

FEATURED PAPER

Managing Programs to Success: Key Program Management Processes

(Part 5 of a Series)

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Parts 1 - 4 in the series are available at:

http://www.pmworldtoday.net/featured_papers/2007/may.htm#1

Introduction

A frequent comment we receive from company representatives is that they believe their firm does an excellent job of planning, but once programs and projects are approved and in execution, results do not materialize as planned. This is characteristic of a major breakdown between planning and execution and is one of the key strengths of the program management model, that of successfully linking planning with the execution of programs and projects in order to achieve the intended business results.

Once a firm transitions to the program management model for developing its products, services or infrastructure capabilities, attention and resources should be focused on the development and implementation of key processes to make program management practices more consistent and repeatable. Fundamentally, there is not a lot of difference between the process steps used to manage a program from those used to manage a project. The difference comes in *how* they are applied.

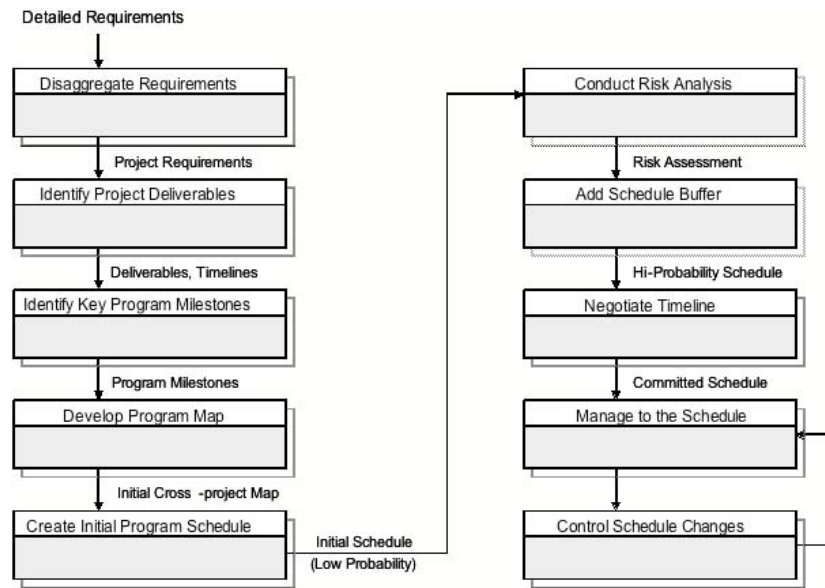
In this paper we provide a summary-level explanation of four primary processes needed to effectively manage and execute a program to success – schedule management, financial management, risk management, and change management. Other processes such as life cycle, stakeholder and business management are covered in detail in our book titled [Program Management for Improved Business Results](#).

Schedule Management

The program schedule is the heart of the program plan and of the program itself. It becomes the foundation on which resource estimation and allocation is based, detailed budgetary information is developed, execution of work elements is monitored, and timeline success is measured.

Program schedule management differs from project schedule management in one key aspect, detailed schedule management is the focus at the project level, and summary or integrated schedule management is the focus at the program level. This requires a modular approach where the schedule is disaggregated and partitioned according to the projects. Schedule details for each module are worked out by the project managers and project teams, and then integrated by the program manager to gain the full perspective of the program¹. This approach helps to prevent the program manager from being bogged down in scheduling details and is an excellent example of so-called hierarchical scheduling.

The major steps involved in developing and managing the program schedule are shown in the process flow diagram in Figure 1. This process is generic in nature and is based upon specific processes of several companies we have worked with that we consider exceptional in process definition and development.



Source: Program Management for Improved Business Results

Figure 1: Schedule Management Process Flow

The first step in the schedule management process is to review the detailed requirements, and partition them by project team. The project specific requirements can then be used to develop the project work breakdown structures (WBS). With the project WBS's generated from the detailed requirements, each project team can now identify each deliverable it is accountable for. Once the deliverables are identified, the project teams can then determine the work required to generate the deliverables based upon an assumed set of resources. At the same time, the program manager can identify each of the primary program milestones. At a minimum, these include the major decision checkpoints for the program, and should also include other significant milestones such as system power-on, release dates, validation start and end dates.

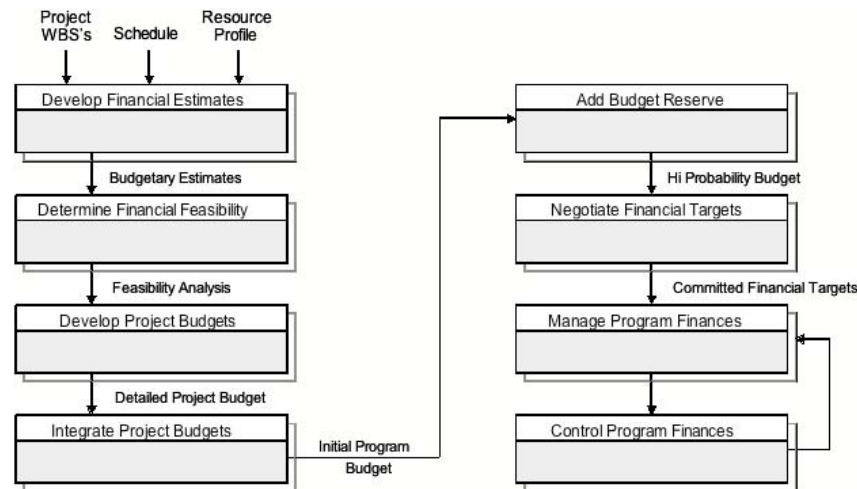
The program map shows the critical deliverables for each project team throughout the program life cycle. This is the first step in creating an integrated program schedule. Additionally, and more importantly for the program manager, the program map shows the cross-project interdependencies that exist on the program. Once the program map is created, it can be used to generate the initial program timeline. The mapping process results in an estimated timeline based upon the detailed requirements. It is critical to realize that the schedule generated in this step is very aggressive, and carries a low probability of success. We have worked with many program and project teams that have committed to the schedule created from the program map, and nearly all of the teams failed to hit their committed delivery or launch date. Because programs operate in a less than perfect world, a comprehensive program risk analysis needs to be performed. This exercise, commonly performed in a workshop format, will flush out many of the potential roadblocks to success that the program will encounter. Impact assessments should be stated in terms of impact to the program schedule.

Based upon the risk analysis generated in the previous step, the program manager can estimate the amount of buffer he or she needs to include in order to increase the probability of schedule success. The job of the program manager is to determine the amount of schedule risk he or she is willing to assume, calculate the amount of schedule buffer needed, then add the schedule buffer to the master program schedule. The program manager now has a high probability schedule that he or she can put in front of senior management for negotiation and approval. Odds are, however, that this high probability schedule does not align to the timeline desired by senior management. The program manager may now have to negotiate the amount of schedule buffer that can be included in the program schedule. However, the program manager has two significant weapons in his or her

negotiation toolbox – a comprehensive risk analysis showing schedule risks of the program, and a buffer estimate based upon the risk data. The program manager can now negotiate from a position of power using *real data* which forces the negotiation to be based on the data surrounding the program, not on emotions. The program team now has a schedule with which to manage the remainder of the program.

Financial Management

Program management is a business function, so the program manager needs to be well versed and capable of managing the financial aspects of the program. This involves setting and achieving the financial targets, cost estimation and control, financial feasibility analysis, cash flow management, and budgetary management. The major elements involved in managing the financial aspects of a program are shown in the process flow diagram in Figure 2. This is a generic process flow that can be tailored as needed to fit the needs of any organization.



Source: Program Management for Improved Business Results

Figure 2: Financial Management Process Flow

The first step in the financial management process is to develop budgetary financial estimates in support of the organization’s planning activities. This may include program budget estimates for use in the program business case, return on investment estimates, financial breakeven estimates, and estimated average selling prices and/or product, service or infrastructure cost. This activity requires a strong partnership with a financial representative for the program who is an integral part of the firm’s finance and accounting organization. As part of the program business case, the feasibility assessment tests the viability of the program by evaluating the financial estimates developed in the previous step to determine if the program is a viable investment option for the business.

Once the financial feasibility of a program is determined and approved, the next step is to engage in detailed cost estimation. Like schedule management, the detailed cost estimation activities occur at the project level, and are ‘rolled up’ and managed at a summary level by the program manager. With the detailed project budgets complete, the program manager can integrate the project budgets into a program budget that represents the total investment in the program. Any costs outside of the project budgets, like the cost of the program manager’s salary, are added to the program budget in this step. The program budget should include all variable costs, fixed costs and overhead charges that the program will incur.

Using the risk assessment data generated during the scheduling process, the program manager can estimate the amount of budget buffer he or she needs to increase the probability of program financial success. The program manager then negotiates the financial elements of the program with a senior manager or the customer. Financial

targets such as the return on investment, profit margin, manufacturing costs, and time to break even can all become negotiable items as long as they still comply with the business objectives of a program. In addition, the program budget itself, especially the budget buffer, is commonly negotiated.

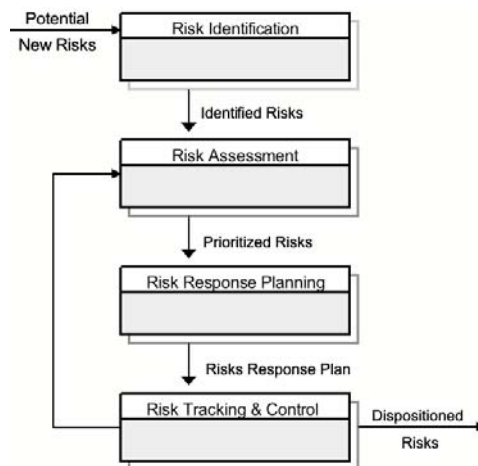
The program team now has the financial information needed to manage the remainder of the program. Managing program finances involves tracking actual progress against budget, and comparing it to planned progress. This should be performed in a two-tiered approach with the project managers managing the financial details within their projects, and the program manager managing the finances at the summary level. When a variance between planned versus actual financial performance is detected, or when issues and changes are encountered, the variance must be effectively controlled in order to ensure the financial viability of the program. Specific control techniques employed will depend upon the type of financial variance encountered.

Program Risk Management

Developing new products, services or infrastructure is risky business by nature, especially if a company wants to achieve or maintain competitive leadership. Technology risk alone is a constant, and risk-taking can provide a means to gaining competitive advantage. However, risk-taking does not mean taking chances. It involves understanding the risk/reward ratio, then managing the risks, or uncertainties, that are involved in each development effort. Failure to do so can lead to substantial loss for the enterprise, including the possibility that the program will fail to achieve the business results intended².

Risk management on a program is a hierarchical process where risk events are managed at both the project and program levels. Each project team within a program will have its own set of project-specific risks it's charged with managing. Any project risk that may have cross-project impact, or may impact the success of the business objectives of the program, is evaluated and managed by the program manager and his or her program core team.

The major components of the risk management process are depicted in the generic process flow diagram in Figure 3.



Source: Program Management for Improved Business Results

Figure 3: Risk Management Process Flow

The first step in the risk management process is to identify all of the events that could possibly affect the success of the program. Risk identification is an iterative process that occurs throughout the program life cycle. Some program teams first begin by identifying the categories of risk, such as technology risk, market risk, business risk,

and human risk, and then use brainstorming and other problem identifying techniques to identify all potential risk events within each category.

The key element of this step is to attempt to identify *all* potential risks. Do not make judgment at this step on whether a risk is of real concern or not, this is the next step in the process. When risk identification is done well, it can be overwhelming, especially early in a program when the number of uncertainties is at the highest. Remember that the goal of risk identification is to flush out as many potential risks as possible in order to get them on the table for discussion³.

Not all risk events require action. The risk assessment step is needed to sift through all of the risk events identified in the previous step to identify those that pose the most serious threat to the success of the program. The result is a prioritized 'short list' of project and program risks that the team can then manage.

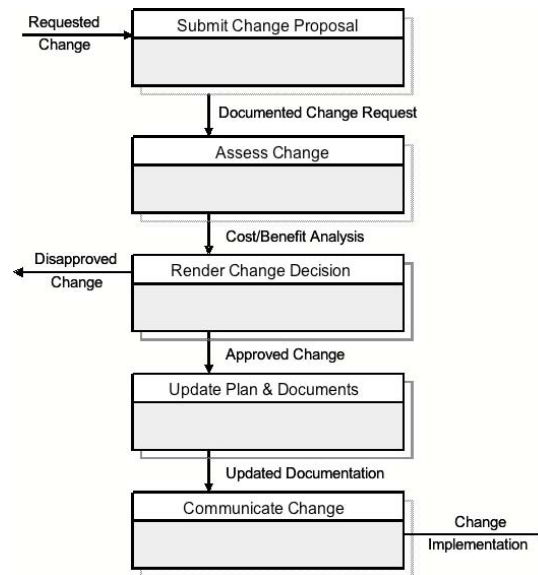
At this point in the process, the program core team has a relatively short list of program level risks identified, assessed and prioritized. The next step in the process is to decide which risk events need action plans to either eliminate the possibility of their occurrence, or mitigate the impact they will have on the program if they indeed do come to fruition. As in standard project management risk management techniques, the most common risk response options available to a program core team are risk acceptance, avoidance, mitigation and transference.

The last step in the risk management process involves monitoring the trigger events associated with the program risks, identifying new risks, and executing risk response plans or contingency plans when risk events occur. The program manager and the program core team need to track and control the program risks with the same diligence that they track and control the program schedule and finances. They also need to keep an open mind that new risk events will come to light throughout the duration of the program life cycle that will need to be assessed and potentially responded to.

Program Change Management

Change management is a critical process necessary to control the scope of a program. Historically, uncontrolled scope creep has been a primary cause of a program team's failure to meet its intended goals and success criteria, in particular, schedule and budget targets⁴. Change can come from all directions; customers, sponsors and other key stakeholders, program team members, and errors introduced in the definition and planning phases to name a few. Unfortunately, coping with managing the changes introduced to a program presents a difficult challenge for most program managers. The good news is that establishing a change management process can be relatively easy.

The major components of a generic change management process are depicted in the process flow diagram in Figure 4 on the following page.



Source: Program Management for Improved Business Results

Figure 4: Change Management Process Flow

The first step in the change management process is for the person requesting the change to submit a written change request proposal. The change request proposal should include a detailed description of the change requested, a justification for the change, and the benefits to the program for implementation of the change. The justification and benefits are critical information that the program manager should require for any change request. The program manager (or in larger programs, a change control board) will review the change request proposal, and then make a decision to forward the proposal to the program team for cost and implementation options estimation, or to deny the requested change. This first decision point is critical. Change request assessment takes resource time away from members of the program team that ordinarily would be spent developing their deliverables. By filtering poorly justified or non-value add changes, wasted effort on the part of program resources can be prevented.

In order for the change to be implemented by the entire program team, it has to be included in the program documentation driving the product, service or infrastructure design and development. The impact of the change also has to be fully comprehended in an update to the program plan and respective project plans. This includes new deliverables and tasks, changes to the schedule, and changes to the program budget.

The last step in the change management process is to broadly communicate the change and the impact of the change to all affected and interested program stakeholders. Communication should include the change description, impact to the program, and the benefit of implementing the change.

Managing change on a program can be more of a challenge than managing change on a project due to behavioral aspects. The program manager must set the expectations that all changes occurring within each of the projects needs to be evaluated at the program level by the other project managers. Since the projects within a program are so interdependent, a simple change on one project can have significant impact on a sister project. Program change management is about understanding impact of change on each project within a program.

Conclusion

While the mechanics involved in utilizing the primary processes of a program are similar to those of project management, the difference comes in the practices involved at the program level. Program processes must encompass and integrate the project-level processes in order to synthesize the process outputs to understand the cross-project and business aspects of the program.

In the next paper in this series entitled, “Managing Programs to Success: Key Program Management Metrics”, we will discuss the key foundational metrics and measures needed to consistently and effectively manage programs toward their intended business results.

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