Manage Integration Risks to Keep Projects on Budget and on Schedule

If there is one thing experienced executives know, it's that the budget and schedule risks for any project proposals they review are going to be much higher than anything the project leader has estimated.

The problem is those leaders may not understand how or why they know that, which means they probably don't know what to do about it. They just know from experience that all too many projects wind up costing three times as much as expected and taking three times as long to complete.

As a result, a lot of perfectly good projects are declined because business decision makers fear they might end up costing more than they're worth.

There is a better way. Chances are the project managers and executives are not looking at a significant risk factor that appears in the integration phase that, if not managed properly, can make all the difference in whether a project succeeds or fails, and whether it comes in on budget and on time.

What is that factor? Integration risks.

Following is a straightforward list of integration risks that will help you to quickly assess whether a project manager has included or planned for general integration risks. Identifying and managing those risks will help you determine whether you have a realistic plan, a blindly optimistic one, or something in between. In addition, that process sets the stage for how to prepare or manage integration risks during project execution.

First, however, here is a little background on what integration and integration risks are.

All projects require quality components that are properly integrated, and certainly there are challenges with accomplishing that. But integration challenges are significantly greater. Integration has latent challenges that can sneak up and greatly contribute to the project overrun or design compromises late in the project.

The good news is that even those challenges can be managed well. There are a number of high-profile examples of how great design underpinned by great integration is commanding higher price points in the marketplace. Marquee examples include Apple's iPhone and Tesla's Model S. And there are many more.

One great example of how great integration can manifest as efficiency is Amazon's ability to add 500,000 employees in 2020 to meet the market demand driven by the CoVid-19 pandemic. This was a 62.6% increase to existing employment. Put another way, Amazon added almost 200,000 more employees than the total Microsoft and Apple combined employ. That's an astonishing accomplishment.

Now let's set the table.

What is integration? At a high level, it's the end result of a process for designing and building products that work well because their components work well together. At the project level, that process is a way of understanding early on how each component of the intended product will interact with all other components, and applying that understanding in a way that eliminates, or at least mitigates, any negative interactions.

Done well, integration-focused design and development result in a product whose parts work together as a unit—a thing of beauty. Done poorly or not at all, and the end result can be a Rube Goldberg nightmare.

Doing integration-focused work has never been easy. It requires a project team that recognizes whether and how the components of a product affect each other.

But success just keeps getting even harder to achieve because products and services keep getting more complicated. That creates a spiral. More parts mean more complexity, which generally leads to more teams with more people on the teams. Ultimately, that increased level of complexity can lead to increased integration failures, which manifest as unplanned—and expensive—rework.

Traditionally, the focus on avoiding rework has been on improving the management of requirements and skills. That isn't wasted effort, by any means. Such improvement is a good thing. But making those improvements doesn't solve the real problem causing project overruns and rework—the failure to properly address integration.

Like requirements, integration is—or should be—a distinct phase of a project that merits the same focus and rigor. For many projects, a significant portion of risk lies in the ability of the team to properly design and execute the integration phase. The variables are how much risk there is and how much impact that risk will have on cost, schedule, and effort, to name a few examples.
Through our work at Clew Group, we have determined that integration risks can be evaluated in the following areas:

- Design maturity
- Number of components in a design
- Domain knowledge
- Realistic schedule and/or cost
- Culture risk
- Development methodology
- Organizational maturity and capability
- Production and/or operational capabilities

Evaluation across these areas leads to more realistic discussion with project leaders and contingency planning to address integration failures/issues.

To learn more about each of these areas visit clewgroup.com or contact us at lee@clewgroup.com