve the estimate. Like any approver, these people want a believable explanation for the estimate being what it is. An estimate can be well substantiated without being accurate, though we hope that is a rarity. Substantiation is important to closing the estimating process.

Responsiveness: Is estimating providing timely answers to questions? Assumptions and conditions

change so frequently during a business capture pursuit that questions seem at times to be unending. There is often little, if any allowable time lapse between question and answer. Responsiveness is important to the completeness of an estimate.

Repeatability/Institutionalization: This attribute addresses the question, "Is the estimating process consistently applied so that it can be replicated on other projects?" When a project leader says, "we will never be able to assemble a team like that again" it is a sure sign that repeatability of the estimating process is not institutionalized. A repeatable process establishes confidence and keeps those involved in estimating from being distracted. Institutionalization ensures that repeatability is not limited to certain teams of individuals within the organization.

Efficiency: Is the estimating process cost effective in terms of the number of participants and time involved to produce an estimate? Perhaps more than any other, this attribute addresses how well estimating balances with the other two business capture dimensions of technical and management. Too much expenditure in estimating may lead to weakened technical and management performance.

Attribute Performance Indices

The strength of an organization's estimating system within each attribute can be assessed on the basis of practices and/or metrics that indicate the level of performance. Some examples are:

- Estimating Error: This measure is indicative of performance in the accuracy attribute. It is normally computed as a percentage of error between estimated cost and actual cost. By definition, estimating error is only measurable against business that has been captured and has achieved some state of completion.

- Rejections, Clarification Requests, Discrepancy Reports: These are documents generated by the prospective customer in response to a priced proposal. Only those dealing with pricing are relevant here. The absence of such documents implies a well-substantiated proposal.

- Turn-around time on re-estimates: The environment under which an estimate is generated is volatile. Hence, conditions and assumptions of an estimate are subject to frequent change, making re-estimating an integral part of every business capture pricing exercise. The amount of time needed to re-estimate is a good index of system responsiveness.

- Knowledge Management, Databases, Documentation, Training, and Performance Measurement: All of these practices indicate the degree of repeatability and the depth of institutionalization of estimating practices within an organization. A poor process is one in which each new business opportunity is pursued with a different, undocumented estimating process, that references no central databases. In addition, there is probably no organization sponsored estimating training and no estimating effectiveness tracking program. However, an excellent process is one which applies a common standard estimating process, references central databases of past performance, uses well defined estimating effectiveness metrics that are always used to track performance, employs a collaborative Knowledge Management system for information delivery, preserves information in a consistently formatted and maintained document, and is supported by a formal training program.

- Estimating portion of B&P funding: Bidding & Proposing (B&P) is the term used to denote the practice of pursuing new business. This measure indicates how much of the funding for that practice is consumed by the estimating function.

The lower that percentage, the more efficient the performance.

Performance Index Caveats and Balance

At first blush, the performance index examples above seem logical and fairly unambiguous. But, as anyone who has spent some time in the estimating trenches will recognize, the situation is often not as simple to interpret as it might appear. Take estimating error as an example. There are a number of issues that cloud the ability of this measure to capture the accuracy attribute, among them:

- Which estimate is the most appropriate to compare to the actual cost? Remember, estimates beget many re-estimates. Which one do we use?
- How do we measure accuracy on a project that is partially complete? Do we use a project management or earned-value management system?
- Has project scope changed during execution to the degree that the project estimated barely resembles the current state? If so, what is the relevance of estimating error and what can be used in its place as an accuracy performance index?

Every other performance index has like issues that complicate realistic measurement. For this reason alone, it is vitally important that only those people who are experienced in estimating new business pursuits attempt to rate performance within these attributes.

Strength in all five attribute areas provides the balance of a sound practice. Even though each of the attributes is mutually exclusive, human nature often wants to associate them with each other. For example, suppose we had two hypothetical organizations (A and B) with very efficient estimating systems. A first reaction might be to consider the estimating systems of A and B to be equally adept. A is efficient because they have invested time, effort, and money in building an estimating system that employs a commercial parametric model. They have calibrated the model to past performance, maintain the relevancy of the calibration through continuous monitoring of accuracy. Organization A also maintains a proactive training program for all business capture employees and offers the training to subcontractors, suppliers, and customers. The estimating process is well documented, as are the estimates produced with it. Organization A is well balanced in all attributes. What about organization B? Like organization A, organization B is efficient and uses a commercial parametric model, like A (it could even be the same model). But, unlike organization A, this efficiency comes from use of the model in a cookbook (i.e. uncalibrated) fashion by one or two people within the organization. No one, other than these two individuals, knows anything about the model and it's performance as an estimating tool is unmeasured. Therefore, organization B achieves high efficiency by sacrificing performance in all other attributes.

Assessment Tool

Most organizations seek three pieces of information from an assessment:

1. Where do we stand?
2. Where do others stand?
3. Where must we invest to achieve our goals?

By comparing the assessment of a specific organization to it's desired level of performance and to that demonstrated by a large population, one can address these three questions. A radar diagram is a popular and convenient tool for display of information like this. An example follows for the Ajax organization. The diagram shows the assessment of Ajax (Ajax Is), the assessment of a population of others (Others Are), and the goal of Ajax (Ajax Wants).
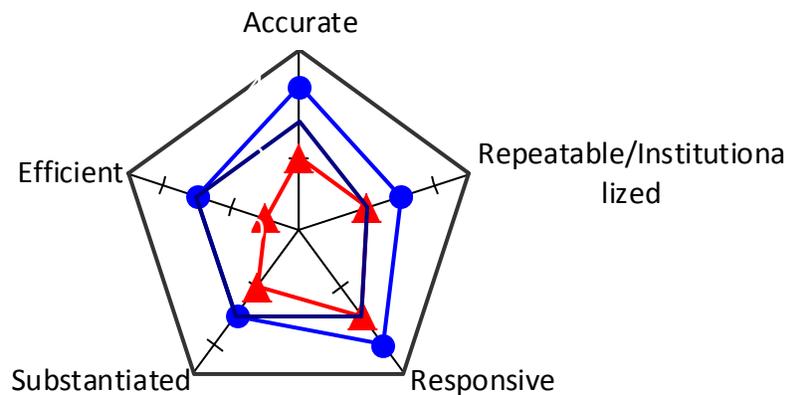
The radar chart above suggests:

- Ajax exhibits average industry performance in the areas of repeatability/institutionalization and responsiveness of the business capture estimating system.
- Ajax performs one level lower than the average industry performance in the areas of accuracy and substantiation of estimates from the business capture system.
- Ajax performance in the area of estimating system efficiency is two levels below the average industry performance.
- Ajax is not performing to its goals in any attribute area and has the greatest need for improvement in the areas of accuracy and efficiency.
- If Ajax can achieve its goals, its performance will exceed industry average.

More thorough analysis can identify specific actions for Ajax to undertake to approach goals. Among these are likely to be linking of databases, knowledge, and process to the estimating system. This will enable calibration to achieve greater accuracy and result in less estimating system creation with each estimating task, thereby improving efficiency.

Summary

As a critical dimension to an organization's ability to capture new business, the estimating system must be at least as capable as the technical and management systems used to prepare a best value proposal. An assessment of the system will help identify the strengths and weaknesses of the existing system and a path of actions that lead to improvement.

About the Author

Bruce Fad is Member/owner of PRICE Systems, LLC and directs all activities of PRICE Systems Professional Services Division, which includes: parametric cost estimating model and general estimating topic training course development, PRICE models technical support to licensing clients, and PRICE Systems Americas consulting services, Bruce maintains an active role in services through instructing and by supporting consulting engagements as either a project director or individual contributor as a Subject Matter Expert (SME). He frequently prepares and delivers presentations on the subject of cost estimating and analysis for professional society conferences.

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