UNIT-2 Planning a Project

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Understand what is project life cycle
- ✓ Discuss various stages of a project in a project life cycle

Unit 2

Planning a Project

Initiation

Project *Initiation* is the formal recognition that a project should begin and resources should be committed to the project. Initiation phase is the first phase in the project. A business problem (or Opportunity) is defined and a business case is defined; which provides various options.

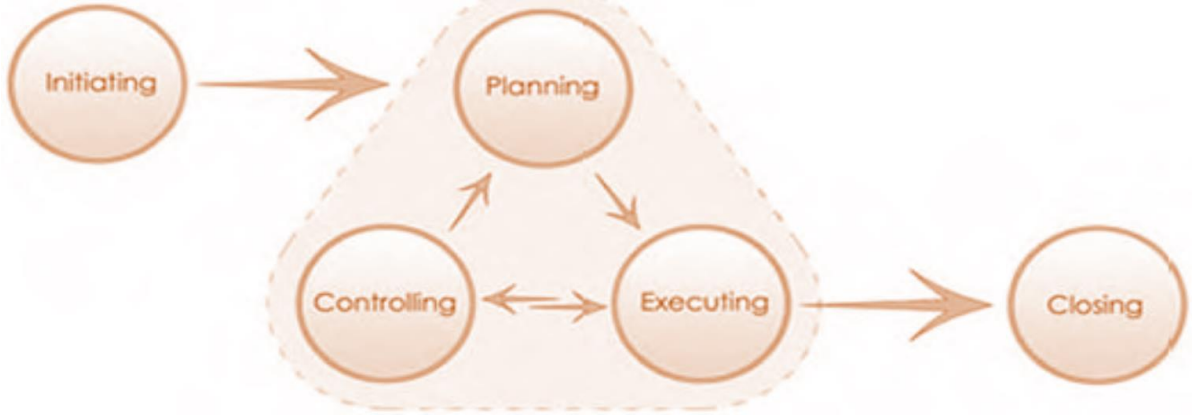

Fig: 2.1

The project's chance for success is dramatically increased by proper planning. Since Initiation is the foundation of Planning, the importance of Initiation is self-evident.

The project Initiation process has several inputs: strategic plan, product description, historical information, and project selection criteria. Each of these inputs is processed using tools and techniques to produce the final outputs, one of which is the project charter. Now, we'll examine each of these inputs in a bit more detail.

Strategic Plan

Taking into consideration the company's strategic plan during the Initiation process, is part of the responsibility of a project manager. Perhaps the strategic plan states that one of the company goals is to build 10 new stores by the end of the fiscal year. If the project your company is considering undertaking is to install a new human resources software system, it would make sense to write the requirements for your project with the 10 new stores in mind.

Product Description

As you might deduce, the product description describes the product. The product description should be documented and should clearly outline the characteristics of the product or service. This description should also include the business need that's driving the reason for the project.

Product descriptions contain less detail in the early phases of a project and more detail as the project progresses. Typically, the buyer of the product or service will provide the product description to the vendor or contract or when a project is performed under contract. The product description serves as a statement of work when the project is contracted to a vendor.

A statement of work describes the product or service in enough detail so that the vendor can accurately price the contract and satisfactorily fulfil the requirements of the project.

Historical Information

Historical information can be very useful to project managers and to stakeholders. Historical information about previous projects of a similar nature can be very handy in determining if a new project should be accepted and initiated, when you're evaluating new projects. Historical information will help you in determining project goals, with estimating activities, and during the project-planning processes. Historical information on an active project gathered and documented during the project can be examined to assist in determining whether the project should proceed to the next phase.

Project Selection Criteria

Project selection involves making determinations regarding which projects to accept or reject based on criteria such as financial data, sales potential in the marketplace, etc.

Determining the Project Goals

Goals and objectives are the purpose for undertaking the project, and they describe the final result of the project. "Provide faster turnaround times on loan application services" or "Increase warehouse space to house the new product line for distribution" are both examples of goals. In other words, the purpose for the project is to do something or accomplish something—a goal.

Goals describe that *what* it is you're trying to accomplish, do, or produce. Objectives and Goals should be stated in tangible terms. It would be better to say the goal is to build four new warehouses if your goal is to increase warehouse space. Describing the number of new warehouses to be built is specific and tangible. For that reason, we'll know the project is completed when this goal is met. The goal of offering faster loan approvals might be better stated that the company will provide loan applications over the Internet to speed the application process.

Goals and objectives can be combined and simply called *goals*. What's important is that you understand what the end purpose of the project is and how to identify when it's been accomplished.

You've probably seen this acronym regarding goal setting a dozen times, but it's worth repeating. Goals should follow the SMART rule:

S—Specific Goals should be specific and written in clear, concise, understandable terms.

M—Measurable Goals should be measurable.

A—Accurate Goals should be accurate and should describe precisely what's required.

R—Realistic and tangible Goals that are impossible to accomplish are not realistic and not attainable. Goals must be centered in reality. It's not likely you and I will be sending up rocket ships full of chocolate candies to sell to tourists visiting the moon anytime soon.

T—Time bound Goals should have a time frame with an end date assigned to them.

Project Deliverables

Deliverables are measurable results, measurable outcomes, or specific items that must be produced to consider the project or project phase completed. Like goals, Deliverables must be specific and verifiable.

A project phase can have multiple deliverables. If you are assembling a new product with many parts, each of the parts could be considered independent deliverables.

The bottom line is this: No matter how well you apply your project skills, if the wrong deliverables are produced or the project is managed to the wrong goals, you will have an unsuccessful project on your hands.

Identifying the Key Stakeholders

Stakeholders can be internal or external to the organization. Stakeholders might include the project sponsor, the project manager, project team members, the customer (who might be one in the same as the project sponsor), suppliers, management personnel, contractors, etc. One way to uncover stakeholders whom you might not have thought about right at the start is to ask known stakeholders if they're aware of anyone else that might be impacted by this project. Ask team members if they're aware of stakeholders who haven't been identified. Stakeholders might come to the forefront once you start uncovering some of the goals and deliverables of the project also.

Leaving out an important stakeholder, or one whose business processes weren't considered during project Initiation and Planning, could spell disaster for your project.

The Project Overview Document

The project overview document serves the purpose of capturing the intended outcome of the project and its deliverables. It is a high-level look at the project goals and deliverables. It will describe the business objectives the project should meet. It will also provide a brief background of the project and describe the business opportunity the company is attempting to capitalize on. The overview lays the groundwork for future consensus on deliverables and project expectations.

Some organizations will require a feasibility study at this point in the project. *Feasibility studies* are undertaken for several reasons. One is to determine if the project is a viable project. They'll also determine the probability of the project succeeding. The feasibility study might also look at the technical issues related to the project and determine if the technology proposed is feasible, reliable, and easily assimilated into the organization's existing technology structure. Feasibility studies can also examine the viability of the product of the project. For example, the study might ask, "Will the new lemon-flavored soda be a hit? Or, is it marketable?"

The group of people conducting the feasibility study should not be the same ones who will work on the project.

Identifying the Project Constraints

The triple constraints are budget, time, and quality. All project managers have to deal with these constraints in all projects.

Identifying the Project Assumptions

It's essential to understand and document the assumptions you and your stakeholders are making about the project. It's also important to find out as many of the assumptions as you can up front. Projects can fail, sometimes after lots of progress has been made on the project, because an important assumption was forgotten or the assumption was incorrect.

Managing Constraints

Constraints can be used to help drive out the goals of the project. If it's difficult to discern which constraint is the primary constraint, ask the project sponsor something like this, "Ms. Sponsor, if you could only have one of these two alternatives, which would you choose? The project is delivered on the date you've stated, or the quality is manufactured to the exact specifications you've given." If Ms. Sponsor replies with the quality response, you know your primary constraint is quality. If push comes to shove during the project Planning process, time might have to give because quality cannot.

Defining Project Selection Criteria

Most organizations have a formal, or at least semiformal, process to select and prioritize projects. Large, complex projects may be subject to further review via a feasibility study before a decision can be made to accept the project.

Criteria for judging project selection could include financial measurements. For example, the selection criteria might dictate that projects must increase profits by a certain percentage in order to be considered. Equally, project selection criteria might include the criteria that an increase in the public awareness of the company or product or an increase in market share will be enjoyed as a result of this project. There aren't any rules for project selection as the components of selection criteria are up to the company, project review committee, or steering committee to determine.

The primary goal of the Initiation process is to produce the project charter.

Project Charter

The *project charter* is the official, written acknowledgment and recognition that a project exists. The Initiation phase is wrapped up with the publication of the project charter. It is usually the first official document of the project once acceptance of the project has been granted. It's issued by senior

management and gives the project manager authority to assign organizational resources to the work of the project.

If your charter is good, you'll avoid a lot of issues early on. Since, good project charters that are well documented will address many of the questions your stakeholders are likely to have up front.

Resource or Project Costs

The project itself will have resource expenses directly related to the project. These are costs that are specific to the project, these are not the day-to-day operation expenses but are resource costs might be things like long-distance phone bills, travel expense related to the project, equipment purchases, hardware purchases, specialized talent hired for certain portions of the project, vendor fees, etc. resource expenses can be quite high, Depending on the kind of project you're working on.

Human Resource Costs

Personnel costs or Human resource can be one of your biggest expenses depending on the kind of project you're working on. Any projects that require highly specialized skills or knowledge, or are labor intensive will likely have high personnel costs.

Administrative Costs

Administrative costs are the day-to-day type costs that keep the organization running, but are not directly related to the project. For example, office equipment, heat and lights, support personnel, local phone charges, leases (unless office space or building space was leased specifically to house project members, in which case this expense would be a resource expense charged against the project), etc.

Putting the Project Charter Together

The project charter should include an overview of the project, the project deliverables, its goals and objectives, resource and cost estimates, the business case or need for the project, and a feasibility study if one was performed. The charter should describe the preliminary roles and responsibilities of the project manager, project sponsor, project staff, and executive management. Creating the project charter is a matter of incorporating all the information we've gathered so far, as outlined above.

Project Sponsor

The project sponsor is usually an executive in the organization who has the power and authority to make decisions and settle disputes or conflicts regarding the project. Project sponsors are similar to this in that they rally support from the executive management team and the stakeholders for the project. The sponsor takes the project to the limelight, so to speak, and gets to call the shots regarding project outcomes.

Sponsors are actively involved in the Initiation and Planning phases of the project and tend to have less involvement during the Execution and Controlling phases. It's up to the project manager to keep the project sponsor informed of all project progress, project activities, and any conflicts or issues that arise.

The sponsor is the one with the authority to resolve conflict and set priorities when these things can't be dealt with any other way.

Project Charter Sign-Off

Until you've received sign-off from the project sponsor, senior management, and key stakeholders, the project charter isn't complete. Sign-off indicates that the document has been read by those signing it and that they agree with its contents and are on board with the project. It also involves the major players' right from the beginning and hopefully wins their continued participation in the project going forward. This is important because the charter states the project goals and deliverables, and the resources, time, and costs needed to meet those goals.

With signing of the project charter the initiation phase is completed.

Planning

By this stage of the project, the benefits and costs of the project have been clearly documented, the project team has been appointed, the objectives and scope have been defined, and a formal project office environment established. It is now time to undertake detailed planning to ensure that the activities performed in the execution phase of the project are properly sequenced, resourced, controlled and executed.

Developing Project Plan

The first step is to document the Project Plan. A 'Work Breakdown Structure' (WBS) is identified. The WBS includes a hierarchical set of phases, activities and tasks to be undertaken on the project. An assessment of the effort required to undertake the activities and tasks is made after the WBS has been agreed. The activities and tasks are sequenced, resources are allocated and a detailed project schedule is formed. To assess the progress of the project, this project schedule will become the primary tool for the Project Manager.

Developing Resource Plan

It is necessary to allocate the resources required to undertake each of the activities and tasks within the Project Plan, Immediately after this plan is formed. Although general groups of resources may have already been allocated to the Project Plan, a detailed resource assessment is required to identify the:

- Types of resources (labor, equipment and materials)
- Roles, responsibilities and skill-sets of all human resources
- Total quantities of each resource type
- Items and quantities of material resource
- Items, purposes and specifications of all equipment resource.

A schedule is assembled for each type of resource so that the Project Manager can assess the resource allocation at each stage in the project.

All projects require resources, from the smallest to the largest. Resources in this case do not mean just people; it means all the physical resources required to complete the project. This includes people, supplies, materials, equipment, software, hardware—and the list goes on depending on the project you're working on.

Developing a resource management plan encompasses several processes including Resource Planning, Organizational Planning, Staff Acquisition, Solicitation Planning, and Procurement Planning. Resource Planning is the process of determining what physical resources are needed, and in what quantity, to perform project activities.

Developing an Organizational Plan

The Organizational Planning process focuses on the human resources aspect of project planning. Its purpose is to document the roles and responsibilities of groups or individuals for various project elements and then document the reporting relationships for each. Communications Planning goes hand in hand with Organizational Planning as the organizational structure will affect the way communications are carried out among project participants and the project interfaces.

Organizational Planning has three inputs: staffing requirements, project interfaces, and constraints.

Project Interfaces

Organizational interfaces deal with the types of reporting relationships that exist within an organization's structure be it functional, matrix, or projectized. The reporting relationships in the organization might be formal or informal. When outlining the project plan, the project manager should take these into consideration.

The same is true for *technical interfaces*, which deal with the reporting relationships that exist within the technical areas of an organization. You should consider the technical interfaces both within the project itself and between the project process groups during hand-off.

All projects fall into the interpersonal interfaces and organizational interfaces categories. *Interpersonal interfaces* deal with the relationships that exist among project team members and among other project participants. Whether technical interfaces affect the project depends on the project itself.

Staffing Management Plan

This plan documents how and when people resources are introduced to the project and later released. It is up to you, how much the level and amount of detail you want to add to this plan. Note that many staffing management plans make use of a *resource histogram*. This is usually drawn in chart form with project time along the horizontal axis and hours needed along the vertical axis. The example histogram below shows the hours needed for an asphalt crew on a construction project.

Constraints

These typically involve time, costs, or quality.

Developing Financial Plan

A Financial Plan is prepared to identify the quantity of money required for each stage in the project. It is similar to the Resource Plan. The total cost of labor, equipment and materials is quantified and an expense schedule is defined which provides the Project Manager with an understanding of the forecast spending vs. the actual spending throughout the project. As the project's success will depend on whether or not it is delivered within the 'time, cost and quality' estimates for the project, preparing a detailed Financial Plan is extremely important.

Developing Quality Plan

Meeting the quality expectations of the customer is critical to the success of the project. A Quality Plan is documented to ensure that the quality expectations are clearly defined and can reasonably be achieved.

The Quality Plan:

Defines what quality means in terms of this project. It lists clear and unambiguous quality targets for each deliverable. Each quality target provides a set of criteria and standards which must be achieved to meet the expectations of the customer.

- Identifies the techniques used to control the actual level of quality of each deliverable as it is built (i.e. a Quality Control Plan).
- Outlines a plan of activities which will assure the customer that the quality targets will be met (i.e. a Quality Assurance Plan)

Finally, it is important to review the quality not only of the deliverables produced by the project but also of the management processes which produce them. A summary of each of the management processes undertaken during the execution phase is identified, including Time, Quality, Change, Cost, Risk, Procurement, Acceptance, Issue, and Communications Management.

Many techniques are used by Quality Planning to determine the areas of quality improvement that can be implemented, controlled, and measured throughout the rest of the project. The quality management plan describes how the project management team will enact the quality policy. It also documents the responsibilities of the project team in implementing quality, the resources needed to carry out the quality plan, and all the processes and procedures the project team and organization use to satisfy quality requirements.

The project manager writes the quality management plan in cooperation with the project staff. You will assign quality actions to the activities listed on the WBS. Isn't that WBS a handy thing? The quality plan should then document the quality actions associated with the WBS activities. Later in the Quality Control process, measurements will be taken to determine if quality to date is on track with the quality standards outlined in the quality management plan.

Developing Communications Plan

Prior to the Execution phase, it is also necessary to identify how each of the stakeholders will be kept informed of the progress of the project. The Communications Plan identifies the types of information to be distributed, the frequency of distribution, the methods of distributing information to stakeholders, and responsibilities of each person in the project team for distributing information regularly to stakeholders.

Risk Planning

Every one of us takes risks on a daily basis. Just getting out of bed in the morning is a risk. You might trip over the dog and break a leg or stub your toe in the dark on the way to the light switch. These things don't usually happen, but the possibility exists. The same is true for your project. Risk exists on all projects, and the potential that a particular risk will occur depends on the nature of the risk.

Like much of the information gathered during other Planning processes, risks will also change as the project progresses and they should be monitored throughout the project. As you get close to a risk event, that's the time to reassess your original assumptions about the risk and your plans to deal with the risk and to make any adjustments as required.

One consideration to take into account when assessing risk is risk tolerance. Organizations and stakeholders, as well as individuals, all have different tolerances for risk. Stakeholder risk tolerance is one of the inputs in the Risk Management Planning process. It's important for the project manager to understand the tolerance level the organization and the stakeholders have for risk before evaluating and ranking risk. One organization might believe that the risk of a potential 17 percent cost overrun is high, while another might think it's low.

Developing Procurement Plan

To identify the elements of the Project which will be acquired from external suppliers to the project is the last planning activity within the Planning phase. The Procurement Plan provides a detailed description of the Products (i.e. goods and services) to be procured from suppliers, the schedule for procurement, and the justification for procuring each product externally, as opposed to from within the business. It also references the process for the selection of a preferred supplier ("Tender Process") and the process for the actual order and delivery of the procured products ("Procurement Process").

Procurement Planning is a process of identifying what goods or services you're going to purchase from outside of the organization. Part of what you'll accomplish in this process is determining whether you should purchase the goods or services, and if so, how much and when.

Contract Suppliers

It is usual to appoint suppliers after the Project Plans have been documented but prior to the Execution phase of the project; although, external suppliers may be appointed at any stage of the project. Only at this point will the Project Manager have a clear idea of the role of the supplier and the expectations for his/her delivery.

A formal Tender Process is invoked to identify a short-list of interested suppliers and select a preferred supplier to meet the procurement needs of the project. The Tender Process involves creating a Statement of Work, a Request for Information and Request for Proposal to obtain sufficient information from each potential supplier to select a preferred supplier. A Supplier Contract is agreed for the delivery of the requisite product, Once a preferred supplier has been chosen.

Execution

The Execution phase is the phase within which the deliverables are physically constructed and presented to the customer for acceptance. It is typically the longest phase of the project (in terms of duration).The Project Manager monitors and controls the activities, resources and expenditure required to build each deliverable throughout the execution phase. All this is done to ensure that the customer's requirements are met. A number of management processes are also undertaken to ensure that the project proceeds as planned.

Building Deliverables

This phase requires the physical construction of each deliverable for acceptance by the customer. Depending on the type of project, the actual activities undertaken to construct each deliverable will vary, (e.g. engineering, building development, computer infrastructure or business process re-engineering projects).

Deliverables may be constructed in an 'iterative' fashion (where iterations of each deliverable are constructed until the deliverable meets the requirements of the customer) or a 'waterfall' fashion (where each activity is undertaken in sequence until the deliverable is finished). Regardless of the method used to construct each deliverable, careful monitoring and control processes should be employed to ensure that the quality of the final deliverable meets the acceptance criteria set by the customer.

Monitoring and Control

Whilst the Project Team is physically producing each deliverable, the Project Manager implements a series of management processes to monitor and control the activities being undertaken. An overview of each management process is given below:

Cost Management

Cost Management is the process by which costs (or expenses) incurred on the project are formally identified, approved and paid. Expense Forms are approved by the Project Manager and recorded within an Expense Register for audit purposes. Expense Forms are completed for each set of related project expenses such as equipment, labor, and materials costs.

Time Management

Time Management is the process within which time spent by staff undertaking project tasks is recorded against the project. As time is a scarce resource on projects, it is important to record the time spent by

each member of the team on a Timesheet to enable the Project Manager to control the level of resource allocated to a particular activity. A Timesheet Register provides a summary of the time currently spent on the project and enables the Project Plan to be kept fully up to date.

Risk Management

Risk Management is the process by which risks to the project (e.g. to the scope, deliverables, timescales or resources) are formally identified, quantified and managed during the project. A project risk may be identified at any stage of the project by completing a Risk Form and recording the relevant risk details within the Risk Register.

Quality Management

Quality Management is the process by which the quality of the deliverables is assured and controlled for the project, using Quality Assurance and Quality Control techniques. Quality is defined as "the level of conformance of the final deliverable to the customer's requirements". Quality reviews are frequently undertaken and the results recorded within a Quality Register.

Communications Management

Communications Management is the process by which formal communications messages are identified, created, reviewed and communicated within a project. The most common method of communicating the status of the project is via a Project Status Report. Each communication item released to the project stakeholders is captured within a Communications Register.

Procurement Management

Procurement Management is the process by which product is sourced from an external supplier. To request the delivery of product from a supplier, a Purchase Order must be approved by the Project Manager and sent to the supplier for confirmation. The status of the purchase is then tracked using a Procurement Register until the product has been delivered and accepted by the project team.

Performing Phase Review

At the end of the Execution Phase, a Phase Review is performed. This is basically a checkpoint to ensure that the project has achieved its stated objectives as planned.

Closure

A successful project will have met its objectives and be ready for formal closure after the completion of all project deliverables and acceptance by the customer. Project Closure is the last phase in the project. To ensure that the business benefits delivered by the project are fully realized by the customer, Project Closure must be conducted formally.

Performing Project Closure

Project Closure involves undertaking a series of activities to wind up the project, including:

- Identifying any outstanding items (activities, risks or issues)
- Listing the activities required to hand over documentation, cancel supplier contracts and release project resources to the business
- Communicating closure to all stakeholders and interested parties.
- Producing a hand-over plan to transfer the deliverables to the customer environment

A Project Closure Report is submitted to the Customer and/or Project Sponsor for approval.
The Project Manager is then responsible for undertaking each of the activities identified within the Project Closure Report on time and according to budget.
The project is closed only when all activities identified in the Project Closure Report have been completed.

Review Project Completion

Success is determined by how well a project performed against the defined objectives and conformed to the management processes outlined in the planning phase. The final activity undertaken on any project is a review of its overall success by an independent resource. To determine performance, a number of questions are posed. For example:

- Was it delivered within the budget outlined in the Financial Plan?
- Did it result in the benefits defined in the Business Case?
- Did the deliverables meet the criteria defined in the Quality Plan?
- Was it delivered within the schedule outlined in the Project Plan?
- Did it achieve the objectives outlined in the Terms of Reference?
- Did it operate within the scope of the Terms of Reference?

To determine conformance, a review is undertaken of the level of conformity of the project activities to the management processes outlined in the Quality Plan. The above results, lessons learnt and key achievements are documented within a Post Implementation Review report and presented to the Project Sponsor for approval.

Further Reading:

- ✓ ***Jason Westland, (2006), The Project Management Life Cycle***
- ✓ ***Arun Kanda, (2011), Project Management : a Life Cycle Approach***
- ✓ ***Janet A. Means, Tammy Adams, (2005), Facilitating the Project Lifecycle***