

Project Selection

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Introduction

There are no bad projects—just bad matches of contractors to projects. The risk associated with project selection can be accurately measured in advance and is directly associated with the construction organization experience with similar work. Therefore project risk differs for each contractor. The performance of an operating entity, such as manufacturing, improves with repetition. In contrast construction enterprises do not usually have enough repetition from project to project to experience much improvement because in almost all cases new projects differ in varying and measurable degrees from previous projects. The closer the new project represents the average of previous projects the more likely estimated performance will be achieved, simply because the planning and execution is more of the same as opposed to totally unique. The measurement of risk also depends on the experience of the team members involved. Experience is accumulated institutionally, but is captured individually so the number of members on a performance team with direct experience on similar previous projects impacts the likelihood of estimated or improved performance.

The aspects that impact anticipated performances (risk) are primarily, size; type; location; performance team, owner, and also include unusual features, shape, safety considerations and available room to work. These aspects can be measured and weighted to produce a numeric scale of risk projections and can also be updated to measure project performance. The depth of experience with similar projects the greater the likelihood of a successful estimate, production and completion at a profit. Experience with fewer similar projects translates to lower level of confidence (recognized or not) and presents greater risk.

To use an extreme example; if an organization has been successfully constructing relatively straightforward warehouses and strip shopping centers then attempts their first complex sewage treatment plant they would bring no institutional experience to bear and limited if any individual experience depending if any employee or manager had prior experience in treatment plant work. The likelihood of successfully pricing and producing the work would be very limited resulting in high risk compared to an organization that regularly builds treatment plants. The risk can be measured and will obviously be different for each construction organization perusing the work depending on the institutional and individual experience of each enterprise. Like type of work, any departure from the geographic area an organization is experienced in will generally involve a learning curve discovering potential differences concerning labor issues and skill levels; subcontractor availability, pricing, owner expectations; and other local customs that may impact how the work is managed or performed.

Project Teams

As mentioned earlier, experience is accumulated institutionally, but is captured individually so the number of members on a performance team with direct experience with previous projects impacts the likelihood of achieving estimated or improved performance. Institutional experience does not automatically impart that experience to individuals who did not participate in attaining the experience. Therefore, if an organization has experience in all of the aspects discussed herein, such as size, type, location, etc.; but no project team member assigned to the work has direct, personal experience, the project risk is high, but slightly less because if things go bad there are at least others in the organization with the experience that can assist if they are brought to bear in time. A sub-set of project team experience is team members having previously worked together. If the project team has worked together the risk is further reduced. In the measurement of project risk, experience with the work and experience of team members working with each other are meaningful elements of risk.

Unusual project features such as curved wall, windows, roofs or unique elements outside of the experience of most organizations are obvious risk triggers. These projects can and will be built, but may have a steep and costly learning curve amplifying risk.

Conclusion

The biggest breakthrough in this study is the realization that few construction projects have built-in, inherent risk and that project risk is exclusively a measurement relative to the organization's experience. The project attributes discussed herein are being weighted and placed in a numeric formula that will provide an accurate measure of project risk providing an excellent tool to combine with a contractor's, subcontractor's or owner's selection process criteria.