PROJECT MANAGEMENT FRAMEWORKS AS A RISK MANAGEMENT TOOL

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Project management frameworks are usually thought of as a structure for managing complex projects. Risk management is typically considered to be a part of the overall project management approach, an exercise in which risks are identified, mitigation tactics are applied, and contingency plans are developed. It is more accurate to view a project management framework as *the* risk management tool — a tool that, when applied from the outset, can eliminate many common sources of risk, greatly reduce others, and convert software development from a "roll of the dice" to a well-considered financial investment.

Projects rarely fail for purely technical reasons. More often, projects fail due to a lack of understanding of customer needs and poor leadership at both the project and executive levels. The primary purpose of a project management framework is to communicate what needs to be done, explain the tactics used to achieve project goals, and actively manage project risks. Developing a clear understanding of a project's underlying business objectives, scope, and resource needs and availability before a project begins will greatly increase the likelihood of success.

Project failures can often be tied to one or more of the following:

Irrational expectations concerning time allotted for the project, project funding, project staffing, or the sheer magnitude of what is to be accomplished.

Poorly articulated assumptions from the customers, project team members, or the executive staff.

Inadequate (or no) risk management used to identify and mitigate the impact of "bad things happening" over the course of the project.

Reliance on products or components developed by other teams within the organization or vendors.

Fragmented project staff that are required to support multiple efforts within the same delivery time frame.

Team members who have not been trained in the tools necessary to complete their work.

Team members who do not understand how the end user will ultimately use the product being developed.

Inadequate decision-making structures if the team hits an impasse with circumstances beyond their control or influence.

Will a project management framework guarantee a solution to these problems? Absolutely not. Can they provide a context for problem discussion and resolution? Absolutely. Let's be clear on this point: a project management framework is a tool that can help the project manager and team expose their thinking and improve communication with their customers. It defines the structure within which the project is developed, and substance begins to replace concept. Like any tool, a project management framework must be used appropriately to be effective.

With respect to using a framework, most organizations fall somewhere along the bureaucracy-adhocracy spectrum. In organizations where bureaucracy is excessive, a framework is interpreted as paperwork and overhead with no apparent benefit. At their worst, the use of frameworks in a bureaucratic environment can lead to malicious compliance: "I did every step listed in our procedures, so it's not my fault requirements has taken three years." Organizations that employ an ad hoc approach allow each contributor to apply their own structure (or lack thereof), which may or may not mesh with those of their team members. Neither extreme can be considered an appropriate application of a project management framework; the former is lip service, the latter is anarchy.

A major benefit from any type of framework is improved collaboration and decision-making. Improved collaboration can take the form of improved communication within the project team, as well as with stakeholders, from project conceptualization through completion. Although the framework selected should fit the needs of the business and the system being developed, the benefits of improved project definition, expectation management, communication, collaboration, and decision-making occur regardless. Reasonable use of a framework can significantly reduce overall project risks and lead to a better chance of success.

Realistically, only the events within the first two to three months of a project can be foreseen with any reasonable accuracy. A project management framework must reflect his reality and be a cyclical approach to planning and managing that allows for immediate correction as necessary —an iterative risk management approach. Let's look at a basic project management framework that consists of four phases — initiate, plan, manage, and close — and see how risk can be reduced and managed at each phase.

Initiate the Project

Project initiation constitutes the start-up phase of the project. This is where we define what

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we're trying to accomplish and why it's of interest to our business or clients. Most project failures have their root cause in poor or mismanaged expectations of project stakeholders because the project business context was not defined, communicated, and understood by all stakeholders and team members. In addition, a well-executed initiation phase helps prevent squandering precious project time in the "fuzzy front end" all too common with software efforts. The initiation phase allows the team and stakeholders to understand:

> Who are our primary customers (whose requirements must we meet)? What are their business needs and how will this product benefit them?

> Has our team developed a similar product? Is this a subsequent version of an existing product that we have experience with, or is it a totally new product? Is there anything in the organization that we can leverage (reuse) on this project instead of starting from scratch?

> When do we need to deliver? What are the financial and business consequences if the date is not met?

> Who is our competition? If we weren't providing this product or service to our customers, who else could provide it? What is their "value add," and what is ours?

> What do we expect to achieve? Will revenues be increased, costs reduced or avoided, and/or customer service (usually having to do with timeliness and quality issues) be improved as a result of this project? Is this an interim project that will lead us to our strategic goals?

> Where does the project fit in the "big picture"? How strategically important is this project to our company?

> What dependencies do we have? Are other projects underway in our organization that will provide products to this effort? Are other projects dependent on our results to allow their completion?

> What are the business, market, and technical risks we face? What risks does the business face if the project is not done?

These questions, when left unanswered, are where the team begins to make what turn into "killer" assumptions. You know them: killer assumptions are the ones that turn out to be wrong and result in time and money wasted due to rework. Regardless of the schedule pressure, the team and all stakeholders need clear answers to these fundamental questions. They also need to understand the answers. The organization should not abandon the business results to the discretion and understanding of the team. The abdication of responsibility for defining business needs to the team is, in essence, mismanagement at the executive level.

Plan the Project

Project managers tend to focus on developing schedules, often to a level of detail that cannot be supported by the accuracy of task estimates. When this happens, the project misses the value of the planning phase. The real benefit from the planning effort is the collective understanding by the team of what is involved to successfully complete the project. A by-product of planning is the documents (schedules, resource, risk management, quality assurance, configuration management plans, etc.) that expose the team's thinking to the stakeholders.

Teams with shorter delivery cycles claim that they don't have time for planning; they must start getting "real work" completed. The paradox of planning is that projects with shorter time frames often need more planning, not less. A project with a one-month timeframe has no recovery time if things go awry; therefore, the team needs to thoroughly assess what needs to be done. This is true whether or not that thinking is translated into traditional planning documents.

To define what will be done over the course of a project, some level of requirements must be completed. Complete in this context means complete enough for the team to begin defining and estimating the work necessary to meet requirements and for stakeholder buy-in. With a nebulous project definition, everyone can see what they want to see at the onset, but as the project progresses, it becomes painfully clear that what is being developed may not meet the needs of some stakeholders. Planning ensures that the team understands what needs to be done to successfully complete the project and the timeframes required for completion. One of the major fallacies of a project management framework is that, once developed, a plan must be followed regardless of what happens. Nature teaches us that adaptation is the key to survival. Rigid systems do not survive. Think of the plan as a road map for successful project completion. It doesn't necessarily mean you'll stick to the road selected, but if you detour, you can then consciously decide to get back on original route or follow a different path.

The time and attention spent during the planning phase will directly impact how smoothly the team can implement their plans once work begins on the project. If requirements and planning are shortchanged or abandoned altogether, there is no magic way to make things better (i.e., to fix incorrect or missing work and/or deal with dependencies over which the team has no control) once work begins, other than calling a time-out to regroup and do the work that should have been done prior to starting work on the project.

The planning phase answers the questions:

> What work must be done to complete the project?

> What is the order that we see the product progressing and being "built up" throughout the project?

> Who is responsible for the work?

How long will it take to complete the project?

Is this project possible, given the resources, schedule, and scope requirements?

Where is the project most at risk, and what can be done to mitigate the risk?

During the first pass of planning (planning is iterative throughout the project), the team develops a recommended approach to successfully complete the project. No matter how aggressive the schedule seems, it be must seen as achievable by the team. If the team sees the schedule as a fantasy, they will behave in kind — why knock ourselves out to meet an unattainable schedule? The goals of the planning phase are to achieve realism, schedule predictability, flexibility, and communication:

Realism — a project scope consistent with resources, capabilities, and time allocation

Schedule — reasonable time allocations for tasks and proper sequencing of work

Flexibility — recognition of key risks and contingency plans for managing risks that materialize

*Communication — defined pathways and clear decision-making authority and accountability

Manage the Project

The team is working on the project during the managing phase (implementing the project plans). The intent of managing is to assess progress and track project results back to requirements. In addition, problems are addressed before they become crises, and credible estimates are provided to improve the schedule and quality predictability.

During the managing phase, the team must be prepared to recognize, acknowledge, and deal with problems. Problems will happen; count on it. This important function cannot be relegated to just one person. In most organizations, this function is typically assigned to the project manager. However, regardless to whom the function is assigned, problem identification and resolution is a team responsibility. It's important that the team feels comfortable in discussing problems with the project manager without a potential resolution in hand. Usually, the project manager has experience and better access to additional resources to assist in problem resolution than individual team members may have at their disposal. Individual team members have detailed knowledge of their assignments and are usually selected for their expertise in a particular area. Collectively, team members possess a body of knowledge the project manager cannot be expected to have in all instances. Just as communication with stakeholders is important, so is communication within a team. How a project manager responds to problem information will tell whether or not s/he will continue to get timely problem information (before a crisis occurs). This is not the time to "kill the

messenger." That kind of behavior only serves to ensure that you won't get timely problem information next time. It is a recipe for serial crises.

A project manager and his/her team must have workable communication with their customers to deal with inevitable problems. The time to establish communication with customers is at the beginning of the project, not when problems occur. If customers are informed, they are more likely to be collaborative in resolving problems and less likely to blame the team for the occurrence of problems.

Effective communication during the manage phase of a project is one of the most important factors in reducing project risks. Early identification and communication of problems with a clearly defined decision structure will keep small problems small and prevent their exponential growth to "project killers."

Close the Project

Delivery of a project's products to customers is *not* the end of the project. To effectively close a project, several activities should occur:

> Contract closure — final contract sign-off and payment to suppliers
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> Product turnover — provide customer support with bug lists; train customer services, field support, the customer in the new product
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> Project retrospective — assess actual project costs, schedules, risks, deliverables, and management

One of most important, and often overlooked, areas of project closure is the project retrospective. Think of the retrospective as the continuous improvement piece of the framework. What better way to make improvements than to stop and assess what we've accomplished and what it took to get there? Mistakes will be repeated unless there is a conscious effort to learn from earlier work. As George Santayana said, "Those who do not learn from history are doomed to repeat it."

It's Not a Process Question

A project management framework is not just another tool to establish expectations and improve communication. It is the umbrella structure for managing risk. It provides the context for defining project requirements and managing the project as circumstances change. However, the framework's application should not be so cumbersome that the intent of the framework to facilitate progress is lost. It's not a tradeoff of process for progress.

Schedule pressure is no reason to abandon a framework in the hope that the project can be completed sooner. If anything, when schedule pressures increase, there is more likelihood of missed deadlines, burnout, increased risk, and need for project management structure. An anonymous phrase that's been used on projects over the years comes to mind: "No amount of process can replace skill and experience, but it sure as hell helps."