Analysis of Federal Design-Build Request for Proposal Evaluation Criteria

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Abstract: This study’s objective is to identify the benefits federal owners are seeking through the design-build process by analysis of research data gathered from 110 requests for proposal (RFP) evaluation plans issued for $1.5 billion of federal work by 11 different agencies. The output from this study was then compared to a 1996 study whose authors sought to analyze the reasons cited by owners to use design-build project delivery. That study included a survey of 108 owners of public and private projects, which represented over $12.5 billion of construction. The goal of comparing the 1996 survey with the results of the new research project is to discover correlations between owner attitudes and the selection criteria identified in government RFPs. The comparison produced some interesting results. First, although owners in 1996 cited schedule as the most significant reason for selecting design-build delivery, the federal RFP content analysis found it to carry a very low average weight. Another finding shows that federal RFPs give price a very heavy weight in the government selection processes, again differing significantly from the previous survey of owner attitudes. Finally, the current study found that the qualifications of the firms and individuals that formed the design-build team were significantly more important than the proposed technical design approach. Thus, this paper concludes that the typical federal agency was looking for a low price from a well-qualified design-build team.

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Introduction

Design-build contracting is a project delivery system where the owner awards a single contract for both design and construction services to a design-builder (Beard et al. 2001). This furnishes a number of opportunities among which the possibility of compressing the schedule by starting construction before the design is finalized is one that is often cited. Two studies involving over 600 design-build projects in the building sector showed benefits of a 30% increase in project delivery speed and 6% reduction in unit cost over the design-bid-build method of project delivery (Bennett et al. 1996; CII 1998). This type of success in the private sector has propelled the use of design-build in the public sector (McManamy et al. 1994; Songer and Molenaar 1996; Rosenbaum 1995; Yates 1995). The U.S. Federal Government and its associated departments have been actively using design-build for the past two decades, and as a result have evolved a very specific set of design-build project solicitation procedures which by regulation are required to publish the criteria against which the firms that submit a proposal will be evaluated (Napier and Freiburg 1990). These procedures flow out of the Federal Acquisition Regulation (FAR) that governs all federal procurements (Federal 2005).

The FAR requires that the government publish an evaluation plan that describes the elements of the proposal that will be evaluated and the criteria against which the evaluation will take place. It calls the evaluation criteria: “factors and subfactors” (Federal 2005). It requires that the solicitation list those “that apply to an acquisition and their relative importance” (Federal 2005). The FAR states the purpose of these criteria as: “Evaluation factors and significant subfactors must—(1) Represent the key areas of importance and emphasis to be considered in the source selection decision and (2) Support meaningful comparison and discrimination between and among competing proposals.” (Federal 2005).

It also states that price be evaluated in “every solicitation” and that “the solicitation shall also state, at a minimum, whether all evaluation factors other than cost or price, when combined, are:
1. Significantly more important than cost or price;
2. Approximately equal to cost or price; or
3. Significantly less important than cost or price.” (Federal 2005)

As a result, all federal design-build project request for proposals (RFPs) contain an evaluation plan that theoretically lists everything that the government believes is important for project success and a relative weight that each evaluation factor and subfactor carries among them and in relation to the price quoted in the design-builder’s price proposal. Thus, an analysis of a design-build project evaluation plan should reveal the relative importance of the various evaluated factors and then allow a potential design-builder to write its proposal in a manner that gives emphasis to the factors that are most important to the government (Gransberg and Molenaar 2004). Accumulating the content analysis of a large population of federal design-build RFPs should then allow the researcher to infer those categories of evaluation factors.
that carry the greatest importance to the federal government in a typical design-build solicitation.

**Owner Attitude Survey**

In 1996, Songer and Molenaar (1996) published a paper entitled “Selecting design-build: Public and private sector owner attitudes” (hereafter called the owner attitude survey). This study included a survey of 108 owners of public and private projects, which represented over $12.5 billion of construction. The survey identified the reasons most cited by owners for selecting design-build as their project delivery method. In doing so, it sought to reveal owner motivations in shifting from the traditional design-bid-build delivery to what in 1996 was considered a non-traditional project delivery method. Additionally, this shift also involves awarding the contract for a project’s construction before the project’s design is complete, thus shifting the risk for an adequate final design from the owner to the design-builder and creating a risk for the design-builder who must submit a lump sum price for a project whose design is not complete (Frederickson 1998). As a result, the decision to select design-build must be based on some significant owner expectation of potential benefit by using this delivery method.

The owner attitude survey asked owners to rank the reasons they used to make the project delivery method decision. The results are shown below in descending order of importance to the owners who responded to the survey:

1. **Shorten duration,**
2. **Establish cost,**
3. **Reduce cost,**
4. **Constructability/innovation,**
5. **Establish schedule,**
6. **Reduce claims,** and
7. **Large project size/complexity** (Songer and Molenaar 1996).

Thus, this survey found that reducing a project’s delivery period from the time expected using traditional methods was the major reason owners opted for design-build. This makes sense in that by putting both design and construction in the same contract, the ability to achieve an early construction start is enhanced and the ability to complete design and construction activities in parallel, rather than in series, without contractual interference is assured.

The next reason owners chose design build had to do with establishing the total project cost before the design was complete. In the public sector, this motivation often has to do with the timing of the agency fiscal year. A study of design-build projects built by the Naval Facilities Engineering Command found that a perception that “design-build project delivery will ensure 100% execution of project dollars each fiscal year because a single contract (for design and construction) is awarded more quickly than the two contract actions required by the design-bid-build process” (Allen 2001). It should be noted that in many public sector construction programs, design and construction funding is authorized on a fiscal year basis and thus, an agency’s authority to expend those funds expires with the end of the fiscal year for which it was authorized. Thus, in the public sector design-build usage is often motivated by the ease at which project authorizations can be obligated before the end of a given fiscal year. Additionally, the Navy study found an additional motivation that “design-build is seen as satisfying a mission for delivering a project with zero contingency dollars” (Allen 2001). Thus, this study confirms the findings of the previous owner attitude survey by highlighting the Navy’s interest in establishing project cost as early as possible as a major motivation for selecting design-build.

The third motivation found in the owner attitude survey was a desire to reduce cost through using alternative project delivery. A study completed by Konchar and Sanvido in 1998, found that projects delivered by design-build cost an average of 6% less than projects delivered by traditional means. The Navy study (Allen 2001) found that cost growth after contract award was roughly 15% less on design-build projects than on design-bid-build projects. An early study of the Florida Department of Transportation’s design-build projects (Ellis et al. 1991) showed an incremental savings of about 2% from traditionally delivered projects. So there is a basis in the literature for owners to have developed this particular motivation.

The fourth and seventh owner survey motivations deal with the ability to be able to compete different design solutions to the same design problem and to bring expertise to a project that is not inherent to the owner’s internal organization. These can be lumped together to indicate the owners’ concerns regarding the technical sufficiency of the project design.

Therefore, generalizing the above discussion, one would expect that an analysis of the content of design-build RFP’s would reveal that the greatest weight would be assigned to the evaluation factors dealing with schedule. The next greatest weight would go to cost, and factors associated with the technical design approach would have the least weight in the overall evaluation scheme. Thus, it is the objective of this paper to compare an objective analysis of federal design-build RFP evaluation plan weighting to the results of the owner attitude survey. This analysis will allow the researchers to be able to essentially contrast what owners say is important about the design-build selection decision based on the output of the owner attitude survey to what they actually make important in their evaluation plans. For the federal sector, this contrast allows the researchers to measure the perceived relative importance of the various evaluation criteria categories and determine if the procurement system is indeed fulfilling the expressed motivations for shifting from design-bid-build to design-build project delivery.

**Methodology**

The first step was to gather a sizable sample of federal sector design-build RFPs. The researchers were able to obtain complete copies of 110 RFPs from 11 federal agencies. The RFP’s represented $1.5 billion worth of design-build projects over the period 1999 to 2002. The following agencies were included in the sample population:

- National Atmospherics and Space Administration: 1 RFP,
- General Services Administration: 4 RFPs,
- US Customs Service: 1 RFP,
- US Army Corps of Engineers: 69 RFPs,
- Naval Facilities Engineering Command: 18 RFPs,
- Department of Energy: 1 RFP,
- US Coast Guard: 1 RFP,
- US Air Force: 11 RFPs,
- Pentagon Renovation Office: 1 RFP,
- US Forest Service: 2 RFPs, and
- National Institute of Technology: 1 RFP.

The RFPs covered a fairly wide range of project types. Each was categorized into the following set of project types and the number in each type is as follows:
• Housing: 16 RFPs,
• School: 14 RFPs,
• Office building: 12 RFPs,
• Renovation projects: 10 RFPs,
• Technical facility: 41 RFPs,
• Technical system: 13 RFPs, and
• Indefinite delivery-indefinite quantity: 4 RFPs.

The project types are generally self-explanatory. However, a technical facility is defined as a special purpose building such as a maintenance repair shop building, and a technical system was typically a utility project such as a waterline installation. Indefinite delivery-indefinite quantity contracts are essentially contracts for design-build services that extend over more than one project with the initial evaluation and award often being based on the first project that will be built.

This research relies primarily on formal content analysis to develop a base from which quantitative measurements of design-build RFP evaluation plan criteria weighting. This type of analysis can be used to develop “valid inferences from a message, written or visual, using a set of procedures” (Neuendorf 2002). The primary approach is to develop a set of standard categories into which words that appear in the text of a written document, in this case a design-build RFP, can be placed and then the method utilizes the frequency of their appearance as a means to infer the content of the document (Weber 1985). Thus, in this study, the content analysis consisted of two stages. The first task was to classify the evaluation plan into one of four categories based on the specificity of the weighting and the researchers’ ability to discern varying degrees of importance between the evaluation factors. The evaluation plans were classified into the following categories:

• Vague: An evaluation process was determined to be vague if it provided no relative weighting of evaluation factors, which includes stating: “Technical evaluation factors are approximately equal in weight. Technical evaluation factors combined are approximately equal to price” (Naval Facilities Engineering Command 2000).
• Semi-detailed: A semi-detailed evaluation process is defined as one where “All factors will be adjectively point scored and are listed in descending order of importance” (U.S. Army Corps of Engineers 2002). Through listing factors in descending order of importance, the process has at least defined one rated feature of the evaluation process, which is more important than all other rated features.
• Detailed: A detailed evaluation process provides specific information regarding what is important to the government for the particular acquisition. Evaluation processes fall into this category when a relative weighting system is provided or when specific points or percentages are assigned to criteria. Such a weighting system differs from the semi-detailed, descending order system in that it will address each factor individually, compare it to another factor, and state the difference in importance between the two. The following excerpt from an Army RFP illustrates this process. “Weighting of factors. Relative importance definitions: For the purpose of this evaluation, the following terms will be used to establish the relative importance of the factors and subfactors:
  1. **Significantly more important**: The criterion is at least two times greater in value than another criterion;
  2. **More important**: The criterion is greater in value than another criterion but less than two times greater; and
  3. **Equal**: The criterion is of the same value as another criterion.” (U.S. Army Corps of Engineers 2002).
• Technically acceptable-low bid: Evaluation plans in this category merely assign a satisfactory or unsatisfactory rating to each evaluation factor or subfactor. A pool of proposals in which all evaluation criteria are rated satisfactory is then developed, and the project is awarded to the lowest priced offer from within that pool. Thus, once the technical acceptability of the proposal is determined, the price becomes the overriding factor in the award decision.

From the population of 110 federal design-build RFPs, each RFP was classified and the following results were found from this first stage of the content analysis:

• Vague RFPs: 26,
• Semi-vague RFPs: 40,
• Detailed RFPs: 30, and
• Technically acceptable-low bid RFPs: 14.

The second stage of the content analysis was to categorize the various components of each design-build project RFP evaluation plan into a general set of terms by criterion type. The previously mentioned three categories were expanded into the following five categories to better fit the content of the evaluation plans under analysis:

• Price: This category included all elements of cost including life cycle cost criteria if present;
• Technical: This category included all evaluated elements of the proposed design approach;
• Qualifications: This category included requirements for individual credentials and experience as well as the past corporate performance record for similar projects;
• Schedule: This category included all rated factors that dealt with time including proposed completion dates, intermediate milestones, and other similar factors; and
• Project management: This included those criteria for management plans for design and construction quality control, subcontracting, safety, and other similar factors.

This process allows the analysis of evaluation plans from three different perspectives. The first analysis examines the total accumulation of points awarded to evaluation criteria throughout the entire population of RFPs. This provides a simple means of observing the overall presence of criteria through numerical representation. Next, data was examined in regard to the overall frequency that each criterion category made an appearance throughout the population of processes so that the popularity of individual criteria could be observed. By collecting total points data and the frequency of each criterion, it became possible to next find the average weight each separate criterion carried within the population of design-build RFPs. This provides a perspective of the importance placed on each criterion when they do appear.

The content analysis methodology broke down these evaluation criteria so that weights could be assigned to individual factors developed from keywords that were common to each evaluation criteria category. The weighting system assumed that per the FAR, 100% of what was important to the owner about a given project was contained within the published evaluation plan. Thus, each RFP’s evaluation plan was normalized to equal 100 points regardless if the RFP contained a specific numeric distribution of weighting (i.e. detailed evaluation plan) or not (i.e., vague evaluation plan).

If no purposeful definition of weights were provided then points were awarded to a factor using judgment and logic, which would allow the most sensible distribution of 100 total percentage points. Table 1 shows the algorithm used to convert keywords to points for the three types of RFPs. When direct statements were made they were accepted at face value. It should also be noted...
that where “go/no-go” (pass/fail) items such as a specific plan or bid documents were included in the evaluation process, it was assumed that these requirements must be met to be responsive and as such, points were not assigned to such categories.

The simplified examples in Table 1 illustrate the process used in assigning points to factors through key words found in each evaluation plan type. The keywords used in Table 1 were found to be the most common. However, variations did exist. Especially in regard to the relative importance of price however, nearly half of the RFPs specifically defined price as being “equal to or more than all other factors combined.”

Results of the Content Analysis

With each RFP receiving a total of 100 points distributed among the criteria in the evaluation plan, the population then had a total of 11,000 points in the sample. These were then used to conduct the three separate analyses discussed in the methodology. The first was merely a summation of total points in each of the five criteria categories to determine which types of criteria were the most heavily weighted in the sample. Fig. 1 shows the results of this analysis. One can see that price is found to be the most important evaluation criterion with 5,184 points or roughly 47% of the total weight in the evaluation plans. Surprisingly, the schedule only received a total of 213 points or 2% on the weight.

In the second analysis, the average number of points was used rather than the total number points for each criterion category. Thus, this gives the analyst a feeling for how much relative weight was given to each criterion category when it was used. This was calculated by dividing the total number of points by the number of RFPs in which it appeared. Fig. 2 shows the results of this analysis, and once again price is the dominant category. This is to be expected in that the FAR requires that price be evaluated in all procurements. Schedule still remains the lowest average weight. The ranking between technical and qualifications reverses from the previous analysis with technical approach having a higher average weight than qualifications.

The last analysis involved looking at the frequency that evaluation criterion categories occurred in the 110 RFPs. Because of the broad definitions assigned to each category, one would intuitively expect to see all five contained in every RFP. This was not the case. Fig. 3 illustrates the results of this analysis.

Table 1. Algorithm for Converting Keyword to Points in the REP Content Analysis

<table>
<thead>
<tr>
<th>Item</th>
<th>Vague evaluation process</th>
<th>Semi-detailed evaluation process</th>
<th>Detailed evaluation process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keywords</td>
<td>a. Factors are of equal importance</td>
<td>A. Factors are listed in descending order of importance</td>
<td>A. Factor A is significantly more important than Factor B; Factor B is more important than Factor C; Factor C is of equal importance to Factor D; Factor D is significantly more important than Factor E.</td>
</tr>
<tr>
<td></td>
<td>b. Price equals all factors combined</td>
<td>B. Price equals all factors combined</td>
<td>B. Significantly more important means that a factor is twice as important as the factor to which it is being compared. More important means that a factor is more important to the factor to which it is being compared, however not twice as important.</td>
</tr>
<tr>
<td>Point</td>
<td>Price=50%</td>
<td>Price=50%</td>
<td>Price=50%</td>
</tr>
<tr>
<td>distribution</td>
<td>All other factors share</td>
<td>All other factors are assigned</td>
<td>Assign remaining 50% to other factors as directed:</td>
</tr>
<tr>
<td></td>
<td>the remaining 50%, so if there are five other factors:</td>
<td>the remaining 50% in equal descending increments:</td>
<td></td>
</tr>
<tr>
<td>Factor A</td>
<td>Factor A=10%</td>
<td>Factor A=16%</td>
<td>Factor A=20%</td>
</tr>
<tr>
<td>Factor B</td>
<td>Factor B=10%</td>
<td>Factor B=13%</td>
<td>Factor B=10%</td>
</tr>
<tr>
<td>Factor C</td>
<td>Factor C=10%</td>
<td>Factor C=10%</td>
<td>Factor C=8%</td>
</tr>
<tr>
<td>Factor D</td>
<td>Factor D=10%</td>
<td>Factor D=7%</td>
<td>Factor D=8%</td>
</tr>
<tr>
<td>Factor E</td>
<td>Factor E=10%</td>
<td>Factor E=4%</td>
<td>Factor E=4%</td>
</tr>
</tbody>
</table>
Qualifications were the only category that appeared in every RFP. The reason price was left out of two of the projects is that they were stipulated price contracts (also called “design to cost” contracts) where the government stipulated the price and the evaluation contained no price competition as each competitor had to propose a design approach that met the stipulated price. The surprising thing was that 29 RFPs required no technical design information in the proposal. Also in keeping with the results of the previous two analyses, only 28 of 110 RFPs evaluated the schedule.

The final phase of the analysis involved breaking the population up by project type and running the total point, average point and frequency analyses within these subgroups. Table 2 shows the results of this exercise. To give a feeling for the weighting within each project type the total points are expressed as a percentage of the total available in each project type. It is interesting to note that price is given over 50% of the weight for renovation and technical system projects. As these are potentially less design driven than the other types of projects this might make sense. Qualifications also have a much higher weight in the renovation projects than the other types. School projects have the greatest weight given to technical of all project types, and housing projects have the greatest weight given to project management. In terms of frequency of evaluation criteria category, all types frequently evaluated price and qualifications. Technical facilities, schools and office projects also frequently evaluated the technical design approach.

### Comparison with Owner Attitude Survey

The major disparity between the owner attitude survey by Songer and Molenaar (1996) and this study is the relative importance of schedule in the RFP evaluation plan. Based on the previous work, schedule would have been predicted to be the most important evaluation criterion, but in this study it was clearly the least important. This might be explained by the following thought process. Many of the RFPs analyzed provided a completion date in the solicitation form suggesting that the schedule for these projects are a “go/no-go item,” whereas an open completion date was left in other RFP solicitation forms suggesting that schedule was an item that would be reviewed on a competitive basis.

In either instance, if schedule did not appear as a significant evaluation criterion, its presence was not acknowledged or awarded any weight. This begs the question however, that if a reduced schedule is the most popular reason for owners to select design-build project delivery, why does it not appear in the evaluation processes more frequently as an important selection criterion? It could be assumed, that when project completion dates are provided in the solicitation form and schedule does not appear as a significant selection criterion, that the evaluation process is looking for schedule compliance rather than a reduced schedule. This would greatly reduce the probability for a design-builder to win the project by proposing an aggressive schedule. This logic, combined with the numerical results of this research cause further disagreement with the results of the owner attitude survey, unless

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**Table 2. Analysis Results by Project Type**

<table>
<thead>
<tr>
<th>Criteria category</th>
<th>Technical facilities</th>
<th>Renovation projects</th>
<th>Schools</th>
<th>Office buildings</th>
<th>Housing</th>
<th>Technical system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project type/total points as a percentage by criteria categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price (%)</td>
<td>44.2</td>
<td>57.6</td>
<td>39.0</td>
<td>43.5</td>
<td>43.4</td>
<td>69.6</td>
</tr>
<tr>
<td>Technical (%)</td>
<td>14.2</td>
<td>2.5</td>
<td>19.6</td>
<td>15.7</td>
<td>14.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Qualification (%)</td>
<td>28.8</td>
<td>34.5</td>
<td>30.0</td>
<td>30.4</td>
<td>25.8</td>
<td>15.5</td>
</tr>
<tr>
<td>Schedule (%)</td>
<td>1.7</td>
<td>1.3</td>
<td>4.1</td>
<td>4.2</td>
<td>0.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Project management (%)</td>
<td>11.1</td>
<td>4.1</td>
<td>7.3</td>
<td>6.3</td>
<td>15.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Project type/average points by criteria categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>44</td>
<td>64</td>
<td>39</td>
<td>43.5</td>
<td>46</td>
<td>69.6</td>
</tr>
<tr>
<td>Technical</td>
<td>14.5</td>
<td>12.5</td>
<td>19.5</td>
<td>28.9</td>
<td>19.5</td>
<td>18.1</td>
</tr>
<tr>
<td>Qualification</td>
<td>13.3</td>
<td>16.8</td>
<td>13.5</td>
<td>17.1</td>
<td>13</td>
<td>8.5</td>
</tr>
<tr>
<td>Schedule</td>
<td>6</td>
<td>6.5</td>
<td>10.6</td>
<td>11.5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Project management</td>
<td>9.6</td>
<td>2.7</td>
<td>6.9</td>
<td>9.2</td>
<td>13</td>
<td>9.6</td>
</tr>
<tr>
<td>Project type/frequency by criteria categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>41</td>
<td>9</td>
<td>13</td>
<td>11</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Technical</td>
<td>38</td>
<td>2</td>
<td>13</td>
<td>6</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Qualifications</td>
<td>41</td>
<td>10</td>
<td>14</td>
<td>12</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Schedule</td>
<td>12</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Project management</td>
<td>41</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>Total in project type</td>
<td>41</td>
<td>10</td>
<td>14</td>
<td>12</td>
<td>16</td>
<td>13</td>
</tr>
</tbody>
</table>
it is assumed that an open completion date on the solicitation form indicates a high interest in competitive schedules. Perhaps the federal owner who selected design-build to compress the procurement schedule and by establishing a contract completion date, felt that there was no need to evaluate schedule. However, this is conjecture as there was nothing in the 110 sample RFPs that would lead one to assume that line of reasoning.

The next difference seems to be in the idea that establishing the cost was more important to owners than reducing the cost. As previously stated, nearly half the RFPs contained the statement that price was equal to all other factors combined. As interpreted in this study, that means price carries a weight of 50% and as such becomes the most important evaluation factor. Thus, federal owners have essentially turned a best value procurement system into a low bid selection for half the projects in this sample. It would be mathematically impossible to beat the lowest price proposal with a better-qualified team and an innovative design approach with price carrying 50% of the total weight in the selection.

The final point of comparison deals with this study’s finding that qualifications were the second most important factor to federal owners. The owner attitude survey did not address this factor directly. However, the “reduce claims” category is probably the closest fit of the seven possibilities. A design-build team’s past performance on previous federal projects was often cited as an evaluation factor. It stands to reason that projects that would be cited as examples of previous success would likely not be ones on which outstanding claims were pending. Additionally, a company with a reputation for generating claims would find itself at a significant disadvantage in the subjective evaluation that is done on items within this evaluation criterion category. Thus, it would appear that while owners in the attitude survey did not cite a desire to award their design-build contract to a highly qualified team with an excellent track record, the weight given to qualifications in this study would support the idea that qualifications and past performance are very important to the typical federal owner.

Conclusions and Recommendations

Several conclusions can be drawn from this analysis. First, price is clearly the dominant factor in federal design-build procurement systems. The ubiquitous phrase “price was equal to all other factors combined” creates an environment where design-builders would have difficulty crafting a winning proposal based on an innovative design approach. The idea that selecting design-build project delivery gives the owner the benefit of being able to evaluate several competing designs and encourage creativity and innovation (Beard et al. 2001) is effectively squelched if the proposed design must also carry the lowest price. This conclusion is further supported by the fact that the proposed technical approach only carried 28% of the weight that price carried and 48% of the weight given to qualifications. In effect, the federal evaluation plans clearly required a low bid design from a well qualified team, not the most innovative solution to the owner’s design problem. This theme was particularly true for technical system projects and renovation projects where price and qualifications carried combined weights of 85 and 92%, respectively against a respective technical weight of 7.8 and 2.5%.

The next conclusion is that federal owners seem to be using the qualifications evaluation as a risk management tool. By giving qualifications, which include past project performance, the second highest weight, the RFPs effectively create a situation where it would be difficult for a marginally qualified team or a team with no track record to win a design-build project. This observation is not intended to be critical, but rather to point out the fact that setting a high standard for qualifications and past performance and giving that evaluation criteria category a high weight acts as an operational bar to the risk that an unqualified or incompetent design-builder will win the contract.

Finally, the reason that owners cited as the most important for selecting design-build, i.e. to shorten the schedule, was in fact rarely evaluated in the federal sector. This may because the definition for “schedule shortening” used in the Songer and Molenaar (1996) study was different than the one used in the federal sector. The owner attitude survey included a broad range of owners including private and public sectors, and reading that paper leads one to believe that the shortened schedule was due to being able to start construction before design was complete. Whereas, the schedule that federal owners may be seeking to shorten is the time it takes to get the project construction funds obligated, and design-build furnishes an ideal vehicle for a project that is behind schedule in the planning phase to be able to obligate both the design and the construction funding in a single contract award before the end of the given federal fiscal year in which the expenditures are authorized. Therefore, by not giving the physical schedule for design and construction a significant weight, they were confirming that it was not of great importance in the federal sector. So if the federal respondents to the Songer and Molenaar survey were implying that their motivation for using design-build was to shorten the “fiscal” rather than “physical” schedule, then the glaring disparity between these two studies is reconciled.

The conclusions must lead to recommendations for the practical application of the research findings. Thus, the following are recommendations for design-builders who propose federal projects:

- If the phrase “price is equal to all other factors combined” is contained in a federal RFP, treat the proposal as a low bid selection turning in a proposal that is technically acceptable and competitively priced.
- Qualifications and past performance are very important to federal owners. Assemble a well-qualified team with a strong track record of successful past performance to enhance a technically acceptable proposal with a competitive price.
- The previous two bullets are particularly important on federal technical system and renovation projects.
- Minimize the amount of design effort that is spent on proposal preparation to an amount commensurate with the weight the technical evaluation carries in the evaluation plan.

The following are recommendations for federal owners who develop design-build RFPs:

- If an innovative design approach is needed for a technically complex project, give the technical evaluation sufficient weight by stating that technical is “significantly more important than cost or price” (Federal 2005).
- Again if an innovative design approach is required, consider using a stipulated price for the project to furnish a means to encourage creativity within the constraints of the project’s budget.
- If a low price is desired, use the “technically acceptable-low bid” method to award the design-build project.
References


