



Project Services Pty Ltd

5-STEPS

(5 Steps To Ensure Project Success)

By

Patrick Weaver PMP, FAICD.

Brian Doyle MAIPM.

Originally Presented 1995, Updated and Revised

For more scheduling papers see:

www.mosaicprojects.com.au/Resources_Papers.html#Scheduling

Mosaic's Planning home page see:

www.mosaicprojects.com.au/Planning.html

Mosaic Project Services Pty Ltd

13 Martin Street

South Melbourne VIC 3205

Tel: (03) 9696 8684 Fax: (03) 9686 1404

Email: patw@mosaicprojects.com.au

www: www.mosaicprojects.com.au

ABSTRACT

5-STEPS:

The '5 Steps To Ensure Project Success' methodology is a proven process designed to focus the thinking of the key Stakeholders onto the parameters required to achieve a successful project outcome. The process is designed as a logical sequence of activities (and importantly, agreements) but recognises iterative passes through some of the key steps may be required to achieve agreement.

The five sequential steps are:

- Organise the Project (Scope and Stakeholders)
- Plan the Work Flow
- Set Reasonable Objectives
- Gain Commitment
- Manage for Success

The 5-STEPS methodology requires each step to be completed, validated and "signed off" before moving onto the next.

5-STEPS is supportive of, and recognises the overall structure of the PMBOK, but focuses on activities in the key Planning and Controlling 'process groups' to develop a realistic schedule and then managing it through to a successful conclusion.

INTRODUCTION

5-STEPS is a structured methodology designed to assist individual project teams deliver their project on time and on budget. The focus is on developing a realistic schedule for each project and then managing it through to a successful conclusion. The five sequential steps are:

- Organise the Project (Scope and Stakeholders)
- Plan the Work Flow
- Set Reasonable Objectives
- Gain Commitment
- Manage for Success

The 5-STEPS methodology requires each step to be completed, validated and “signed off” before moving onto the next. Details of processes involved in each step are discussed later in this paper, however, before moving on to look at the stages in detail, it is important to understand the reasons for introducing process such as 5-STEPS into a corporation.

Within most organisations, each project will typically be competing for a share of the limited resources available within the corporation and operating in a matrix management environment. In this complex environment 5-STEPS provides an effective methodology for allocating resources and minimising wasted effort. It will enhance the success rate of projects chosen to proceed as well as offering major benefits to project sponsors and project teams.

5-STEPS is particularly effective when used in organisation that has effective Project Office systems supporting the delivery of its projects. Some of the key factors derived from an effective Project Office include: -

- Standard project (or sub-project) templates.
- Standard training and a standard approach to project management.
- Balancing resource allocations between multiple simultaneous projects.
- Project Libraries to capture and build corporate expertise.
- Layered, targeted reporting with standard layouts and formats.
- Project executive information systems

5-STEPS is supportive of, and recognises the overall structure of Project Management as defined in ‘A Guide to the Project Management Body of Knowledge’ (© PMI USA 2000 edition), but focuses on activities in the key Planning and Controlling ‘process groups’. As with the PMBOK the 5-STEPS can be applied equally effectively to an overall project or to any phase or section of a large project.

PROJECT DARWINISM

Before moving on to look at the 5-STEPS in detail, it is important to understand the reasons for introducing process such as 5-STEPS into a corporation. Since 1985, Mosaic’s management have been empowering clients to consistently deliver projects on time and on budget. This success is not accidental, rather the result of implementing a series of repeatable processes to ensure predictable results. On an industry wide basis, there are many “project management” successes reported. Unfortunately, most serious studies (eg the Standish Report) indicate there are significantly more

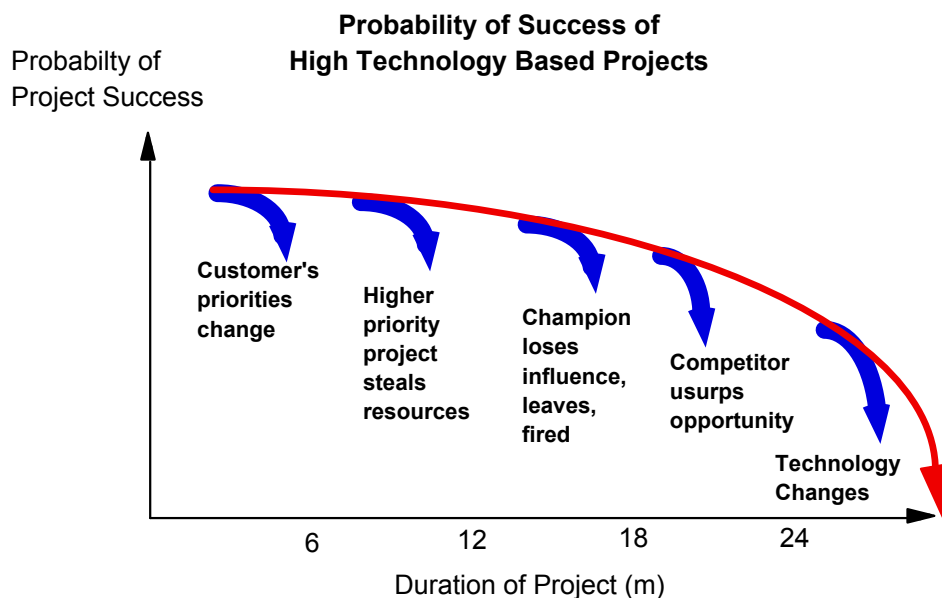
5-STEPS: Five Steps To Enhance Project Success

failures than successes. High Tech. Industries (software, electronics, telecommunications, etc.) experience project failure rates as high as 90% (ie projects completed late and/or over budget).

Key reasons for these failure identified by both the independent studies in the USA and Mosaic's own research include:

- Project team members lack of 'project management' expertise and formal training.
- The use of inappropriate or inadequate management tools.
- Project Managers having the responsibility for achieving deadlines and budgets but lacking the authority to control the resources required to undertake the work.
- Insufficient resources with the requisite skills.
- No structured methodology for reconciling commitments to utilise resources.

Organisations without a process for effectively managing the demands of competing projects find some form of 'Project Darwinism' fills the methodology void. In these companies, politics and short-term requirements dictate priorities on an ever changing, day-to-day basis. Deadlines are set based on "requirements" (ie no one expects the deadline to be achieved) and the "Project of the Week" syndrome keeps resources shuffling from project to project. In these circumstances it is not uncommon for a corporation to find that up to 50% of its resources are deployed on marginal projects that will never be completed (a total waste of effort and finance).



By way of contrast, effective project management techniques enable organisations to consistently get projects done on time and on budget. Achieving the 'deadline' is an important factor in the thinking of all of the project participants. Other benefits of a defined project management system include:

- Sustainable cuts to product development time.
- The optimisation of resource allocation to increase productivity and cut costs.
- Improved quality from documenting processes, measuring results and learning from collective experiences.
- Empowered cross-functional teams incorporating Concurrent Engineering principals.

5-STEPS: Five Steps To Enhance Project Success

- Improved customer service with reduced risks and better contract deliveries.

In this context, “Project Management” is the combination of an effective methodology for collaborative decision making and supporting ‘project management’ software designed to facilitate the modelling of complex processes dynamics, optimise resource allocations and minimise costs. The end result of applying effective project management being an overall improvement in project quality and delivery.

Eliminating ‘Project Darwinism’ has major corporate benefits, however, there is a potential personal cost for many individuals. The visibility of current resource commitments will cause many projects to be cancelled before they start due to the lack of adequate resources to undertake the work. Whilst this process will eliminate significant wastage costs benefiting the company, the ‘sponsors’ and ‘champions’ of the cancelled projects will see the process in a negative light and will require careful HR management.

THE FIVE STEPS IN DETAIL

Mosaic’s methodology consists of a 5 step process. Each step is executed sequentially and must be validated (signed-off) by all of the project participants before moving on to the next step. The five steps (with key sub-stages) are:

Step 1 – Organise the Project

- 1.1 Define the project’s goals and objectives. Factors to consider include scope, quality, definition of “Complete” and ongoing maintenance.
- 1.2 Identify the project stake holders (participants). A project participant is defined as anyone who can significantly impact the outcome of the project. Project participants include: Management, Customer, Subcontractors, knowledge workers and resource providers.
- 1.3 Determine the information requirements of each participant. Options include detail and/or summary reports using time, resource and cost data. Report content and detail should be focused to meet the requirements of the recipient.
- 1.4 Decide global levels of detail, calendar settings, time units, etc. Setting appropriate levels of detail allows the process to be realistically modelled without getting bogged down in too much detail (additional detail can always be added later if required).

Project Duration	Min. Task Duration	Update Cycle
1 Year +	1 Week	Monthly
6 Months	2 Days	Bi-weekly
1 Month	1 Day	Weekly
1 Week	Hours	Daily

- 1.5 Develop the project reporting structure to meet the requirements of each participant The report format, contents, timeframe and level of detail should be chosen to meet the requirements of the recipient.
- 1.6 Decide the appropriate level of detail for display at each reporting level. Summaries can be created via Milestones, Hammocks and the Work Breakdown Structure.

5-STEPS: Five Steps To Enhance Project Success

- 1.7 Set up appropriate coding structures to make extracting targeted information from the project data for use in reports simple. Facilities available in most software packages include the resources, Work Breakdown Structure (WBS), Subprojects, Milestones, various code fields and Structured Task Numbers.

Step 2 – Plan the Work Flow

- 2.1 Identify all of the operations that have to be completed to finish the project. This can be achieved by using a WBS or ‘Outliner’, or simply by brainstorming a list onto a white board.
- 2.2 Build the logic network. When complete, the logic network should include all of the operations required to complete the project, connected together into a logical sequence. On larger projects, the network may be divided up into appropriate subprojects (as determined in stage 1). The network logic should contain all of the information needed to sequence operations accurately without any excess logic. The objective is to build a dynamic model that will allow the effects of future changes to cascade through the network clearly showing the effect of the change.
- 2.3 Estimate operation durations. This stage requires the project participants to agree on the “reasonable” durations for the completion of each operation based on previous experience, corporate culture, etc. This estimating process may be integrated with the task identification phase if appropriate.
- 2.4 Run a Time Analysis to calculate the optimum project duration assuming unlimited resources are available to work on the project. This best case scenario will almost certainly be delayed when resource limitations are considered later in ‘Step 3’.
- 2.5 If the time analysis results do not achieve the target completion date, the model will need to be edited and adjusted to resolve the problems. “What-if” scenarios can be tested against the model until an acceptable solution is achieved. In some circumstances, the target completion date may be impossible to achieve and management concessions will be required to allow the project to proceed.
- 2.6 Code all operations. An effective coding structure is essential to allow targeted reports to be selected later in the five steps.
- 2.7 Validate for completeness. All participants need to agree the final plan incorporates all of the work required to complete the project (as it is understood to be at this stage of development) in the correct sequence.
- 2.8 Validate against corporate objectives. Senior management should agree the plan as developed thus far, meets overall corporate objectives and is a suitable basis for resource scheduling.
- 2.9 Baseline the validated schedule. The agreed Time Analysis schedule should be stored in an appropriate “archive” for reference during the next phase of development.

Step 3 – Set Reasonable Objectives

- 3.1 All of the resources required to complete the project should be identified and set up in readiness for allocation to operations. Resources can be teams of people (eg 5 Electricians), individuals (Mary Smith), machinery, money, etc. Specific resource calendars may be required to limit the times resources are available to work on this particular project.
- 3.2 Next, allocate resources to operations. The required number and type of resource should be calculated for each operation. Resources to be allocated as a ‘rate per day’ or ‘total quantity’ (depending on the scheduling software). Where possible and/or appropriate, the level of effort

5-STEPS: Five Steps To Enhance Project Success

for each resource may also be varied over the operations duration (eg the QA resource may only be required on the last day of an operation).

- 3.3 Where required, the duration of individual operations may need to be adjusted to match the anticipated resource level of effort. Almost all durations are the result of an anticipated level of resource effort and the volume of work encompassed by the operation, however, this relationship is very rarely a straight line.
- 3.4 Run resource analysis – Deadline Critical. ‘Deadline Critical’ resource analysis will smooth the resource requirements as far as possible without delaying the project completion date previously agreed in step 2. The resultant overloads (if any) shown on the resource Histograms indicate where additional resources are required.
- 3.5 Adjusting the resource availability profiles and re-analysing the network will identify the optimum level (and times) each resource is required by the project to achieve the target completion.
- 3.6 If the calculated level of resources exceed the current “offer” from the managers who control the resource, the project team should negotiate for the required level of availability. Following agreement (even if this is below the optimum level) the resource availability levels in the schedule should be adjusted to match the final committed resource allocations to project.
- 3.7 The mode of resource analysis should now be switched to “Resource Critical”. This analysis will calculate the earliest completion date for the project based on the final agreed resource levels. If the result is not acceptable, the network model will need to be reviewed to optimise the results.
- 3.8 Problem solving and negotiation continue until an agreed compromise is achieved. The key questions to be answered are:
 - Are there sufficient resources to complete on target?
 - If not, is the delayed completion date acceptable?
 - Is the current cost plan acceptable?If not, brain storm the options for improving the schedule through; process modification, resource substitution, resource alteration, scope adjustment, etc. Present the best solutions to the project participants and facilitate a resolution.
- 3.9 Finally, before moving to the commitment phase it is recommended that the changes made to the network to balance time, costs, scope, quality and resource availability are reconciled with the original scope and objectives and any changes noted for future reference.

Step 4 – Gain Commitment

- 4.1 The assumptions contained in the final resource plan should be tested by producing “sign off” reports with varying levels of detail (as agreed) for :
 - Senior Management.
 - Resource Managers / owners.
 - Project Manager.
 - Project Participants.

5-STEPS: Five Steps To Enhance Project Success

- 4.2 If necessary, revisit earlier stages until all participants “Sign-off” on the plan. If agreement cannot be reached on the first pass, it may be necessary for the project team to revisit Steps 2 and 3 until all of the participants agree to commit to achieving the plan.
- 4.3 Finally, the agreed baseline plan should be archived for future reference and reporting purposes. This is the baseline time, cost and resource plan for the remainder of project.

Step 5 – Manage for Success

- 5.1 The first step in the management cycle is to issue short-term control information. Each project worker (or team leader) should receive a targeted short term schedule detailing the work (s)he is responsible for, for the next two reporting periods (to allow for work running quicker than planned and the update cycle).
- 5.2 At the end of each reporting period, actual progress is recorded. The minimum requirement is to know which operations are complete (with the date) and how much time (balance) is needed to complete tasks in progress. This basic data may be augmented with actual cost and resource utilisation data if the required for specific project reports.
- 5.3 The project model is updated with the progress data, the analysis start date is adjusted to the status date and the network re-analysed. All incomplete work should be rescheduled into its logical sequence after the new status date. Minor logic adjustments may be required to optimise the plan prior to reissuing fresh short term control information to the project participants for use until the next reporting period.
- 5.4 Following each update, management information should be printed for early problem diagnosis. Typical reports include trend and variance information to assist in the identification of possible problems as early as possible. Once a problem is identified:
 - Participants use a copy of process model to brainstorm solutions.
 - Options are presented and agreed.
 - Affected people “Sign-off” on the solution.
 - The project plan is updated with the new control information.
 - Short-term control information is reissued, either at the next reporting period or sooner if necessary.
 - The key to this stage is pro-active problem solving before significant delays occur.

CONCLUSION

Projects that fail typically see managers devoting very limited time to the “up front” planning processes. They then spend most of the rest of the project fighting fires. The intellect involved in the project management process is confused with the production of simple bar chart graphics and there is an assumption that the purchase of a \$800 (or \$8000) software package will make the operator into an effective Project Manager. The reality is very different !

Project management is a skilled process that requires effective communication and stakeholder management skills as well as an understanding of the theories and processes supported by appropriate tools. The Australian Institute of Project Management has published a set of competency standards for project managers covering all aspects of the art (or science). Mosaic’s 5-STEPS process are designed

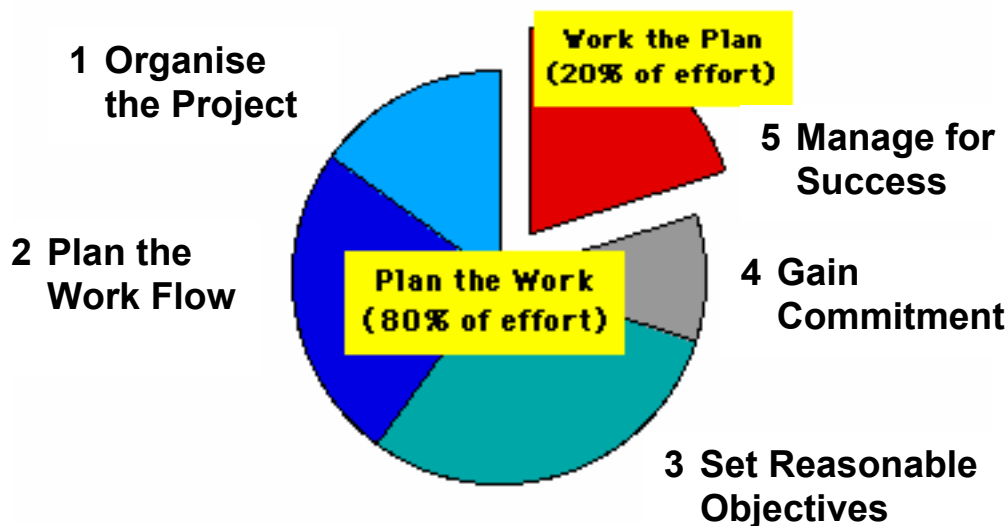
5-STEPS: Five Steps To Enhance Project Success

to provide project managers with a very effective way of achieving many of the time and resource related requirements of the Competency Standards.

The implementation of 5–STEPS requires a significant amount of management effort “up front” to shift from a “fire fighting” mode of operation to one where the implementation phase of a project becomes relatively boring. When unforeseen problems arise, the processes used to develop the original plan provide the project team with a strong foundation for their problem solving efforts. This shift to proactive management, supported by an appropriate tool such as Primavera or Open Plan are the factors that allow Project Managers to expect to succeed in the project delivery process. A significant change from the industry average of a 80% plus failure rate identified in the Standish report and others.

The capacity of a corporation to successfully deliver projects does not grow overnight. Most of our

In successful projects, most of the management attention comes up front proactively planning.



clients progress through a series of stages as their skill levels develop and an appreciation of the potential benefits develops. The most effective implementation of the techniques is when a corporation starts implementing ‘Organisational Project Management’ processes with all of the benefits of a standard approach, retained corporate learning, multi–project resource management and integrated reporting.

Acknowledgment

The Author of this paper, Patrick Weaver, wishes to acknowledge the very significant level of assistance in the preparation of this paper derived from work conducted in the USA by Mr. T. A. Breen.

Contacts & References

Presenters:

Mosaic Project Services Pty Ltd – Patrick Weaver

Tel: (03) 9696 8684

Email: patw@mosaicprojects.com.au

Web: www.mosaicprojects.com.au

Useful References:

Papers on stakeholder management, including –

Stakeholder Circle

Relationship Management

Teams and Team Development

Knowledge Management and Learning Organisations

http://www.mosaicprojects.com.au/Resources_Papers.html#Stakeholder_Papers

Papers on Project / Program / Portfolio Management Office, including -

Project Initiation

Project Controls

Establishing a PMO

[http://www.mosaicprojects.com.au/Resources_Papers.html #Proj_Off](http://www.mosaicprojects.com.au/Resources_Papers.html#Proj_Off)

Papers on 5-STEPS & 'Managing for Success' -

http://www.mosaicprojects.com.au/Resources_Papers.html#EPM
