Stepwise Project Planning

The framework of basic steps in project planning illustrates the various activities involved in the development process.

An outline of Step Wise planning is listed below:

- Selecting project
- Project scope & objectives
- Project infrastructure
- Analyze project characteristics
- Project products and activities
- Estimation effort
- Activity risks
- Allocate resources
- Review plan
- Execute plan

Step 0: Selecting Project

- This is the initial step which starts well outside the project planning process.
- Feasibility study of the project helps in choosing the appropriate one.
- Strategic planning process helps in evaluating the metrics of selecting the project.
- Different methodologies are inevitable, stemming directly from the questions of what constitutes a methodology and what are a methodology's underlying principles.
- Projects differ according to size, composition, priorities, and criticality.
- The people on a project have different biases based on their experiences, principles, and fears.
- These issues combine so that, what is optimal differs across projects.
- Projects are undertaken to produce a product or a service for various reasons.
- This includes factors like market share, financial benefits, return on investment, customer retention and loyalty, and public perceptions.
- Organizations might receive several projects at a time. They have to select the best among the received projects request.
- They make decisions based on the best information they have about a particular project at a given point of time when selecting the project.

Step 1: Project Scope and Objectives

- Every stakeholder involved in the project must agree on the objectives defined in determining the success of the project.
- Scope statements may take many forms depending on the type of project being implemented and the nature of the organization.
- The scope statement details the project deliverables and describes the major objectives.
- The objectives should include measurable success criteria for the project.
- The Scope Statement should be written before the Statement of work and it should capture, in very broad terms, the product of the project, for example, "developing a software based system to capture and track orders for software"
- The Scope Statement should also include the list of users using the product, as well asthe features in the resulting product.

As a baseline scope statements should contain:

- The project name
- The project charter
- The project owner, sponsors, and stakeholders
- The problem statement
- The project goals and objectives
- The project requirements
- The project deliverables
- The project non-goals
- Milestones
- Cost estimates

In more project oriented organizations the scope statement may also contain these and other sections:

- Project Scope Management Plan
- Approved change requests
- Project assumptions and risks
- Project acceptance criteria
- The project objectives are identified and practical measures are analyzed in achieving them
- A project authority must be identified to have an overall authority over the project.
- Identify different stakeholders involved in the development of the project.
- Changes in the objectives must be in a controlled manner.
- Interaction and communication among all parties must be straight forward.

Step 2: Project Infrastructure

Project Infrastructure refers to the organizational structure, processes, tools, techniques and training an organization puts in place to make projects more successful.

Organisational Structure – Organisational structure including such support mechanisms as project management office, project recruiting function, financial monitoring area etc. It also covers lines of communication and escalation.

Processes – Typically methodologies, checklists and guidelines

Tools – Software and templates

Techniques – Repeatable processes such as kick off meetings, PIRs, analysis techniques, etc.

Training – Formal and informal training and reference documentation

Organization must give priorities for multiple projects to be carried out.

Strategic decisions must be documented within the strategic plan in identifying the relationship between multiple projects.

Change control must be implemented without affecting the original objectives.

Configuration and procedural standards are defined for quality checks at regular intervals of the SDLC process and documented in separate manual.

Measurement programme determines the control policy and monitors the progress of the project.

Project manager must have an overall control of any project planning and control standards adopted.

Project leader takes the responsibility of building the project team as an organized, well-built and effective one yielding excellent results.

Team members must work together as a team and resolve conflicts.

Step 3: Analyze Project Characteristics

The project is categorized as either product-driven or an objective-driven.

A project has several characteristics:

* Projects are unique.

* Projects are temporary in nature and have a definite beginning and ending date.

* Projects are completed when the project goals are achieved or it's determined the project is no longer viable.

* A successful project is one that meets or exceeds the expectations of your stakeholders.

Step 4: Project Products and Activities

- Identify the project deliverables i.e. the end product that has to been given over to the client.
- Some products are identified as intermediate products during the creation of deliverables.
- Project products can be System products, module products or management products.

- Technical products include training materials and operating instructions in managing the quality of the project.
- Describe the project products into components and sub-components related to individual modules in each step.
- Every activity must be carried out for each stage of the development process.
- Management products include progress of the project that is developed.
- Product descriptions contain the identity, purpose, derivation, composition, form, relevant standard and the quality criteria that apply.
- Not all products are independent. Some products depend on other products for their creation.

Step 5: Estimating Effort

- The effort estimation for the staff required, the probable duration and the non-staff resources needed for every activity is determined.
- These estimates depend on the type of the activity.
- Effort is the amount of work that has to be done.
- Software development efforts estimation is the process of predicting the most realistic use of effort required to develop or maintain software based on incomplete, uncertain and/or noisy input. Effort estimates may be used as input to project plans, iteration plans, budgets, investment analyses, pricing processes and bidding rounds.
- Elapsed time is the time between the start and end of a task.
- With all the activities defined, the overall duration of the project can be calculated using the activity network.
- For longer activities it will be difficult to control the project over estimating factors.

Step 6: Identify Activity Risks

- Activity based risks are identified for every activity based on number of assumptions.
- Risk planning reduces the impact of identified risks.
- To materialize the risk, contingency plans are specified.
- New activities can reduce risks to a certain extent when there is change in plans.
- Risks fall into three broad categories — controllable known, uncontrollable known and unknown.

Step 7: Allocate Resources

Resource allocation is used to assign the available resources in an economic way. It is part of resource management. In project management, resource allocation is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time

Step 8: Review Plan

When a task is completed it leads to the quality review. These quality checks have to be passed before the activity is completely signed-off.

Every plan has to be documented and all stakeholders must have agreed to all constraints and understand the project.

Step 9: Execute Plan

- Finally, the execution of the project is drawn with each specified activity as it is approached.
- Detailed planning of later stages is necessary because more information will be available than the start stage.
- Project planning and execution becomes an iterative process where as each activity which is to be carried out approaches, they should be reviewed in detail.