

## **The Challenge of Bringing a Project's Construction in On Budget**

by Randy White

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One of the greatest challenges of developing or remodeling/expanding a location-based entertainment project such as a family or children's entertainment center or bowling center, is to:

- First, accurately estimate the project's cost and create a realistic budget,
- Then to bring the project in on budget.

Many a project gets into serious trouble when, for whatever reason, the project can't be developed within the budget. Usually, by the time the problem is discovered, it's too late to increase the budget, as financing has already been secured. So to keep the project within budget, critical features end up being compromised, such as the theming, finishes, and the quality of the materials, furniture and equipment, the things that really matter the most to creating the guest experience. Or certain attractions are eliminated, so the project never performs as originally planned and projections are never achieved. In fact, such last-minute deletions and changes can seriously threaten a project's very long-term survival.

Many cost overruns are attributable to construction issues. Sometimes, there's an attempt to avoid construction cost overruns through what is known as value engineering. Value engineering is a process that takes place in the early and mid-stage design phases when structural and mechanical systems and finish details and specifications are being decided. Value engineering is the process of finding the best way to build (design) the project to accomplish the task and design goals for the least possible cost. Cost does not only include original construction costs, but also what is known as life cycle costs — the entire cost of the component over the life of the project, including construction, maintenance and operating costs. Unfortunately, budgets are often established before value engineering can take place, so by the time cost problems are discovered that will put the project over budget, it is too late to turn back the clock and reexamine the structural design, buildings exterior, mechanical systems and construction materials and equipment. So instead, the process amounts to engineering out the value of what can still be changed — finishes and the visible things that matter most to creating the guest experience. This is not value engineering.

This reoccurring problem is often caused by the nature of the design process. Design proceeds from general to specific and from conceptual to detailed.

Accordingly, there is limited ability to accurately predict construction costs at the onset when initial project planning takes place and accurate costs are needed as part of the business plan to secure financing.

Design goes through four basic stages of development:

- Conceptual
- Schematic design
- Design development
- Construction documents and specifications

Each stage encompasses greater detail and requires more accurate information than the phase that came before.

Most project developers try to minimize their upfront financial exposure on a project until full financing is in place, so they want to spend little (if anything) on actual design when developing their business plan. Often, they prepare a conceptual budget based more on what they think the project should cost than what it really will cost. They often estimate construction costs without any specific plans by using square-foot estimates and guessing what size will be required. Square-foot estimates almost consistently guarantee inaccurate cost estimates, as each and every project has unique characteristics that generalized square-foot costs can't reflect.

Cost overruns are also caused by the traditional design-bid-build process. First the project is designed, and then a contractor is selected by either competitive bid or negotiation to build the project. This process precludes value engineering until the project is already designed. So by the time the bid comes in over budget, the only way to reduce costs is to make major compromises in finishes, quality or components.

An alternative to the design-bid-build process is design-build, where a builder enters into a contract before the project is designed and guarantees to build the project for a fixed price. The builder then controls the design of the project. The problem with this process for entertainment projects is that few builders are familiar with the many complexities of a quality entertainment facility. Therefore, their original contract scope of work and price fails to reflect all the true design requirements. As a result, either an inferior project is built, at least from the perspectives of the guest experience, operations and maintenance, or the owner must pay the contractor extras, which means cost overruns.

Our company has developed a process called producer/designer-directed

integrated design, which addresses these problems for entertainment projects. As producers and designers, we oversee the process. First, to come up with a realistic construction cost estimate, we develop a schematic design and work with a preselected general contractor and subcontractors to estimate the construction cost. This becomes the construction budget. The general contractor and subcontractors are then an integral part of the design team along with our team of design professionals. Unlike the traditional design-bid-build process that is sequential, where the input of the general contractor and subcontractors doesn't occur until the design is completed, their involvement and input is concurrent throughout our producer-directed integrated design process.

Likewise, all the designers work concurrently in on the design, unlike the traditional sequential design process, where the architect first designs, and then the design is passed along to other design professionals, often one at a time, limiting their ability to influence design decisions already made that might improve quality or reduce cost. In a sense with integrated or concurrent design, everyone jumps into the sandbox at once. The general contractor and subcontractors give valuable value engineering input throughout the entire design process, and they re-estimate costs at each design stage to assure the project stays on budget. As project producers, we oversee the design process to assure it is an integrated team process, so no one design professional or the general contractor totally controls the design. We also assure that operational, management and guest experience considerations are brought to the table during the design process.

As they say, the product can only be as good as the process that creates it. Selecting the right process for the development and design of entertainment projects is the key to bringing in a quality and successful project on budget.

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