

Step Wise - An Overview

- Step 0 : Select project
- Step 1 : Identify project scope and objectives
- Step 2 : Identify project infrastructure
- Step 3 : Analyze project characteristics
- Step 4 : Identify project products and activities
- Step 5 : Estimate effort for each activity
- Step 6 : Identify activity risks
- Step 7 : Allocate resources
- Step 8 : Review/publicize plan
- Step 9 : Execute plan
- Step 10 : Execute lower levels of planning

Step 0 : Select project

- This is called Step 0 because in a way it is outside the main project planning process. Proposed projects do not appear out of thin air – some process must decide to initiate this project rather than some other. While a feasibility study might suggest that there is a business case for the project, it would still need to be established that it should have priority over other projects. This evaluation of the merits of projects could be part of project portfolio management.

Step 1 : Identify project scope and objectives

- **Step 1.1 :** Identify objectives and practical measures of the effectiveness in meeting those objectives
- **Step 1.2 :** Establish a project authority
 - To ensure the unity of purpose among all persons concerned
- **Step 1.3 :** Identify all stakeholders in the project and their interests: Essentially all the parties who have an interest in the project need to be identified.
- **Step 1.4 :** Modify objectives in the light of stakeholder analysis: In order to gain the full cooperation of all concerned, it might be necessary to modify the project objectives. This could mean adding new features to the system which give a benefit to some stakeholders as a means of assuring their commitment to the project. This is potentially dangerous as the system size may be increased and the original objectives obscured. Because of these dangers, it is suggested that this process be done consciously and in a controlled manner.
- **Step 1.5 :** Establish methods of communication between all parties: For internal staff this should be fairly straightforward, but a project leader implementing a payroll system would need to find a contact point with BACS (Bankers Automated Clearing Scheme), for instance.

Step 2 : Identify project infrastructure

- **Step 2.1 :** Identify relationship between the project and strategic planning
 - To determine the order of related projects (in the organization) being carried out
 - To establish a framework within which the system fits
 - To ensure the hardware and software standards are followed
- **Step 2.2 :** Identify installation standards and procedures
 - more appropriate name: "Identify standards and procedures related to the software project"
 - software development procedures and standards
 - quality procedures and standards
 - change control and configuration management standards
 - project planning and control standards
- **Step 2.3 :** Identify project team organization

- Project leaders, especially in the case of large projects, might have some control over the way that their project team is to be organized. Often, though, the organizational structure will be dictated to them. For example, a high-level managerial decision might have been taken that software developers and business analysts will be in different groups, or that the development of business-to-consumer web applications will be done within a separate group from that responsible for 'traditional' database applications.

Step 3 : Analyse project characteristics

- **Step 3.1 :** Distinguish the project as either objective-driven or product-driven
 - As system development advances, it tends to become more product-driven, although the underlying objectives always remain and must be respected.
- **Step 3.2 :** Analyse other project characteristics (including quality-based ones)
 - The nature of the system
 - An information system or a process control system? or both?
 - A safety-critical system or not?
- **Step 3.3 :** Identify high level project risks
 - Consider those risks that affect the successful outcome of the project
 - Where? Possibly the following:
 - the operational or development environment,
 - the technical nature of the project
 - the type of product being developed
- **Step 3.4 :** Take into account user requirements concerning implementation
 - Sometimes, the client's organisation may have their own standards and procedures.
 - An example may be that departments in government may require the use of SSADM (Structured System Analysis and Design Methodology).
 - Another example may be that DoD (Department of Defense) has their own standards and procedures
- **Step 3.5 :** Select general lifecycle approach in the light of the above
 - If user **requirements are unclear**, a **prototyping** approach might be used.
- **Step 3.6 :** Review overall resource estimates

Up to this stage,

 - the major risks of the project are identified
 - the overall approach of the project is decided

So, it is a good place to re-estimate the required effort and other resources for the project

Step 4 : Identify project products and activities

- **Step 4.1** : Identify and describe project products
 - Identify all the products related to the project
 - Account for the required activities
- **Step 4.2** : Document generic product flows
 - To document the relative order of the products
- **Step 4.3** : Recognize product instances
- **Step 4.4** : Produce an ideal activity network
 - Activity network shows the tasks that have to be carried out as well as their sequence of execution for the creation of a product from another
- **Step 4.5** : Modify the ideal to take into account need for stages and checkpoints
 - To check compatibility of products of previous activities

Step 5 : Estimate effort for each activity

- **Step 5.1** : Carry out bottom-up estimates
 - need to estimate staff effort, time for each activity, and other resources
 - Different estimation methods may be used depending on the type of activity.
 - Calculate the overall duration of project based on the estimated time for each activity in the activity network.
- **Step 5.2** : Revise plan to create controllable activities
 - need to break a task into a series of manageable sub-tasks

Step 6 : Identify activity risks

- **Step 6.1** : Identify and quantify the risks of each activity
- **Step 6.2** : Plan risk reduction and contingency measures where appropriate: It may be possible to avoid or at least reduce some of the identified risks. On the other hand, contingency plans specify action that is to be taken if a risk materializes. For example, a contingency plan could be to use contract staff if a member of the project team is unavailable at a key time because of serious illness.
- **Step 6.3** : Adjust overall plans and estimates to take account of risks : We may change our plans, perhaps by adding new activities which reduce risks. For example, a new

programming language might mean we schedule training courses and time for the programmers to practise their new programming skills on some non-essential work.

Step 7 : Allocate resources (Staffing)

- **Step 7.1 : Identify and allocate resources**
 - type of staff needed for each activity
 - staff availabilities are identified
 - staff are provisionally allocated to task
 - Staff expertise should be considered.
- **Step 7.2 : Revise plans and estimates to take into account resource constraints**
 - staffing constraints
 - staffing issues

Step 8 : Review / Publicize plan

- **Step 8.1 : Review quality aspects of the project plan**
 - To ensure each activity is completed with a quality product
 - Each activity should have 'exit requirements'.
 - This ensures the quality of the product on each activity.
- **Step 8.2 : Document plans and obtain agreement**
 - all parties understand and agree to the commitments in the plan

Steps 9 and 10 : Execute plan/lower levels of planning

- Once the project is under way, plans will need to be drawn up in greater detail for each activity as it becomes due. Detailed planning of the later stages will need to be delayed because more information will be available nearer the start of the stage. Of course, it is necessary to make provisional plans for the more distant tasks, because thinking about what needs to be done can help unearth potential problems, but sight should not be lost of the fact that these plans are provisional.