Advances in Project Management Series[1]

The project framework: *understanding gates and stages*[2]

Robert Buttrick

Projects as vehicles of change

Ignore the reborn discipline of enterprise-wide project management at your peril! .No longer the preserve of the engineering and IT sectors, project management is fast becoming a core competence which many organizations require of their employees and an activity every executive and manager should be familiar with. Projects, in the modern sense, are strategic management tools and this article, based on a chapter from the latest edition of *The Project Workout*, shows how they can be used as vehicles of change.

Most organizations are never short of suggestions for improvement and your own is probably no exception. Ideas can come from anywhere within the organization or even outside it: from competitors, customers, or suppliers. Actually deciding which initiatives the business leaders should spend time and money on is more difficult. Care needs to be taken in choosing which projects to do, as:

- there is probably not enough money, manpower, or management energy to pursue all the ideas;
- undertaking projects which do not align to the organization's strategy will, almost certainly, create internal conflicts between senior managers, confuse the direction of the business and ultimately, reduce the return on the company's investment.

Business leaders should consider for selection only those projects which:

- have a firm root in the organization's strategy;
- meet defined business needs;
- will realize real benefits;
- are derived from gaps identified in business plans;
- and are achievable.

Having created a shortlist of "possible projects", it is important to work on them in the right order, recognizing interdependencies, taking account of scarce skills and resources and bringing the benefits forward whenever possible.

[1]The PMWJ Advances in Project Management series includes articles by authors of program and project management books previously published by Gower in the UK and now by Routledge worldwide. To view project management books published by Routledge publishers, click here. See this month's author profile at the end of this article.

[2] How to cite this paper: Buttrick, R. (2019). The project framework: understanding gates and stages, *PM World Journal*, Vol. VIII, Issue I (January).

Figure 1 shows illustrates how selecting the right projects will help to achieve the business objectives by realizing benefits to support the business strategy. Two key roles are associated with projects:

- the **project sponsor** who wants the benefits the project will provide;
- the **project manager** who manages the project on a day-to-day basis, ensuring its deliverables are presented on time, at the right quality and to budget.

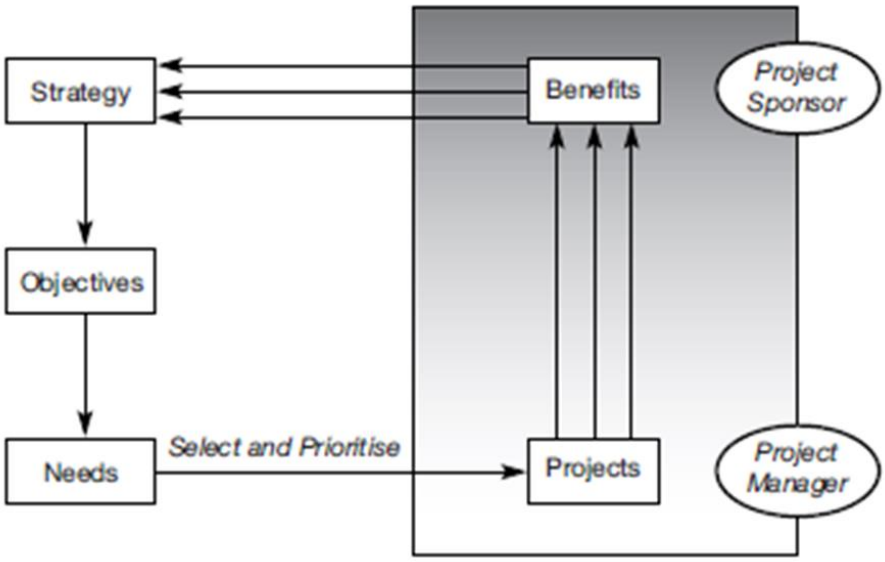


Figure 1 Select the right projects to support your strategy

Selecting the right projects will help you achieve your objectives by realizing benefits which support your strategy. (Copyright © PA Consulting Group, London. Adapted with kind permission)

To illustrate these key project roles, imagine you want to build an extension to your house for a home office. To gain the benefits this will bring, you accept the price and the inconvenience of building works. The architect's role is to design an appropriate solution to meet your needs. As project manager, the benefits he receives for carrying out the work is his fee but he must, however, understand your needs fully to deliver an appropriate solution. In a good partnership, sponsorship and management are mutually compatible. Thus:

- the **project sponsor** is primarily "outcome and benefits focussed"; he or she **directs** the project.
- the **project manager** is primarily "action focused" towards the achievement of the outcomes and benefits the sponsor needs. He or she **manages** the project on a day to day basis.

The framework for managing business-led projects is aimed at making the results of projects more predictable by:

- being outcome and benefits focussed;
- building in quality;
- managing risks and exposure;
- exploiting the skill base of the entire organization.

As a project progresses, the amount of money invested increases. If none of this money is spent on reducing the risks associated with the project, then it is poorly spent. Your objective, as a business leader, project sponsor or project manager, is to ensure that risks are driven down as the project moves from being an idea to becoming a reality.

Figure 2 demonstrates this. The investigative stages are crucial and you should hold back significant development work until your investigations show you know what you are doing and have proved that the risks are acceptable. This is achieved through a staged approach, where each stage serves as a launch pad for the subsequent stage. In this article, I have used five stages but other models are acceptable if they suit the environment and culture of your organization.

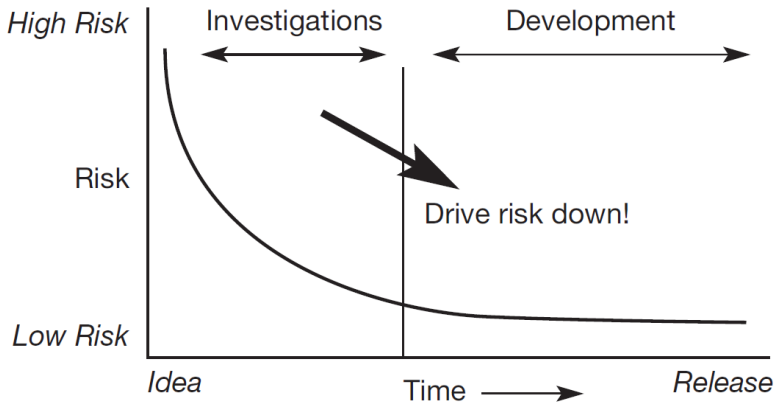


Figure 2 Managing the risk

The investigative stages are crucial and you should hold back any development work until your investigations show you know what you are doing and have proved that the risks are acceptable.

Gates and stages

Stages

A stage is a specific time period during which work on the project takes place; information is collected, outputs created and outcomes recognized.

For each stage of the project, you should carry out the full range of work, covering all functions, needed to meet the requirements. The people from each function should not work on the project in isolation but as a cross-functional team, with members in continuous dialogue to enable the development of the best overall solution. In this way, knowledge develops on all fronts at a similar

pace and solutions are designed, built and tested in an integrated way. No one area of work should advance ahead of the others. The solution should not be what is optimal for one function alone but a pragmatic solution which is best for the whole organization. This has the benefits of shortcutting the functional hierarchies as it forces people with different perspectives to work together, rather than in their organizational siloes, enabling the flat, lean structures we all seek to attain to work in practice. Further, work on any one stage should be limited to what is needed at the next gate: there is little point in spending effort and money until necessary.

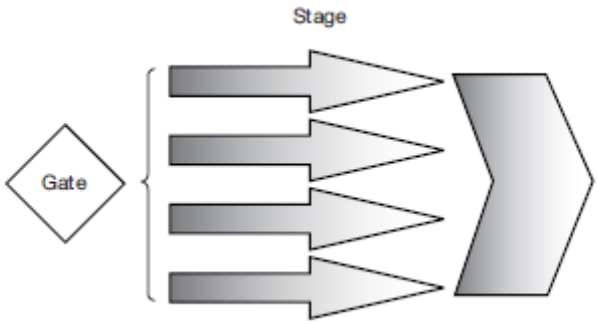


Figure 3 Address all aspects of the project in parallel

For each stage in the project, you should carry out the full range of work covering the entire scope of functional inputs required. In this way your knowledge develops and increases on all fronts at a similar pace and solutions are designed, built and tested in an integrated way.

During each stage, it is essential for the project manager to forecast and reforecast the benefits likely to be gained and the time, resources and costs needed to complete the project. He/she should always keep the relevant function managers informed and check, on behalf of the sponsor, that the project still makes sound business sense. This is illustrated by the "project control cycle" in Figure 4 which is the heart beat of every project stage.

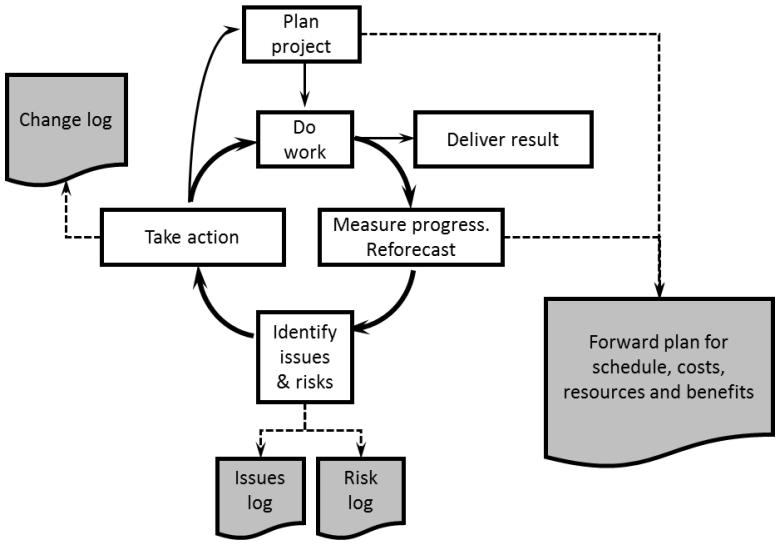


Figure 4 A typical stage

A stage can be represented by the project control cycle, together with the plan and key control tools needed to manage it.

Before work begins on any stage, you should have a detailed project plan for at least the next stage and an outline plan for the full project. Knowing what you are going to do next increases confidence and decreases risks.

Gates

Gates are the decision points preceding every stage. Unless specific criteria have been met, as evidenced by certain approved deliverables, the subsequent stage should not be started. Being a decision 'point', gates are special milestones on the project. Gates serve as points to:

- check the project is still required and the risks are acceptable;
- confirm its priority relative to other projects;
- agree the plans for the remainder of the project;
- make a go/no go decision regarding continuing the project.

Do not regard gates as "end of term exams," but rather the culmination of a period of continual assessment, with the gates acting as formal review and decision points.

Gate criteria are often reinforced at consecutive gates to ensure the same strands of the project are followed through as the project progresses. The further into the project you move, the more confidence you should have in the responses to the criteria and in achieving your overall objectives.

At each gate, you will need to answer three distinct questions (Figure 5):

- Is the project viable in its own right?
- What is its priority relative to other projects?
- Do you have the funding to continue the project?

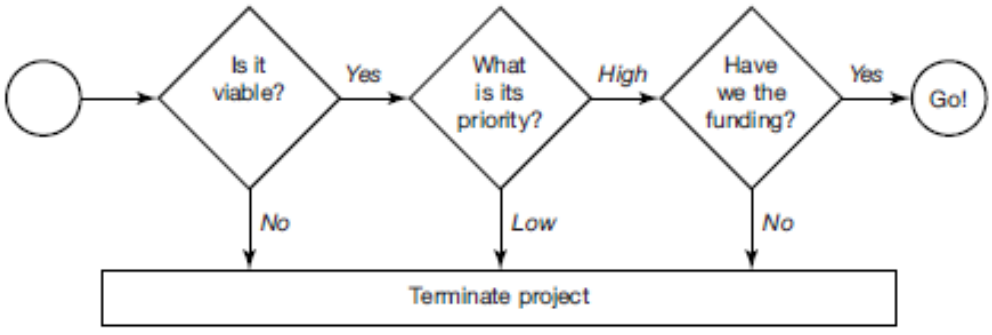


Figure 5 The three decisions required at each gate

Is there a real need for this project and is it viable in its own right? What is its priority relative to other projects? Do you have the funding to continue the project?

It is expedient to think in terms of these questions because, in many organizations, different people or groups are required to address each of them.

The first question (viability) concerns the viability of the project, assuming no other constraints. Does it does it align to your strategy? Does it make business sense? Are the risks acceptable? Have you the resources to undertake the work and operate its outputs?

The second question (priority) concerns the project in its context. It might be a worthy project *but* how does it measure against other projects you want to do or are currently doing? Are there more worthwhile projects for the organization to spend time and money on? Is it 'a risk too far', bearing in mind what you are already committed to?

The third question involves funding. Traditionally, businesses have formal rules concerning the allocation of funds, which are generally managed by a finance function. You might have a viable project, it might be the best of those proposed BUT have you the working capital to finance it?

Gates – an end or a beginning?

Gates have traditionally been defined as end-points to the preceding stage. The logic is that the work in the stage culminates in a review (end of stage assessment) where a check is done to ensure everything is complete before starting the next stage. This viewpoint has come about because people have confused system or software development **processes** with project **life cycles**. An IT development process, rightly, concentrates on quality and hence the need for 'completeness' before moving on. Project management, however, is based on business risk. Due to time pressures, it is often necessary to start the next stage before everything in the previous stage has been completed. For example, the typical project framework in Figure 1.6, shows it could be sensible to undertake a trial operation of any new output before the process, training and communication work is completed. What is essential is to have sufficient work done to start the next stage with confidence. So, if you treat a gate as the end of a stage, this gives rise to the difficulty of having a "rule" that common sense encourages us to break.

The solution to this dilemma is to treat gates as entry points to the next stage. In this way, the next stage can begin as soon as the pre-defined criteria have been met, regardless of whether the full work scope of the previous stage has been completed. You simply need to ensure the risks are acceptable and you have the resources and time built into your plan to complete the unfinished work. In this way, stages can overlap, reducing timescales without increasing the risk associated with the project. If you want certain deliverables in the preceding stage to be 100 per cent complete before you move on, ensure that need is added to the gate criteria. You are in charge, not some blanket, often arbitrary rule.

This approach also opens another powerful characteristic of the staged framework, namely, gates are compulsory, stages are not. In other words, provided you have done the work needed to pass into a stage, how you arrived there is immaterial. This allows you to follow the strict principles of the staged framework, even if a stage is omitted. In this way, you can accommodate the concept of "simple" projects.

If you still aren't convinced, think of this from a senior executive's point of view. How many executives like to make decisions on what has already happened? Senior executives make

decisions about what they are going to do next; this fits in with the "entry gate" approach perfectly. They like to announce they are investing untold millions over the next six months into the company's development. Personally, I have never met an executive who led by looking backwards.

The project framework

As we have learned, projects draw on many resources from a wide range of functions within an organization. Ensuring these are focused on achieving specific, identified benefits for the organization is your key management challenge. You can increase the likelihood of success for your projects, and hence of the business as a whole, by following a project framework (also called a project life cycle) which:

- is benefit driven;
- is user and customer focussed;
- capitalizes on the skills and resources in the organization;
- builds "quality" into the project deliverables;
- helps manage risk;
- allows many activities to proceed in parallel (hence greater velocity).

Most modern approaches to tackling projects achieve these objectives by breaking each project into series of generic stages and gates, forming a framework (or life cycle) within which every project in the organization can be referenced. If business leaders were to take such an approach, it would enable them to gain control of two key aspects of their business:

1 the knowledge that each project is being undertaken in a rational way with the correct level of checks and balances at key points in its life cycle.
2 the entire portfolio of projects can be viewed at a summary level and, by using the generic stage descriptions, show where each project is and the implication this has on risk and commitment.

The project framework is shown in Figure 6 as a bar chart and in Figure 7 as a diagrammatic overview.

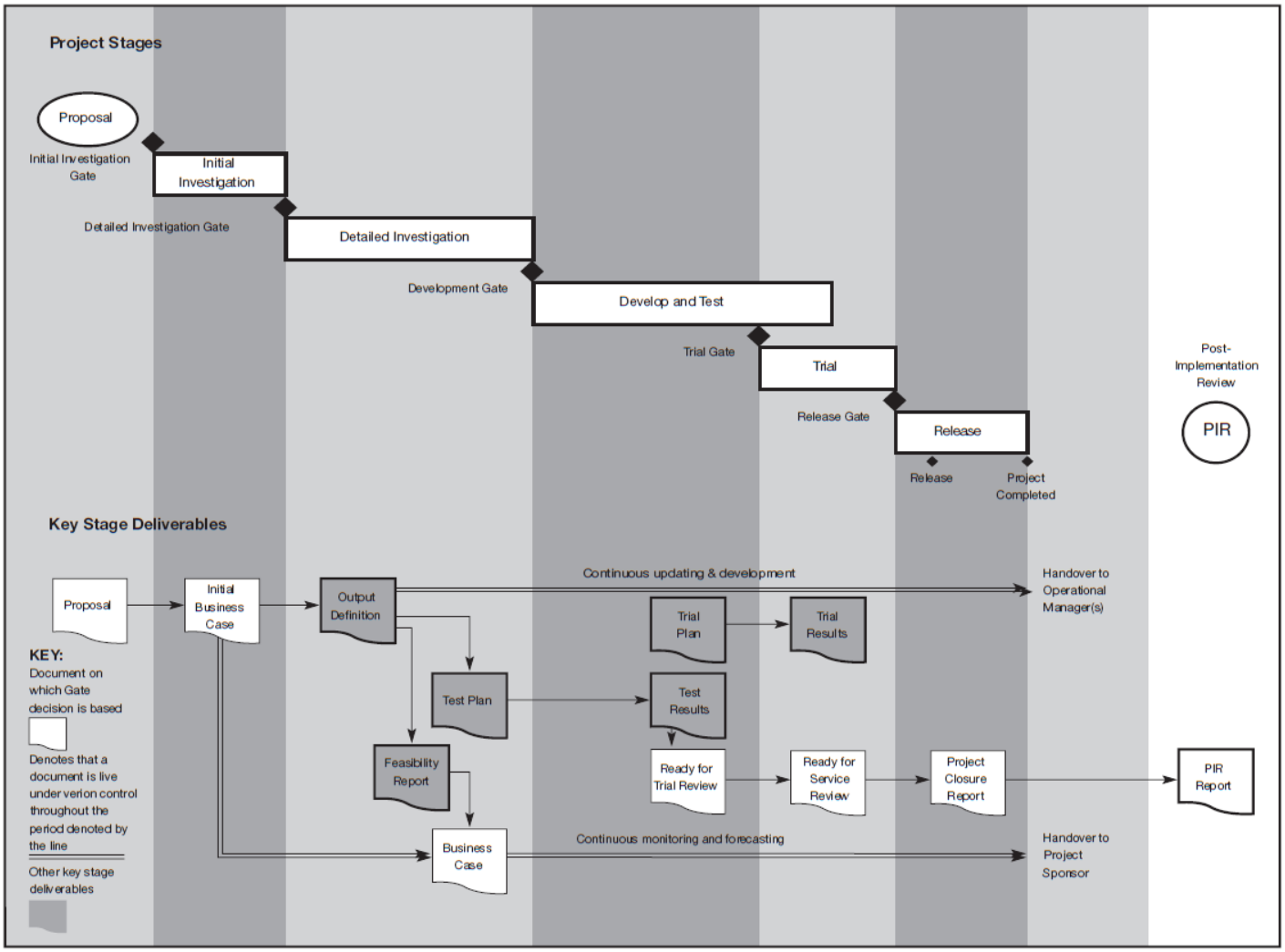


Figure 6 The project framework as a bar chart

The project framework is shown here in "bar chart format" at the top, with the document deliverables for each stage shown below.

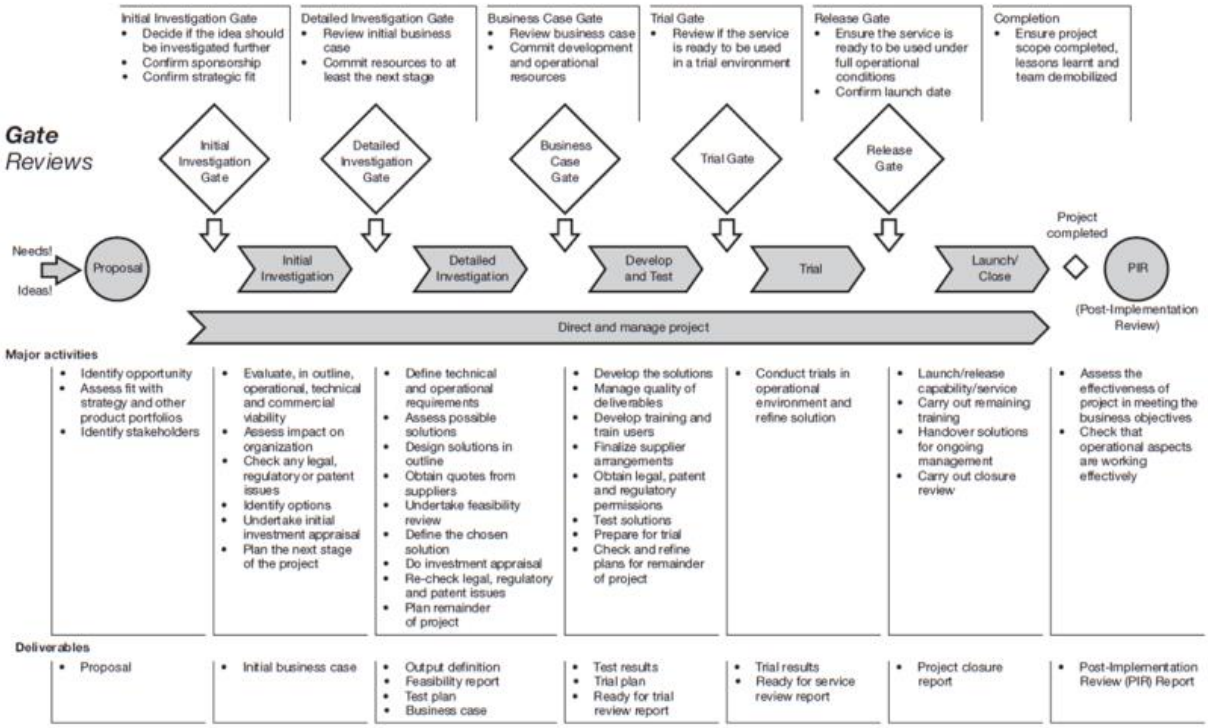


Figure 7 The project framework in diagrammatic form

The project framework is shown here in a format which clearly distinguishes between the gates and the stages. It also shows the activities and deliverables which relate to each stage.

The stages are:

Identify the need – Proposal: a need is first formally recognized by describing it (i.e. say *why* you want to initiate a project in terms of the business outcome you need/want to achieve). If known, you should also describe what you believe the project will produce (i.e. its output but don't jump to conclusions too soon).

Have a quick look – Initial Investigation Stage: the first stage in the project – a quick study of the proposal, to outline the scope and make a rough assessment of the possible ways of meeting the need, benefits, resources and costs necessary to complete it. At the end of this stage, you should be sure of why you are doing it. You may also know what you are doing, although this may comprise a range of defined options. You should know how to go about at least the next stage, even if not the full project.

Have a closer look – Detailed Investigation Stage: a feasibility study, definition and full investment appraisal, culminating in a decision to proceed with development work. At the end of this stage, you will have high confidence in all aspects of the project and, if authorised at the next gate, "What you want to do" becomes "What you are going to do!"

Do it! – Develop and Test Stage: the actual development and implementation work.

Try it – Trial Stage: a trial of all aspects of the development in the users' or customers' operational and working environment. What has been created may work very well under "test conditions," but does it work under normal operational conditions?

Use it – Release Stage: the last stage in the project when you unleash your creation on the world! This is when products are launched, new computer systems used, new manufacturing plant goes into production, new organization units start operating, new processes are invoked, acquisitions sealed and disposals shed. The on-going operational aspects are embedded in the organization to ensure the required business changes have been absorbed and, finally, the project is formally recognized as complete.

About three to six months after completion, a check, known as a **Post-implementation review**, is done to see if the project is achieving its business objectives, the business changes have been absorbed into usual practice and the outputs are performing to the standards expected.

Some key questions

How many gates and stages should I have?

Firstly, as a gate is the decision point for starting a stage, you should always have the same number of gates as you have stages, plus a "project completion" gate at the end of the project. To decide the right number of stages, consider the types of project undertaken in your organization. Do they fit the generic stages described earlier? Are there some modifications you would like to make? Some organizations have only four stages in their projects, others six or more. Generally, the fewer the better, but they must be meaningful to you, reflect the risks and fit every project you are likely to do. My experience is that three stages are too few and five will fit most purposes, so if in doubt try five. Of the five stages used in this article, it is the trial stage which is often either left out or merged with the develop and test stage. I prefer to have the trial as a distinct stage to differentiate it from testing. Testing is very much an internal, "private" activity. A trial, on the other hand, can be 'public', involving real users and customers. You are therefore open to poor media comment or to hostile reactions from employees and suppliers. Making the trial a distinct stage forces people to focus on whether they really are ready. There have been enough high profile cases of failure of beta tests on software and of premium automobiles receiving bad press due to a poor state of market readiness to act as a warning to us all.

You may find instances of organisations with anything up to a dozen stages. This usually happens because the industry and project type require a more granular approach. For example, in regulated industries, like aerospace, the gating often reflects mandatory regulatory approvals. In the rail industry in the UK, Network Rail has a project lifecycle called GRIP (Guide to Rail Investment Process) which has eight stages; like aerospace, the rail industry is also regulated as safety is paramount.

What should I call the stages and gates?

The stage and gate names used in this article have evolved over a number of years and are based on experience in several organizations. What you choose to call them is up to you but that decision

is not trivial. Words are emotive and hence can be both very powerful movers for change or inhibitors of change. In all organizations there are words which:

- mean something particular to everyone;
- mean different things to different people.

You can build on the former by exploiting them in your project framework, provided the meaning is compatible with what you wish to convey.

You should avoid the latter and choose different words, even making up new words if the dictionary cannot help you. For example, working in one company I found the word 'concept' problematic. 'Concept' to some people, is a high level statement of an idea (the meaning I wanted to convey), but to others it means a detailed assessment of what has been decided should be done (this was not what I wanted). Rather than try to re-educate people in their everyday language, a different word (proposal) was used which had no connotations in that organization. There can be similar problems with the word 'implement': it has so many preconceived meanings, it is better not to use it at all! Implement to some people means carry out the 'meaty part' of the project plan, whilst to others it means put whatever you created into beneficial use. 'Execute' is another interesting word; to some people it is more associated with capital punishment than undertaking projects! For this reason, the International Standards Organisation's committee on project management avoids the use of the word and its derivatives, despite many 'hard-nosed' business people liberally using it to show how effective they are.

If you look at the list of possible names in Table 1, you will notice that certain words appear in more than one place: this is a sure sign that they might be misunderstood, but not necessarily in your organisation.

Table 1 A list of alternative stage names

Stage names used in this article	Possible alternatives	
Proposal	Concept	Idea generation
"Identify the need"	Start up	Identification
	Initiation	Brief
	Ideation	
Initial investigation	Pre-feasibility	Evaluation/Evaluate
"Have a quick look"	Initial assessment	Research
	Initial planning	Justification/Justify
	Preliminary investigation	Incubation
Detailed investigation	Feasibility	Specification/Specify
"Have a closer look"	Appraisal/Appraise	Design
	Definition/Define	Business case
	Planning/Plan	Evaluation/Evaluate
	Scope	Authorization
Develop and test	Implementation/Implement	Production
"Do it"	Execution/Execute	Construction/Construct
	Realization/Realize	Build
	Development/Develop	Do
Trial	Beta test	
"Try it"	Validation/Validate	
	Commissioning	
Release and operate	Initial operation	Implementation/Implement
"Use it"	Finalization/Finalize	Handover
	Launch	Acceptance/Accept
	Completion	Closure/closedown/Close
Post-implementation review	Business review	Post project evaluation
"How did it work out?"	Project audit	Post investment review
	Post-project review	

The same issues apply to naming the gates. For these, however, it is better to name each one according to the stage it precedes. This emphasizes the "gate as an entry point" concept. An alternative approach is to name the gate after the document which is used as the control on the gate. In Table 2 I have mixed these. Again, this is your choice, but make the same terminology applies across the whole organization.

I do, however, strongly advise you not to refer to the stages and gates by a number or letter. It will cause difficulties later (including significant cost) if you need to revise your framework. You will not believe the number of times a "Gate 0" or "Stage 0" has had to be added to the front of a framework. Using proper names is simpler, more obvious and will not box you in for the future if you do not get it right at the start or there are real pressures to change.

Table 2 A list of alternative gate names

Gate names used in this article	Possible alternatives	
Initial Investigation Gate	Concept gate	Proposal gate
		Initiation gate
Detailed Investigation Gate	Feasibility gate	Design gate
	Evaluation gate	
Development Gate	Business case gate	Implementation gate
	Authorization gate	Execution gate
Trial Gate	Beta gate	Commissioning gate
	Validation gate	
Release Gate	Ready for Service gate	Implementation gate
	Operation gate	Handover gate
Project completed	Closure gate	
	Project end gate	

How do I decide what work is done in the investigative stages?

The investigative stages exist to reduce risk (see Figure 1.2, earlier) and everything you do should have that aim. If any proposed activity does not reduce risk, you should consider postponing it to a later stage.

What is the best way to depict a project framework?

If your project framework is to be understood, you need to communicate it in an unambiguous way, making sure it is clear that stages and gates serve different purposes. In *The Project Workout*, and in Figure 1.7, I use circle, arrow and diamond icons:

- a circle depicts activities which happen before a project starts or after it is completed;
- a diamond represents a gate;
- an arrow represents a stage.

This approach has been used in several diverse organisations and is now incorporated in the British Standard on project management (BS6079 Part 1) and the UK government's project delivery standard. Gates are shown and labelled separately from stages. The gates are described with the key questions which should be asked by the decision makers. The stages are described by the activities undertaken during the stage with a list of deliverables generated within the stage.

Where do people go wrong?

In designing their project frameworks, I have found people make mistakes in two key areas: at the very start and at the end. All too often, I see frameworks with minimal start-up activity, immediately followed by the Develop and test stage. They have in effect, gone from 'idea' to 'do it' in one small step. In all but the simplest projects, such a leap is naive and might account for

why so many projects are ill-defined and doomed to failure or rampant cost escalation and time slippage. By all means, make it easy to start the project (i.e. pass through the initial investigation gate), but do ensure there is rigour in the actual investigations. A business-driven project comprises both investigation and implementation stages.

At the end of the project, people often confuse 'project closure' with the 'post-implementation review'. The former looks at project efficiency and delivery, whilst the latter looks at benefits realization and operational effectiveness. These two views cannot be combined as the measurement points are separated by time. Also, note that "Proposal" and "Post-implementation review" are not stages of the project. They are activities which happen *before* and *after* the project, respectively; that is why they are shown as a circle and not an arrow in Figures 6 and 7, earlier.

Isn't this just a "stage-gate"?

Have you come across people using the term "stage-gate"? Often, I find people use as the term as yet another piece of management jargon, without really understanding what they are saying. When I come across it, I wonder if they really understand what they are talking about. Do they understand what this term means and where it comes from? It derives from R. G Cooper's Stage-Gate® approach to product development and is used to describe his whole process, not any particular feature. As we have seen earlier, 'gates' and 'stages' are related but different and you need to be unambiguous in how your name, describe and depict them. Figure 8 shows some real-life examples of how people depict their project life cycles, muddling 'stage' with 'gate' and hence confusing their readers.

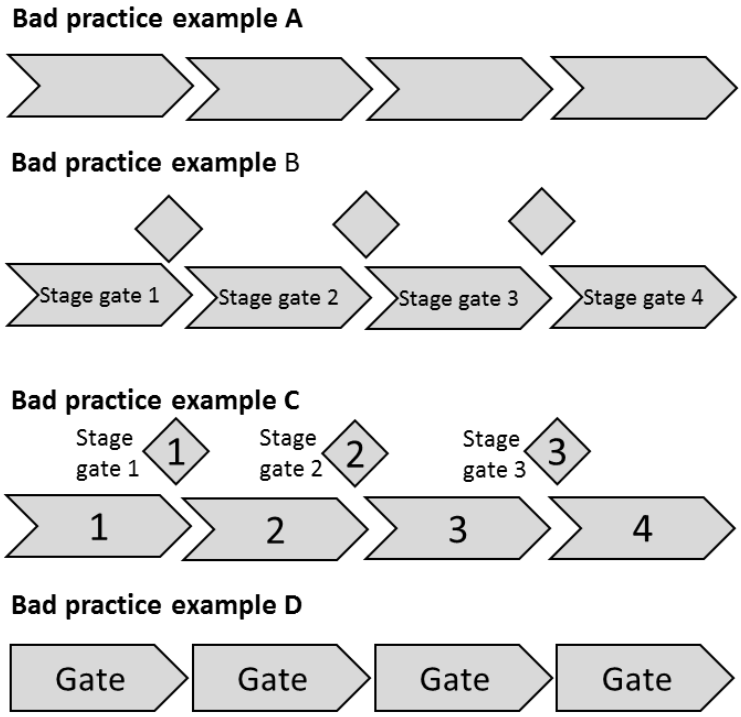


Figure 8 Bad practice depictions of project frameworks

How you depict the project framework is crucial if you want it to be understood. This figure shows four examples of badly defined project life cycles where it is not at all clear what the

author's intentions are. None of the examples make it clear when a project starts or finishes nor the nature of the gates themselves (entry or exit?).

Example A starts well, in that there are a number of stages depicted. Unfortunately, it does not show where the decision points are. Where does the project start or end?

Example B has the same issues as example A. Although a number of decision points have been added it doesn't clarify matters much, for example, is 'stage gate 1' the first stage of the project or the activity before the project starts?

Example C has all the issues raised in examples A and B, except in this case it seems the decision points (gates) are labelled as "stage-gates". I wonder what the stages are called – gate-stages? Notice the numbering, which infers that the "gates" are decisions at the end of a stage, rather than decisions to start a new stage.

Example D shows the gates as if they were periods of time, with no clue as to what happens between them.

If you are designing a project life cycle, don't fall into the real-life traps highlighted in the bad examples above; make sure you understand the difference between a gate and a stage; avoid using the term "stage-gate" and make sure your depiction of the project life cycle is clear and unambiguous. For any project lifecycle, it must be clear when the project starts, each stage starts and when the project ends.

Isn't this 'waterfall'?

No. A project framework or lifecycle is not the same as waterfall development, although you can, if you want to, design a project framework to specifically mirror a waterfall method (see Table 3.1). A stage within a project can comprise whichever development methods or activities you want, including agile delivery, business change and benefits realization. In fact, as stages should be cross-functional, they can comprise any number of methods, depending on the types of output to be developed. Don't confuse development or delivery approaches with project management.

Is a trial really needed?

"I have already tested this rigorously. Surely I don't really need to trial it as well? Won't this just delay the benefits?" This is a valid question. The answer, as always, depends on the context. For example, assume you have a choice of strategy from:

- product leadership;
- operational efficiency;
- customer intimacy.

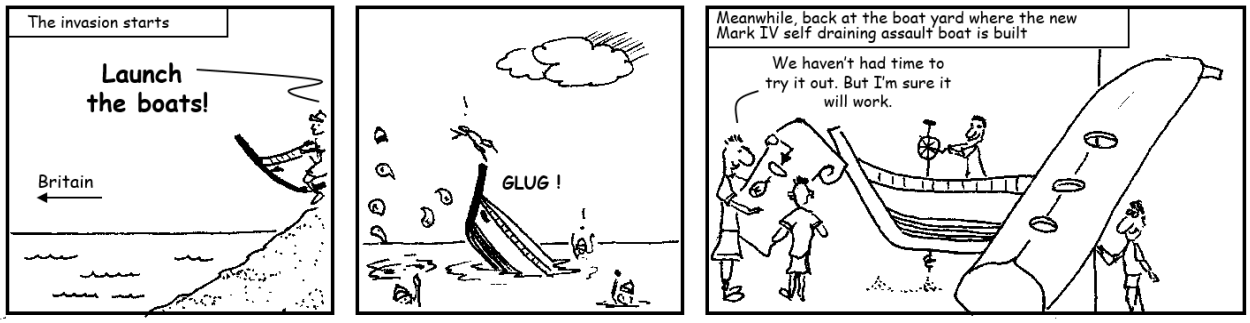
(1) Under "product leadership" you develop and deliver innovative, new products and services; you must be sure they really work as intended. You are aiming to be first and best in your market. One slip and the media could savage you.

(2) Under "operational efficiency" you deliver what others deliver but more efficiently and at lower cost.
(3) Under "customer intimacy" you provide an experience for your customers such that they want to do business with you.

Thus, if your strategy is to have any practical meaning, you must be sure that nothing in your organization compromises it, including how you run your projects. The choice of 'to trial or not to trial' comes down to risk. What is the likely impact on your business if this goes wrong? How confident are you that it won't go wrong? With this in mind, you might choose to subject certain aspects to a trial more rigorously than others – balancing the reducing your time to market (and hence realizing benefits) with the risks.

Always assume you need a trial. Omit it only if you have proved to yourself and your stakeholders that it will not add any value to your project. Never skip the trial because you are in a hurry! If in doubt, try it out.

If in doubt, try it out



How can I apply the framework?

The staged approach to directing and managing projects is the framework for the management of any type of project, for any purpose. It is not concerned with the technicalities of how specialist deliverables are created. As such, its flexibility provides project managers with the opportunity to tailor it to suit the requirements of their individual projects. This ensures an optimum path through the generic project framework, rather than one tied up in bureaucracy. Particular types of project require their own methods and steps but provided you know how they match the overall high level framework, they can be used with confidence and in an environment where the business also knows what is happening. A common project framework in an organisation will ensure alignment between different parts of the organization with clearer communication and understanding. Table 3 shows how a range of different project types and how their key activities could fit into a standard framework.

Table 3 How the different project and activities fit the project framework

	Initial investigation stage	Detailed investigation stage	Develop and test stage	Trial stage	Release stage
Product development	Concept	Alternatives and feasibility	Develop and test	Market validation	Market launch
Product withdrawal	Initial investigation	Detailed investigation	Develop and test	Pilot withdrawal	Close operations
Information systems	Analysis	Logical and outline physical design	Detailed design, build and test	Pilot	Cutover
Bid or tender	Receive request and evaluate	Prepare detailed tender	Develop, build, internal test	Commissioning trials	Handover
Construction (customer viewpoint)	Inception study	Feasibility study, tender design	Detailed design and construction	Commissioning trials	Handover
Publishing	Proposal	Prepare manuscript	Edit, typeset	Final proof	Launch
IT waterfall	Requirements review	Analysis and design	Build	Beta test	Cutover
DSDM/agile	Feasibility	Foundation	Evolutionary development (releases and sprints)	Deployment	Deployment

Summary

Project are now vehicles for driving change in pursuit of your organization's objectives, and, when used in the right context and environment, they can form a sound basis for competitive advantage. Fundamental to the effective management of projects is the project framework, based around the project life cycle, which seeks to manage risk through incremental progression, in stages, from business requirement to benefits realization.

1. Projects should align to strategy, meet defined business needs, realize benefits and be achievable.
2. Manage risk on your projects by taking a staged approach.
3. Stages are periods of time when work is undertaken.
4. Gates are decision points prior to starting the next stage.
5. Define the 'Go' criteria for each gate.
6. At each gate ask, "Is this project viable on its own; what's its priority relative to other work and initiatives, and have I the funds to do complete it?"
7. Design your standard project framework to suit what your organization does and the words it uses.

8. Tailor the project framework to suit the circumstances and level of risk of your particular project.
9. Work in cross-functional project teams, to develop the right solution for the organization, rather than one which is convenient for the dominant function.

About this article

This article is adapted from The Project Workout which provides practical advice and techniques to direct and manage a project. Aimed at both project sponsors and project managers, the book works through the life cycle of a project from initial idea to successful result. The practical approach is enhanced throughout with a series of 'Workouts': exercises, techniques and checklists to help you put the book's advice into practice. The Workouts are supported by an on-line resource of tools, including MS project views, project logs and templates. This revised, 5th edition contains a wealth of new material on governance, monitoring and control, resource and information management and working with standards, such as ISO 21500, BS6079, PRINCE2®, APM Body of Knowledge and PMBOK® Guide. The companion to this book (due in 2019), The Programme and Portfolio Workout, deals with directing and managing whole portfolios of projects, making sure everyone in your organization is working towards the same goals; together these books give you what you need to ensure all your projects succeed.

About the Author

Robert Buttrick

United Kingdom

Robert Buttrick has a successful track record for building project management excellence in major organizations and as a contributor to project management methods, best practice and standards. He a UK Principal Expert working on the development of national and international project management standards, for which he received a Distinguished Service Certificate from BSI. He was an author of the 2017 edition of PRINCE® and the lead developer for the UK government's project delivery standard. He is a Member of the Chartered Institute of Marketing, a Chartered Engineer and an Honorary Fellow of the Association for Project Management. Robert is currently an independent author, a consultant and a Visiting Teaching Fellow at the University of Warwick.

Robert Buttrick is the author of the book *The Project Workout: Directing and managing business-led projects*, recently published in its 5th edition, by Routledge. You can find more information and a companion web site at projectworkout.com.