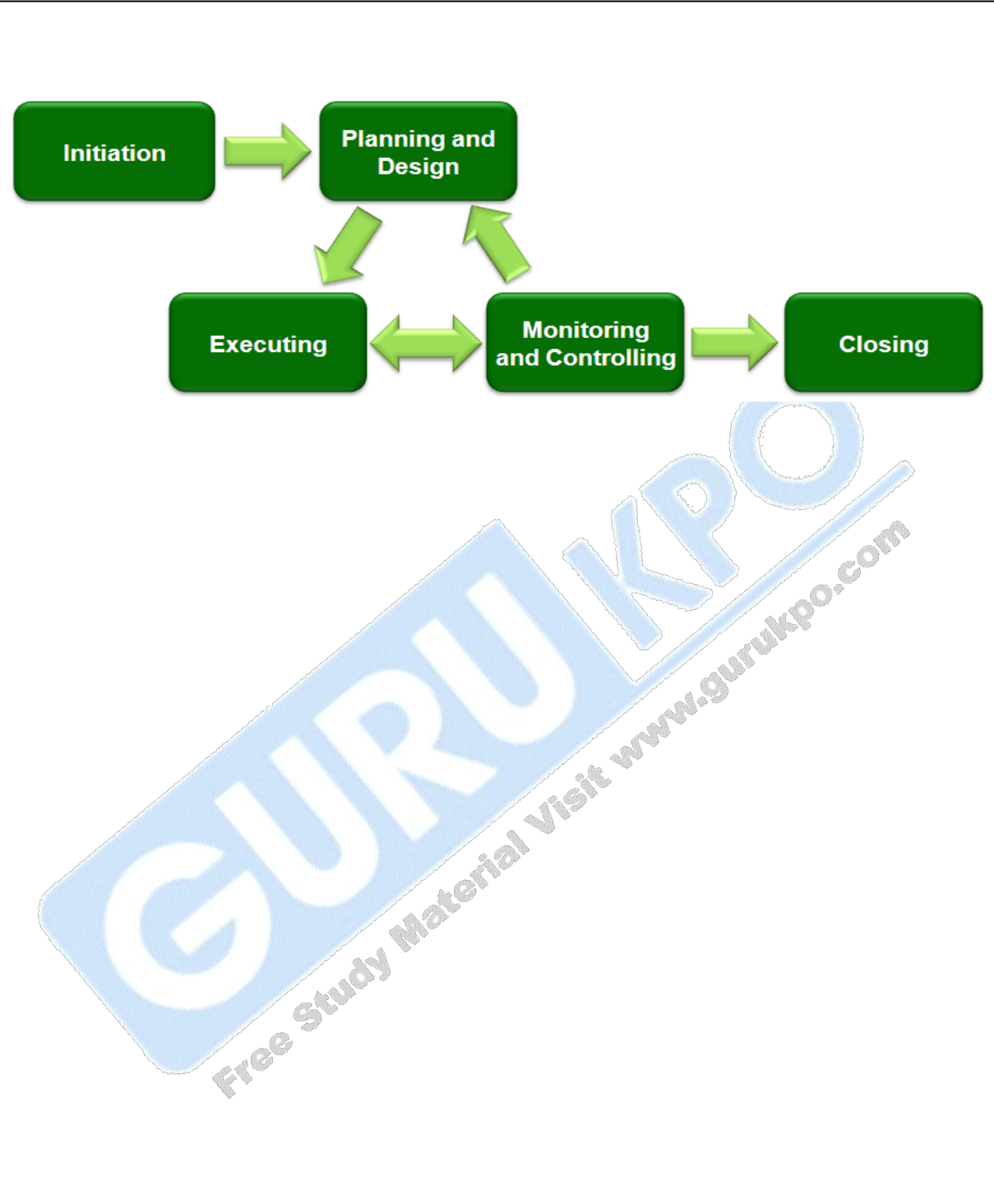


|  |  |
| --- | --- |
| **Student Name:** | JOHN KULANG MOSES |
|  |  |
| **Course:** | Project Planning and Management |
|  |  |
| **Admission Number:** | ACPM/PGD/198/2019 |
|  |  |
| **Lecturer:** | MR. KAREGWA MUCHIRI |
|  |  |
| **Module:** | Project Management 7 |
|  |  |
| **Course Code** | PGD003 |
|  |  |
| **Assignment Number:** | Seven |
|  |  |
| **Date Issued:** | 01/11/2019 |
|  |  |
| **Due Date:** | 28/11/2019 |
|  |  |
| **Assignment Brief:** | 7 |

**Q.1.Explain project life cycle process with suitable diagrams**

The Project Life Cycle refers to a logical sequence of activities to accomplish the project`s goals or objectives. Regardless of scope or complexity, any project goes through a series of stages during its life. There is first an Initiation or Birth phase, in which the outputs and critical success factors are defined, followed by a Planning phase, characterized by breaking down the project into smaller parts/tasks, an Execution phase, in which the project plan is executed, and lastly a Closure or Exit phase, that marks the completion of the project. Project activities must be grouped into phases because by doing so, the project manager and the core team can efficiently plan and organize resources for each activity, and also objectively measure achievement of goals and justify their decision to move ahead, correct, or terminate. It is of great importance to organize project phases into industry-specific project cycles. Why? Not only because each industry sector involves specific requirements, tasks, and procedures when it comes to projects, but also because different industry sectors have different needs for life cycle management methodology. And paying close attention to such details is the difference between doing things well and excelling as project managers.



**Initiation Phase**

During the first of these phases, the initiation phase, the project objective or need is identified; this can be a business problem or opportunity. An appropriate response to the need is documented in a business case with recommended solution options. A feasibility study is conducted to investigate whether each option addresses the project objective and a final recommended solution is determined. Issues of feasibility (“can we do the project?”) and justification (“should we do the project?”) are addressed.

Once the recommended solution is approved, a project is initiated to deliver the approved solution and a project manager is appointed. The major deliverables and the participating work groups are identified, and the project team begins to take shape. Approval is then sought by the project manager to move onto the detailed planning phase.

**Planning Phase**

The next phase, the planning phase, is where the project solution is further developed in as much detail as possible and the steps necessary to meet the project’s objective are planned. In this step, the team identifies all of the work to be done. The project’s tasks and resource requirements are identified, along with the strategy for producing them. This is also referred to as “scope management.” A project plan is created outlining the activities, tasks, dependencies, and timeframes. The project manager coordinates the preparation of a project budget by providing cost estimates for the labor, equipment, and materials costs. The budget is used to monitor and control cost expenditures during project implementation.

Once the project team has identified the work, prepared the schedule, and estimated the costs, the three fundamental components of the planning process are complete. This is an excellent time to identify and try to deal with anything that might pose a threat to the successful completion of the project. This is called risk management. In risk management, “high-threat” potential problems are identified along with the action that is to be taken on each high-threat potential problem, either to reduce the probability that the problem will occur or to reduce the impact on the project if it does occur. This is also a good time to identify all project stakeholders and establish a communication plan describing the information needed and the delivery method to be used to keep the stakeholders informed.

Finally, you will want to document a quality plan, providing quality targets, assurance, and control measures, along with an acceptance plan, listing the criteria to be met to gain customer acceptance. At this point, the project would have been planned in detail and is ready to be executed.

**Implementation (Execution) Phase**

During the third phase, the implementation phase, the project plan is put into motion and the work of the project is performed. It is important to maintain control and communicate as needed during implementation. Progress is continuously monitored, and appropriate adjustments are made and recorded as variances from the original plan. In any project, a project manager spends most of the time in this step. During project implementation, people are carrying out the tasks, and progress information is being reported through regular team meetings. The project manager uses this information to maintain control over the direction of the project by comparing the progress reports with the project plan to measure the performance of the project activities and take corrective action as needed. The first course of action should always be to bring the project back on course (i.e., to return it to the original plan). If that cannot happen, the team should record variations from the original plan and record and publish modifications to the plan. Throughout this step, project sponsors and other key stakeholders should be kept informed of the project’s status according to the agreed-on frequency and format of communication. The plan should be updated and published on a regular basis.

Status reports should always emphasize the anticipated end point in terms of cost, schedule, and quality of deliverables. Each project deliverable produced should be reviewed for quality and measured against the acceptance criteria. Once all of the deliverables have been produced and the customer has accepted the final solution, the project is ready for closure.

**Closing Phase**

During the final closure, or completion phase, the emphasis is on releasing the final deliverables to the customer, handing over project documentation to the business, terminating supplier contracts, releasing project resources, and communicating the closure of the project to all stakeholders. The last remaining step is to conduct lessons-learned studies to examine what went well and what didn’t. Through this type of analysis, the wisdom of experience is transferred back to the project organization, which will help future project teams.

Example: Project Phases on a Large Multinational Project

A U.S. construction company won a contract to design and build the first copper mine in northern Argentina. There was no existing infrastructure for either the mining industry or large construction projects in this part of South America. During the initiation phase of the project, the project manager focused on defining and finding a project leadership team with the knowledge, skills, and experience to manage a large complex project in a remote area of the globe. The project team set up three offices. One was in Chile, where large mining construction project infrastructure existed. The other two were in Argentina. One was in Buenos Aries to establish relationships and Argentinian expertise, and the second was in Catamarca—the largest town close to the mine site. With offices in place, the project start-up team began developing procedures for getting work done, acquiring the appropriate permits, and developing relationships with Chilean and Argentine partners.

During the planning phase, the project team developed an integrated project schedule that coordinated the activities of the design, procurement, and construction teams. The project controls team also developed a detailed budget that enabled the project team to track project expenditures against the expected expenses. The project design team built on the conceptual design and developed detailed drawings for use by the procurement team. The procurement team used the drawings to begin ordering equipment and materials for the construction team; develop labor projections; refine the construction schedule; and set up the construction site. Although planning is a never-ending process on a project, the planning phase focused on developing sufficient details to allow various parts of the project team to coordinate their work and allow the project management team to make priority decisions.

The implementation phase represents the work done to meet the requirements of the scope of work and fulfill the charter. During the implementation phase, the project team accomplished the work defined in the plan and made adjustments when the project factors changed. Equipment and materials were delivered to the work site, labor was hired and trained, a construction site was built, and all the construction activities, from the arrival of the first dozer to the installation of the final light switch, were accomplished.

The closeout phase included turning over the newly constructed plant to the operations team of the client. A punch list of a few remaining construction items was developed, and those items completed. The office in Catamarca was closed, the office in Buenos Aries archived all the project documents, and the Chilean office was already working on the next project. The accounting books were reconciled and closed, final reports written and distributed, and the project manager started on a new project.

**Q.2.What are the roles of data collection and report in project completion**

**Data collection** is the process of gathering and measuring information on targeted variables in an established system, which then enables one to answer relevant questions and evaluate outcomes.

Data collection is a way to describe a process of preparing and collection data. Furthermore, data collection can define as an important aspect of any type of research study. Any inaccurate data collection may lead to invalid result and affect result of study. In other word, this chapter will review method applies in data collection that determine the level of knowledge of the all site workers awareness to hazardous work and safety and health training. A research study can gain information with two sources which are primary sources and secondary sources. The information that obtains by internet, book, journals and magazines are secondary sources. However, interview and questionnaire are classified as primary sources which these two methods can obtains information and get a real picture of the study.

Project completion report is a formal document of closing of a project. You must prepare the project completion report even if your supporting agency does not put the obligation on you. It is a document of [organization](https://www2.fundsforngos.org/tag/organisations/)’s learning also. Hence it must be prepared and preserved. For writing Project completion report:

* Create the title page outlining the project title, its starting and ending date and name of the supporting as well as implementation agencies.
* Add the table of contents.
* Give an overview of the project writing a summary statement that the project is complete as the beginning of the overview. Further describe your project in the background of the problems aimed by the project and specify the goals and objectives of the project as well as its intervention area in the overview.
* Describe the results and outcomes of the project.
* You may add a section as project highlights describing the most important aspects of the project.
* Write about the issues, challenges and difficulties as risk summary.
* At the end write about the lessons learnt, what worked during the implement and what did not; what are the ways to improve the intervention.
* You may also give some of the best practices as the appendix in the project completion report.

Hence following the above guidelines, you may prepare the project reports. However, there is always a room for your own creativity and innovative thoughts in your project report.

**METHODOLOGY**

Although adaptable to the size, complexity and needs of any organization, the design process consists of the following steps.

**Charter the design process**

As senior leaders, you come together to discuss current business results, organizational health, environmental demands, etc. and the need to embark on such a process. You establish a charter for the design process that includes a “case for change,” desired outcomes, scope, allocation of resources, time deadlines, participation, communications strategy, and other parameters that will guide the project.

(At times, senior teams may go through either a strategic planning process or an executive team development process prior to beginning a redesign initiative, depending on how clear they are about their strategy and how well they work together as a team.)

**Assess the current state of the business**

You don’t want to begin making changes until you have a good understanding of the current organization. Using our [Transformation Model](http://www.centerod.com/framework/), we facilitate a comprehensive assessment of your organization to understand how it functions, its strengths and weaknesses, and alignment to your core ideology and business strategy. The assessment process is astounding in the clarity it brings an organization’s leaders and members, not only regarding how the organization currently works but how the various parts are interrelated, its overall state of health and, most importantly, what needs to be done to make improvements.

**Design the new organization**

The senior team (and/or others who have been invited to participate in the process), look to the future and develop a complete set of design recommendations for the “ideal future.” At a high level, the steps in this process include the following:

* Defining your basic organizing principle. (Will you organize primarily around functions, processes, customer-types, technologies, geographies, etc.?)
* Streamlining core business processes—those that result in revenue and/or deliverables to customers.
* Documenting and standardizing procedures.
* Organizing people around core processes. Identifying headcount necessary to do core work.
* Defining tasks, functions, and skills. What are the performance metrics for each function/team? How are they evaluated and held accountable?
* Determining facility, layout and equipment needs of various teams and departments throughout the organization.
* Identifying support resources (finance, sales, HR, etc.), mission, staffing, etc. and where should these should be located.
* Defining the management structure that provides strategic, coordinating and operational support.
* Improving coordinating and development systems (hiring, training, compensation, information-sharing, goal-setting, etc.).

At some point the design process morphs into transition planning as critical implementation dates are set and specific, concrete action plans created to implement the new design. And a key part of this step includes communicating progress to other members of the organization. A communications plan is developed that educates people in what is happening. Education brings awareness, and everyone’s inclusion brings the beginning of commitment.

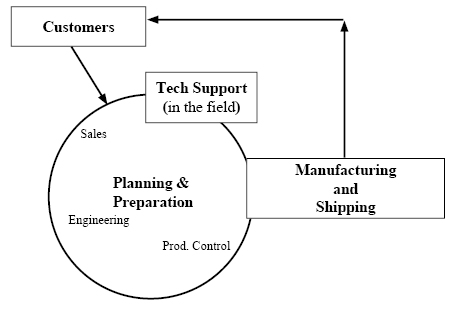
**Implement the design**

Now the task is to make the design live. People are organized into natural work groups which receive training in the new design, team skills and start-up team building. New work roles are learned and new relationships within and without the unit are established. Equipment and facilities are rearranged. Reward systems, performance systems, information sharing, decision-making and management systems are changed and adjusted. Some of this can be accomplished quickly. Some may require more detail and be implemented over a longer period of time.

Example:

A few years back we worked with a company within the aluminum industry. The company recognized they were becoming bureaucratic and unresponsive to their customer’s needs. Following a period of assessment of the strengths and weaknesses of the existing organization, they went through a process of organizational redesign in which they organized their front office functions to become more collaborative and customer focused. The diagrams below illustrate, at a high level, this change.

Pre-design Workflow  
http://www.centerod.com/images/stories/pre_design_workflow.jpg

Post-design   


The first chart illustrates the tendency of most people within organizations to think in terms of silos and organize people according to the similarity of their functions.

The second chart illustrates how the company redefined structural boundaries to become much more cross-functional on the front end of their business. They combined people from a number from a number of departments into teams that took full responsibility for managing customer orders. The company was able to improve their total billings of a major product line by 50% and increase their margins by 25%.

Of course, this chart greatly simplifies all of the design decisions which included improvements in workflow and system support, and the role of leaders and other support functions in the new organization. But this gives you an idea of the kinds of integration and improved collaboration that can result from organizational design.

**SUMMARY**

This approach to redesign results in dramatic improvements in quality, customer service, decreased cycle times, lower turnover and absenteeism, productivity gains from 25 to at least 50%, etc. The good news is that it can be used in most any type and size of business. The length of time required to complete a redesign varies depending on the nature, size and resources of the organization. Large and complex redesign projects can be completed within several days. Smaller organizations require much less time and fewer resources.

**Q.4.Discuss the goals of project management and explain the methods of project selection**

As a project manager, you need to manage people, money, suppliers, equipment—the list is never ending. The trick is to be focused. Set yourself five personal goals to achieve. If you can meet these simple goals for each project, then you will achieve total success.

These goals are generic to all industries and all types of projects. Regardless of your level of experience in project management, set these five goals for every project you manage.

**Goal 1: To Finish on Time**

This is the oldest but trickiest goal in the book. It’s the most difficult because the requirements often change during the project and the schedule was probably optimistic in the first place.

To succeed, you need to manage your scope very carefully. Implement a change control process so that any changes to the scope are properly managed.

Always keep your plan up to date, recording actual vs. planned progress. Identify any deviations from plan and fix them quickly.

**Goal 2: To Finish Under Budget**

To make sure that your project costs don’t spiral, you need to set a project budget at the start to compare against. Include in this budget, all the types of project costs that will accrue, whether they are to do with people, equipment, suppliers or materials. Then work out how much each task in your plan is going to cost to complete and track any deviations from this plan.

Make sure that if you over-spend on some tasks, that you under-spend on others. In this way, you can control you spend and deliver under budget.

**Goal 3: To Meet the Requirements**

The goal here is to meet the requirements that were set for the project at the start. Whether the requirements were to install a new IT system, build a bridge or implement new processes, your project needs to produce solutions which meet these requirements 100%.

The trick here is to make sure that you have a detailed enough set of requirements at the beginning. If they are ambiguous in any way, then what was initially seen as a small piece of work could become huge, taking up valuable time and resources to complete.

**Goal 4: To Keep Customers Happy**

You could finish your project on time, under budget and have met 100% of the requirements—but still have unhappy customers. This is usually because their expectations have changed since the project started and have not been properly managed.

To ensure that your project sponsor, customer and other stakeholders are happy at the end of your project, you need to manage their expectations carefully. Make sure you always keep them properly informed of progress. “Keep it real” by giving them a crystal-clear view of progress to date. Let them voice their concerns or ideas regularly. Tell them upfront when you can’t deliver on time, or when a change needs to be made. Openness and honesty are always the best tools for setting customer expectations.

**Goal 5: To Ensure A Happy Team**

If you can do all of this with a happy team, then you’ll be more than willing to do it all again for the next project. And that’s how your staff will feel also. Staff satisfaction is critical to your project’s success.

So, keep your team happy by rewarding and recognizing them for their successes. Assign them work that complements their strengths and conduct team building exercises to boost morale. With a happy motivated team, you can achieve anything! And there you have it. The five goals you need to set yourself for every project. Of course, you should always work smart to achieve these goals more easily.

While When you have a number of interesting and challenging projects to choose from, finding a project that is the right fit for your team’s skill set, level of competence, and has the best chance of success is the first step in effective project management. Project Selection Methods offer a set of time-tested techniques based on sound logical reasoning to choose a project and filter out undesirable projects with a very low likelihood of success. Project selection methods are an important concept for practicing project managers and aspirants preparing for the PMP® exam alike.

**Benefit Measurement Methods**

Benefit Measurement is a project selection technique based on the present value of estimated cash outflow and inflow. Cost benefits are calculated and then compared to other projects to make a decision. The techniques that are used in Benefit Measurement are as follows:

**Benefit/Cost Ratio**

Cost/Benefit Ratio, as the name suggests, is the ratio between the Present Value of Inflow or the cost invested in a project to the Present Value of Outflow, which is the value of return from the project. Projects that have a higher Benefit-Cost Ratio or lower Cost-Benefit Ratio are generally chosen over others.

**Economic Model**

EVA, or [Economic Value Added](https://en.wikipedia.org/wiki/Economic_value_added), is the performance metric that calculates the worth-creation of the organization while defining the return on capital. It is also defined as the net profit after the deduction of taxes and capital expenditure.

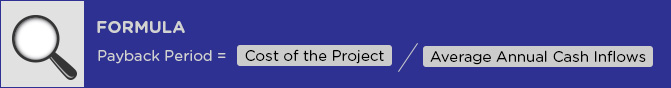
If there are several projects assigned to a project manager, the project that has the highest Economic Value Added is picked. The EVA is always expressed in numerical terms and not as a percentage.

**Scoring Model**

The scoring model is an objective technique: the project selection committee lists relevant criteria, weighs them according to their importance and their priorities, then adds the weighted values. Once the scoring of these projects is completed, the project with the highest score is chosen.

**Payback Period**

[Payback Period](https://en.wikipedia.org/wiki/Payback_period) is the ratio of the total cash to the average per period cash. It is the time necessary to recover the cost invested in the project. The Payback Period is a basic project selection method. As the name suggests, the payback period takes into consideration the payback period of an investment.  It is the time frame that is required for the return on an investment to repay the original cost that was invested. The calculation for payback is fairly simple:



When the Payback period is used as the Project Selection Method, the project that has the shortest Payback period is preferred since the organization can regain the original investment faster. There are, however, a few limitations to this method:

It does not consider the time value of money.

Benefits accrued after the payback period are not considered; it focuses more on the liquidity while profitability is neglected.

Risks involved in individual projects are neglected.

**Net Present Value**

Net Present Value is the difference between the project’s current value of cash inflow and the current value of cash outflow. The NPV must always be positive. When picking a project, one with a higher NPV is preferred. The advantage of considering the NPV over the Payback Period is that it takes into consideration the future value of money. However, there are limitations of the NPV, too:

There isn’t any generally accepted method of deriving the discount value used for the present value calculation.

The NPV does not provide any picture of profit or loss that the organization can make by embarking on a certain project.

For more details on the NPV and how to use the NPV as a tool to filter projects out, here’s an insightful article on calculating the [opportunity costs for projects](https://www.simplilearn.com/opportunity-costs-management-article).

**Discounted Cash Flow**

It’s well-known that the future value of money will not be the same as it is today. For example, $20,000 won’t have the same worth ten years from now. Therefore, during calculations of cost investment and [ROI](https://en.wikipedia.org/wiki/Return_on_investment), be sure to consider the concept of discounted cash flow.

**Internal Rate of Return**

The Internal Rate of Return is the interest rate at which the Net Present Value is zero—attained when the present value of outflow is equal to the present value of inflow. Internal Rate of Return is defined as the “annualized effective compounded return rate” or the “discount rate that makes the net present value of all cash flows (both positive and negative) from a particular investment equal to zero.” The IRR is used to select the project with the best profitability; when picking a project, the one with the higher IRR is chosen.

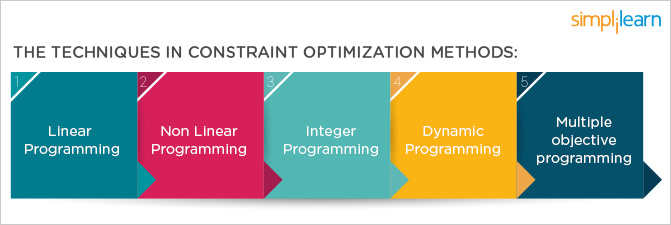
When using the IRR as the project selection criteria, organizations should remember not to use this exclusively to judge the worth of a project; a project with a lower IRR might have a higher NPV and, assuming there is no capital constraint, the project with the higher NPV should be chosen as this increases the shareholders’ profits.

**Opportunity Cost**

Opportunity Cost is the cost that is given up when selecting another project. During project selection, the project that has the lower opportunity cost is chosen.

**Constrained Optimization Methods**

Constrained Optimization Methods, also known as the Mathematical Model of Project Selection, are used for larger projects that require complex and comprehensive mathematical calculations. The techniques that are used in Constrained Optimization Methods are as follows:



**Non-Financial Considerations**

There are non-financial gains that an organization must consider; these factors are related to the overall organizational goals. The organizational strategy is a major factor in project selection methods that will affect the organization’s choice in the choice of project. Customer service relationships are chief among these organizational goals. An important necessity in today’s business world is to build effective, cordial customer relationships.

**Conclusion**

As you now know, Project Selection may be carried out in a number of ways. It is best for an organization to try different methods and consider a wide range of factors before choosing a project to be as certain as possible that the best decision is made for the company.

Simplilearn offers multiple [Project management training](https://www.simplilearn.com/project-management/) courses and learning paths that can help aspiring project managers get the education they need—to pass not only certification exams like the PMP but also real-world knowledge useful for any [project management career](https://www.simplilearn.com/why-should-you-choose-project-management-as-a-career-ccr40-article).

Q**.5.Using examples explain the following**

I. Project evaluation

The **project evaluation** process uses systemic analysis to gather data and reveal the effectiveness and efficiency of your management. This crucial exercise keeps projects on track and informs stakeholders of progress.

Every aspect of the project is measured to determine if it’s proceeding as planned, and if not, inform how project parts be improved. Basically, you’re asking the project a series of questions designed to discover what is working, what can be improved and whether the project is in fact useful. Tools like project dashboards and trackers help in the evaluation process by making key data readily available.

The project evaluation process has been around as long as there have been projects to evaluate. But when it comes to the science of project management, project evaluation can be broken down into three main types: pre-project evaluation, ongoing evaluation and post-project evaluation. So, let’s look at the project evaluation process, what it entails and how you can improve your technique.

**Three Types of Project Evaluation**

There are three points in a project where evaluation is most needed. While you can evaluate your project at any time, these are points where you should have the process officially scheduled.

**(i) Pre-Project Evaluation**

In a sense, you’re pre-evaluating your project when you write your project charter to pitch to the stakeholders. You cannot effectively plan, staff and control a new project if you’ve first not evaluated it. Pre-project evaluation is the only sure way you can determine the effectiveness of the project before executing it.

**(ii) Ongoing Evaluation**

To make sure your project is proceeding as planned and hitting all the scheduling and budget milestones you set, it’s crucial that you are constantly monitoring and reporting on your work in real-time. Only by using metrics can you measure the success of your project and whether or not you’re meeting the project’s goals and objectives.

**(iii) Post-Project Evaluation**

Think of this as a postmortem. The post-project evaluation is when you go through the project’s paperwork, interview the project team and principles, and analyze all relevant data so you can understand what worked and what went wrong. Only by developing this clear picture can you resolve issues in upcoming projects.

**What’s a Project Evaluation Process Look Like?**

Regardless of when you choose to run a project evaluation, the process always has four phases: planning, implementation, completion and dissemination of reports.

**Planning**

When planning for a project evaluation, it’s important to identify the stakeholders and what their short- and long-term goals are. You must make sure your goals and objectives for the project are clear. It’s critical to have settled on a criterion that will tell you whether these goals and objects are being met.

So, you’ll want to write a series of questions to pose to the stakeholders. These queries should include subjects such as the project framework, best practices and metrics that determine success.

By including the stakeholders in your evaluation plan, you’ll receive direction during the course of the project while simultaneously developing a relationship with the stakeholders. They will get progress reports from you throughout the project’s phases, and by building this initial relationship, you’ll likely earn their belief that you can manage the project to their satisfaction.

**Implementation**

While the project is running, you must monitor all aspects to make sure you’re meeting the schedule and budget. Some of the things you should monitor during the project is the percentage completed. This is something you should do when creating status reports and when meeting with your team. To make sure you’re on track, make the team accountable for delivering on their tasks. Also, maintain baseline dates to know when tasks are due.

Don’t forget to keep an eye on quality. It doesn’t matter if you deliver within the allotted time frame if the product is poor. Maintain quality reviews, and don’t delegate that responsibility. Take it on yourself.

Maintaining a close relationship with the project budget is just as important as tracking the schedule and quality. Keep an eye on costs. They will fluctuate throughout the project, so don’t panic. However, be transparent if you notice a need growing for more funds. Let your steering committee know as soon as possible, so there are no surprises.

**Completion**

When you’re done with your project, you still have some work to do. You want to take the data you gathered in the evaluation and learn from it, so you can fix problems that you discovered in the process. Figure out what the short- and long-term impacts are of what you learned in the evaluation.

**Reporting and Disseminating**

Once the evaluation is complete, you need to record the results. This creates a historic record that will provide lessons for the future. Deliver your report to your stakeholders to keep them updated on the progress of the project.

**II.Auditing**

Auditing is defined by the Chartered Institute of Internal Auditors as ‘an independent, objective assurance and consulting activity designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes’. In any audit, the auditor(s) perceives and recognizes the propositions before them for examination, collects evidence, evaluates the same, and on this basis formulates an opinion on the adequacy of controls within the activity being audited. Throughout this guide we use the term ‘project’ to mean ‘a unique, transient endeavor undertaken to achieve planned objectives’ (see APM Body of Knowledge, 6th edition); the audit of programmes and portfolios will require different techniques. Auditing of a project should be seen in the context of the definition of project, programme and portfolio (P3) assurance set out in the APM Body of Knowledge: P3 Assurance is ‘the process of providing confidence to stakeholders that projects, programmes and portfolios will achieve their scope, time, cost and quality objectives, and realize their benefits’.

**III.Termination**

Projects are a means by which organizational strategy is implemented, and may often have social, economic, and environmental impacts that far outlast the projects themselves (Project Management Institute 2000, 4–5). Yet projects by definition are time bound and must terminate. Indeed, the substantive objective of a project is to “attain the objective “and close the project (Project Management Institute 2000, 5). It is certainly important to finish well. Nobody remembers an effective startup, but everyone remembers an ineffective project termination; the consequences are long lasting (Turner 1999, 329).

Certain projects are required to finish before target termination to remain competitive and to get faster returns on the investment (Dey 2000). On the other hand, many projects are aborted midstream, for both volitional and involuntary reasons. As for volitional motives, the business need for the project may no longer exist, and continuing the project will only produce a “white elephant” with little congruence or fit with organizational strategy. Legal problems and environmental concerns may arise, necessitating the dissolution of the project to avoid severe penalties that may exceed any benefit from the project. On the obverse, involuntary failure of the project may occur due to insufficient financial support, poor leadership, weak front-end planning, and excessive negative impacts of project stakeholders.

It is also possible to terminate a project that has not attained all its objectives. Such projects have inflexible deadlines, such as widely advertised conference dates. Whether the preparations and fine details of such a project is complete or not, the project itself has to terminate on the due date. This seems to be common where the deliverable is a service. Yet, not all projects are terminated in the conventional sense. There are four fundamentally different ways to terminate a project (Meredith and Mantel 2000, 540–545):

*Termination by extinction*. The project may be stopped because it has been either successful, or unsuccessful. Examples of successful projects include the launch of a software program; the inauguration of an automobile production line; and, the completion of a new school building. Unsuccessful projects may include a drug manufacture that has failed efficacy tests; a project that is no longer cost-effective; and, a disposal site that has failed to meet environmental standards.

*Termination by addition*. This is where a project is made more or less an external, but full-fledged addition to the parent organization. For example, a new department of a university would be built as an extension of existing university facilities, to operate with substantial independence from other segments of the institution.

*Termination by integration*. This is the most common way of dealing with successful projects, and the most complex. The output of the project becomes part-and-parcel of the operating systems of the parent or client, becoming embedded in day-to-day operations. This requires thorough integration with primary operations at various levels, distributing the output among existing functions.

*Termination by starvation*. As the term suggests, the financial, human, and material resources needed to execute the project are curtailed or withheld. The project is effectively dead, and merely on minimal life-support system for legal reasons. Termination by murder, or “projecticide” is an interesting variation, where the incomplete project is terminated without warning.

A fifth category of project termination could be added to this: *Termination by suspension*. In some cases, a project may be suspended or shelved for a period and resumed at some future point. A pharmaceutical product that needs input from the product of a forthcoming project is an example where it is pointless to continue the project until the key ingredient is available.

The following statistics compiled by the Standish Group should compel our attention (North 2001):

* 31 percent of projects are cancelled before completion.
* 53 percent of projects overrun costs by 188 percent and schedule by 222 percent.
* Only 16 percent are delivered on time, within budget, and with correct functionality.

Considering these staggering statistics, it is clear that the losses to firms implementing projects would run into trillions of dollars in monetary terms alone, apart from loss of markets, opportunity costs, and organizational failures. Therefore, there is an imperative need to analyze the factors causing termination delays with a view to address the problem. The salutary effects of minimizing the chances of delayed termination can hardly be exaggerated.

**Factors Causing Termination Delays**

**Strategi**c

Project success involves strategic control of the formulated goals and the methods used to accomplish the venture. Lack of sustained support by top management can be a serious problem in maintaining the project schedule toward timely completion. Further, the project champion may have lost power in a political shakeout within the parent organization, resulting in the unfortunate demise of the project. In addition, the strategy of the company may have been altered during the project life cycle, making the project incongruous with the firm’s new strategic objectives and directions. The parent organization may have thus lost interest in ensuring project success. Finally, the project in question may have negative effects on other projects being implemented in the overall project portfolio of the firm—and therefore may be delayed, suspended, or killed.

**Financial**

The scope of the project may be inconsistent with the company’s financial strength or strategy. Thus, some companies may simply run out of money towards the end of their project due to underestimation or unforeseen inflation (Dey 2000). In this case work cannot continue, causing serious disruption of schedules and milestones. “Termination by starvation” is a variation of this, where the project is deliberately retarded and killed by choking its financial resources. Further, changes in government regulatory requirements can be costly and time-consuming.

**Behavioral**

The tendency of project participants to postpone irksome or difficult tasks as long as possible can cumulate along the time continuum toward the Commissioning Phase to extend its tail beyond the Target Termination Date (TTD in Exhibit 3). During the Commissioning Phase, project team members are laid off in increasing numbers. This can cause morale problems, with people losing their social contacts nurtured over the project life cycle. Those who remain through the Commissioning Phase also have the anticlimactic experience of slow-down in some aspects of the project. Finally, there is also stress built up due to anxiety about subsequent employment after project termination. The result can be depression and erratic behavior. Some of them may even leave due to burnout, or to seek other employment. Paradoxically, fear of unemployment may impel personnel to retard project progress.

**Organizational**

Inadequate or unwieldy project organization structure can be a problem, as much time is wasted in inefficient logistics, reporting relationships, and information flows. Poor planning of the project details and slipshod scope definition can significantly jeopardize the chances of meeting project targets, including its termination date. Related to this is the all-too-common careless attitude toward planning the commissioning activities. In many cases, the termination date is arbitrarily imposed without considering all milestones, resources, and constraints. Such unrealistic scheduling increases project risk, adds cost, and jeopardizes quality. Further, poor staffing, weak responsibility matrices and tenuous team development cause severe morale and substandard productivity problems. Finally, incompetent project leadership can be disastrous.

**Cultural**

Project commissioning can also be delayed due to ethnic cultural problems that vary from time perceptions, to power relationships, to work ethics.

*Time*. The scrupulous performance of contractors and subcontractors is vital. It is therefore important to thoroughly investigate the credentials. The concept of time differs greatly from one culture to another. Some cultures such as that of the United States (US) look at time from a linear perspective. Time cannot be “wasted” because it never comes back! On the other hand, Middle Eastern cultures treat time in a cyclical manner. For them, it is not a linear phenomenon, but cyclical. This has significant implications from a project perspective. Americans will consider the ability to complete a project on time as a virtue, and to complete it ahead of schedule would be a laudable achievement. Westerners will chafe at unnecessary delays, but Middle Eastern cultures will consider socialization and consequent delays to schedule as culturally acceptable, and even appropriate.

*Work ethics*. In Western cultures, hard work goes in tandem with other values such as materialism, practicality, and efficiency. Further, efficiency is measured in terms of costs and profits. Success is correlated to positive cash flows. In many other cultures, relaxing and engaging in aesthetically pleasing activities are considered important counter-balances to hard work. Efficiency is tempered with enhancement factors such as satisfaction and enjoyment, rather than with purely materialistic motives.

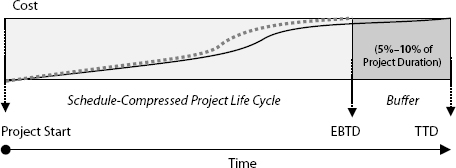
*Contract*. In some countries, contracts are not held in high regard, and they can be violated without serious consequences. Many international legal contracts are therefore not enforceable. This can be a problem when dealing with subcontractors—and even major contractors—who become critical stakeholders in ensuring project success. The records of accomplishment of these key stakeholders to the project should therefore be scrutinized during the bidding process itself.

*Change*. Most people resist change, but Westerners accept it as necessary for practical reasons. In fact, Americans associate change with growth and real progress. On the other hand, some cultures consider changes disrespectful and disruptive.

*Individualism*. Developing nations in general, as well as socialistic Western countries are likely to have a collectivistic tendency. That is, the individual is subordinate to the group’s overall welfare. In capitalistic cultures, individualism is passionately pursued. Consequently, competitiveness, privacy, and idiosyncrasy are prevalent in cultures such as the American.

*Power*. In many countries such as the Scandinavian countries, equality and the democratic approach are cherished, and power mongering is frowned upon. On the other hand, some cultures thrive on hierarchies of power; several advanced countries even practice discrimination based on race, religion, age, or ethnic origin. Middle Eastern and Asian cultures tend to relegate women to a subservient status and frown upon their leadership roles.

**Exhibit 2. Early Bird Termination Date**



**Operational**

Project operations include all production support activities. Operational processes in the project can be both hard and soft. Whereas the hard processes such as equipment operations are predictable and managed with scientific precision, the soft processes such as the training of the client’s staff are fraught with uncertainty and complexity. The operations team of the client that takes over the product may take longer than expected to learn the ropes. In general, operational reasons for delays in commissioning the project revolve around the following:

* Poor project definition and sequencing of the detailed CPM schedule
* Incorrect scope definition, planning, and procurement that frustrate operations
* No mapping of probability and severity of project risks, or plans for risk mitigation
* Technological novelty of innovative projects with high complexity and uncertainty
* Poor contract administration, document control, record keeping, and logistics
* Strong interdependencies between successive activities, with little flexibility
* Poor stakeholder management from Planning Phase to Commissioning Phase
* Engineering and design changes after the Design Phase.

Further, during the Commissioning Phase, it can be a frustrating experience to run into snags when conducting various equipment and process tests. For instance, crucial documents may be missing, and specifications and troubleshooting information may be untraceable. This is made worse by the sharp drop in resource loading during the Commissioning Phase (Exhibit 1), making it difficult to get timely assistance. These bugs can introduce delays through schedule slippages for process, equipment, and program completions.

**Managing for Timely Termination**

Orderly termination on or before the Target Termination Date (TTD) is important to ensure client satisfaction and neat completion of the project and its final payments. It is also good for favorable publicity for the firm, for general goodwill in the community, and for repeat business with competitive clients. Frustration and panic hardly make for good public relations. Yet, timely termination of a project cannot happen by accident. It requires astute, time-conscious, and diligent management on various fronts. Guidelines for this are briefly outlined under several headings and may be modified according to the nature of each project. A summary of factors for late commissioning, and suggested remedies, are given in Exhibit 2.

Little dedicated research has been undertaken to explore the reasons for delays in the termination of projects. Once the project is thoroughly scoped, it is reasonable to aim for and achieve control of every phase and milestone. Timely project termination can be achieved only if delays are not allowed to accumulate through the project phases. This paper has looked briefly at strategic, financial, behavioral, organizational, cultural, and operational reasons for tardy project termination. These ideas need to be empirically tested. For instance, completed projects could be examined in three diverse industries (e.g., computer, automobile, and petro-chemical) for causes of termination delays. What are the factors that could be controlled within the project? What potential problems need to be controlled from outside the project? What are the weighted impacts of stakeholders? Have they helped or hindered project progress? How can project personnel be motivated to work concertedly towards timely project termination? These could be investigated in depth for new insights. This effort would be well worth it, for there is much at stake when companies fail to launch their facilities, products, and services in a timely manner in an unforgiving, competitive environment.

A project can be pictured as a ship being constructed in an artificial harbor, hemmed in by the constraints of time, cost, and performance criteria. The fledgling behemoth is given every protection possible, all the resources needed, and systematically transitioned from phase to phase. When the vessel is ready to be launched, she acquires a fresh beauty, identity, and life of her own. She sails gracefully under her own power towards the opening of the harbor. It is not the end of a tunnel with a mere glimmer of light, but a vast and sun-drenched ocean of opportunity and excitement. The ship can expect to be tempest-tossed, but whether she will weather the occasional storm will depend crucially on what transpired during the construction of the project. Project commissioning management plays a major role in the destiny of the “ship” produced by the project. Successful project termination can best be achieved when it is conceived and formalized at the beginning of the project and sustained as a guiding principle through every phase of the project. Termination then is a herald’s trumpet—not a swansong.

**Q.6.What is expected of a project leader?**

A Project leader is a role performed by an assigned, trained individual to lead a project to success. Project Leaders can hold any designation in an organization based on the role they may have to play in the project. A project can be either short term or long term. If the project is short term, we may have a single leader with defined timeline to achieve the goals. When the project is long term, we may need a main project leader ad their back up leaders to ensure a smooth progress in event of a long absence or movement of the leader from the organization for better prospects.

**Requirements and roles of a Project Leader**

* 1. Expert in the domain for which they have to lead
  2. Make clear plans on what, when and how the project goals have to be achieved
  3. Possess people management and motivational skills to manage any or attitude issues of any team members.
  4. Should be highly interactive and keep an unbiased attitude towards each team member.
  5. Should have right presence of mind to tackle difficult situations immediately
  6. Lead the team members to perform their roles efficiently so that the project goals are achieved.
  7. Review and give individual feedback to improve the skills of the team members so that performance of the project improves overall.
  8. Create a sense of bonding between team members that would result in a team work rather than individual contribution which may not synchronize well with the output of other individual outputs.
  9. Open for feedback from team members and convey a positive message to the team members as and when applicable.
  10. Clearly measure individual performance and contributions towards the success of the project and ensure a rewarding system that is set to felicitate the achievers.

The role of a Project leader may be more than what has been listed above depending on the organizational requirement. Most of the additional roles may be linked with administrative role that is required by other departments (Payroll, transport, HR etc.).

The role of a Six sigma Project leader is also the same or almost similar. The difference we can clearly see is the high degree of people management as the team members would be performing dual roles-one for the Six Sigma project and the main role for their actual project/team. Hence the Six Sigma project leader must align and focus the team member’s contribution towards the goal as the team members may not lace appropriate importance to a short-term role. Dual reporting also requires a Six Sigma project leader to constantly keep a good working relationship with the process owners to successfully move on with the project without any obstacles.

**Q.7.Discuss in detail the attributes of a project leader?**

Good project managers are unfortunately few and far between. In addition to coordinating tasks and overseeing employees, Project Leaders must lead their teams with passion and enthusiasm every day. With so many activities and deadlines to juggle though, they can sometimes lose track of what it means to be a true leader. The first step in becoming a better Project Leader is to understand the traits that make PM’s successful.

Here are the most important characteristics that a project manager should strive to embody:

**VISION**An effective project leader is often described as having a vision of where to go and the ability to articulate it. Visionaries thrive on change and being able to draw new boundaries. It was once said that a leader is someone who ‘lifts us up, gives us a reason for being and gives the vision and spirit to change’. Visionary leaders enable people to feel that they have a real stake in the project. They empower people to experience their vision on their own. They offer people opportunities to create their own vision, to explore what the vision will mean to their jobs and lives, and to envision their future as part of the vision for the organization.  
**COMMUNICATION**  
In all elements of work life the most common complaint about an organization is ‘lack of communication.’ Project leadership calls for clear communication about goals, responsibility, performance, expectations and feedback. The projects leader is also the team’s link to the larger organization. The leader must have the ability to effectively negotiate and use persuasion when necessary to ensure the success of the team and project. The PMI (Project Management Institute) suggest a project manager should spend 90 per cent of their time communicating.  
**INTEGRITY**  
Call it honesty, integrity or loyalty. The project manager needs to have them all.  His/her actions set an example for the rest of the team members. He/she is ultimately responsible for setting ethical standards for the rest of the team. The project manager should practice what they preach and in turn earn trust.  
**ENTHUSIASM/PASSION**  
We tend to follow people with a can-do attitude, not those who are always negative and give us all the reasons for why something can’t be done. Enthusiastic leaders are committed to their goals and express this commitment through optimism. Enthusiasm is contagious and effective leaders know this. A project manager without passion, is one, that is simply put, lacking definition.  
**EMPATHY/COMPASSION**  
Empathy/compassion must not be mistaken for sympathy. Although the words are similar, they are mutually exclusive. Empathy means to understand. A good project manager needs to understand that there is life outside the workplace and that people are not machines without emotions. By doing so he/she will develop a personal relationship with the team members that will serve as a tool for better results.  
**COMPETENCE**  
The team must believe that the project manager knows what he/she is doing. Leadership competence does not however necessarily refer to the project leader’s technical abilities in the core technology of the business. As project management continues to be recognized as a field in and of itself, project leaders will be chosen based on their ability to successfully lead others rather than on technical expertise, as in the past. The ability to challenge, inspire, enable, model and encourage must be demonstrated if leaders are to be seen as capable and competent. It is also essential to recognize when you’re not an expert in a certain field. Project management qualifications are greatly recognized in this day and age and expand a project managers’ knowledge further.  
**DELEGATION**  
The project manager should be able to delegate with ease. He/she should be able to recognize the skills and expertise of his team members and assign or delegate the tasks accordingly to those. Trust is an essential element in the relationship of a project leader and his or her team. You demonstrate your trust in others through your actions – how much you check and control their work; how much you delegate and how much you allow people to participate. Individuals who are unable to trust other people often fail as leaders.  
**COMPOSURE**  
There are times when things do not go as expected. In such cases, the project manager needs to maintain their cool and be composed no matter what level of pressure they are under. A leader with a hardy attitude will take these problems in their stride. When leaders encounter a stressful event, they consider it interesting, they feel they can influence the outcome and they see it as an opportunity.  
**TEAM BUILDING**  
The project manager needs to be a good team builder. A team builder can best be defined as a strong person who provides the substance that holds the team together in common purpose toward the right objective. The team starts as a group of strangers and needs to be made into a core group of people. Keeping the sense of team spirit alive despite the many problems in the project’s execution, is another crucial quality a project manager should have.  
**PROBLEM SOLVING**  
An efficient project manager should be capable of solving any or all problems, either with the team or the project itself. The team members should trust the project manager to solve their problems but also involve the team in problem solving also.  
A great project manager not only has to have all of these qualities but also know when to employ them and to what extent.

**Q.8.With the help of the risks and mitigants pyramid explain project financing**

Project finance refers to the arrangement of financial support for a specific project, with the purpose of gaining cash flow in the future. Mostly, large and complex operations such as oil and gas explorations, dams, power plants and roads utilize project financing. The types of projects considered for funding include:

* Long-term infrastructure;
* Industrial projects;
* Public services with a non-recourse or limited recourse financial structure.

Note: with a non-recourse loan, a debtor will not be able to pursue any payment beyond the seizure of the asset.

The [loan structure](https://www.investopedia.com/terms/p/projectfinance.asp) of project finance is made up of three elements: build, operate and transfer (BOT). The major components of project financing are:

* Financing of long-term infrastructure projects – these projects not only have a low technological risk but also possess a predictable market. They are the most appropriate sectors for developing innovative financial techniques.
* Non-recourse and limited recourse financial structure – special purpose vehicle (SPV) is the sole economic entity on which project financing is based and is considered a source of loan reimbursement by the lenders. In a situation when the borrower is in debt, structured financing gives the lender the right to capture the assets of the SPV.
* Payment from the generated cash flow – the majority of the amount received from cash flow is utilized to fund the operating costs and repay debts. Any remaining funds can be used to pay dividends to the sponsors handling project finance.

**Risk in project finance**

The direct financing of infrastructure and industrial projects typically includes the following risks:

* In case the sponsor disagrees with the terms of the transaction, the financial institution providing the funds can gain control of the project assets;
* The project generally encounters challenging social and environmental issues because of its large and complex operations;
* Halting of project operations can lead to legal complications, posing a direct financial risk, thereby threatening the success of the project;
* Furthermore, larger projects lead to exceeding budgets failing to set issues like:
* Delays in project delivery due to technical problems;
* Pre-exaggerated benefits not matching the larger strategy;
* Unavailability of financial resources;
* Multiple design reconstructions.

A large portion of the above-mentioned risks can be avoided with a contemporary, end-to-end integrated risk management system. A risk manager should be placed at the level of an executive committee of a relevant organization. Each company should include risk management as a part of its operations to get an insight into the relevant risks with the help of the following aspects:

* Identifying risks – major risks should be reviewed regularly to avoid unexpected disasters. New risks spotted should be immediately added to the list and mitigations put in place to prevent the risks from causing irreversible loss.
* Accessing impact and probability – as probability and impact vary throughout the project duration, it is necessary to observe both these dimensions when assessing a risk. An original scale must always be used to quantify the impact and probability measures accurately.
* Mitigating risks – risks should be mitigated wherever possible as it will ensure that an efficient risk management team is in place and the workforce is managed well.
* Calculating residual impact and probability – If a temporary or damage control solution is provided, the risk will not be critical anymore. Thus, calculation of residual impact and probability makes sure that risk management is functioning well, further reducing the effects of the risk.
* Re-classifying risks – risks are often reassessed to gauge the level of its potency. Once proven to be less critical, risks managers can permanently shift their focus to the next important risk and try to mitigate it as well.
* Prioritizing risks – based on the previous two criteria, we can priorities all risks in a one-dimensional manner, in the form of a risk matrix. Risk matrix is a tabulated form of classification, which is based on Multi-Criteria Decision Analysis (MCDA)

**Risk management methods in project financing**

It is essential that risk management is the foundation of all project engagement. Generally, the risk manager on site is responsible for ensuring that risk management remains the focus. These are the steps:

* Risk identification– risk identification refers to the refining and re-organization of risk administration to transform the project, both realistically and profitably. The generic risk factors include:
* Technological risk;
* Natural disasters;
* Cost overrun;
* Delay in project execution;
* Credit risk;
* Cash-flow risk;
* Financial market risk;
* Political risks.
* Risk assessment – risk assessment involves re-allocation of risks to parties in the form of a risk matrix. This enables the management to better understand the major risk elements of a large infrastructure.
* Risk quantification – this signifies the mathematical calculation of risk measures. Risk quantification enables us to calculate the expected loss of a loan.

Risk is a part of every project, but understanding, analyzing and addressing those risks help an organization achieve its objectives. The learning platform of the London School of Business and Finance (LSBF) consists of a [wide range of programmes](https://www.lsbf.org.uk/programmes) concentrated on finance. These undergraduate and postgraduate courses will provide you with an in-depth understanding of financial risk management.

**Q.9.What are the sources for finance for a project, discuss each in detail**

Project financing is a means of obtaining funds for industrial projects, long-term infrastructure, and public services. Many businesses use this funding method to take care of major projects using a non-recourse or limited financial structure. There are several ways to secure project finance, such as investor, loans, private finance, equity, funds, grants, etc. The repayment is managed from the cash-flow generated off the project.

It is a secured form of lending, accepting the project’s rights, assets, and interests as collateral. Project loans are useful in more than one way. It can help expand the manufacturing capacity, rent a workstation, upgrade technology, handle unexpected expenses, experimentation for a new service or a product, create a cash pool, etc.

Below, we have discussed different sources from where one can obtain project financing.

**Business Angels**

Business Angels have a vast experience in the industry they operate in. Private investors may invest in a company for a capital gain. The investment is for a place on board or an equity stake.

**Venture Capital**

Venture capitalists invest in a project for a non-executive position on the board. They provide capital in exchange of an equity share or a position at a strategic level. Once the value of shares increase, they may sell those for a profit.

**Loan for Business**

Apart from secured lending, a company can choose unsecured [**business loan**](https://www.loanbaba.com/business-loan/) that comes for a fixed tenure with a repayment plan. The cost of loan is determined by estimating the returns from the project. The interest payment is tax deductible in some cases. An agreement is made between the financial institution and the borrower for a specific loan amount and tenure.

**Overdrafts**

Overdrafts are ideal for a short-term finance. The period of overdraft facility is for a year or less. The interest is only charged on the amount spent from the person’s account. Such financing can be arranged quickly like business loans.

**Share Capital**

The shareholders get profits from dividend. This share of profit is derived from ordinary shares (owned by business owners who can share profits of an organization from dividends) or preference shares (does not belong to company owners but a third-party). Capital gain is expected from selling the shares in future. It is the company shareholders who raise the Share Capital.

**Debentures**

Debenture loans come with a fixed or a floating rate and provided against an organization’s assets. The debenture holders receive payment of interest before the shareholders receive their dividend payment. If the business fails, then these holders are liable as preferential creditors.

A project loan offers a great opportunity to fund-providers and investors to be a part of the company’s growth process and share its profits. The above-mentioned sources for project financing are crucial for new companies. Apart from these sources, a few others to mention are project grants and government funding.

**Q.10.What is the importance of looking at the sources of finance for a project**

The three main sources of funding for a business are revenues from business operations, investor finances such as owner’s, partner’s or venture capital, and loans from individuals or financial institutions. Businesses need finances for daily operations and to meet essential expenses and payments. Expenses are either short term, such as payroll payments, or long term, such as purchasing buildings.

**Meeting Goals**

It is impossible to achieve your long-term and short-term goals without effectively managing your finances. Inefficient management of finances could lead to liquidity shortages. You need funds for business growth, market competition, and to keep your business operational and maintain your customer base. If your finances are restricted, risks that can negatively affect the accumulation of necessary business funds should be hedged with adequate insurance coverage and effective internal controls. You can obtain insurance for accidents, liabilities and business vehicles to protect your finances from sudden untoward impacts

**Short-Term Activities**

Your business can come to a halt or your working capital management may be jeopardized if you do not have the essential finances to cover short-term expenses. Creditors can demand payment for the items or services they have delivered to you at any time. Failure to meet these demands can cause inventory shortages or damaged business relations. Short-term sources of finance, such as cash revenue and advance receipts, must be obtained sufficiently through effective debt and discount policies. Preparing cash budgets can help you forecast outflow of money and the amount of finances needed to meet those outflows.

**Long-Term Activities**

Long-term sources of finance must be available for achievement of long-term goals, such as purchasing new machines. Relying on short-term sources would lead to a finance shortage for long-term projects and could repeatedly stall these projects. Finance long-term projects using your business’s savings or obtain bank loans. To fund expenses of such magnitude, you cannot rely on short-term financial sources, because doing so could adversely impact your short-term activities. Use tools such as capital budgeting and proper planning to time when your long-term expenses occur.

**Achieving Financial Goals**

Every business owner has a vision for his company, and that vision is frequently manipulated by managing and prioritizing the use of financial resources. Given a set amount of finances, your financial objectives and anticipations will shape how you spend your business funds. For example, your immediate goal may be to increase sales by financing discounts, or you may have a long-term goal of expanding your manufacturing capacity for lower average costs. If you draw most of your finances from loans, repaying the principal amount and interest should concern you. If you obtain financing from your investors’ money, giving them the best possible returns must be a key objective.

11.With the aid of the project finance structure discuss the various participants and their relevance

The term “project finance” is used loosely by academics, bankers and journalists to describe a range of financing arrangements. Often bandied about in trade journals and industry conferences as a new financing technique, project finance is actually a centuries-old financing method that predates corporate finance. However, with the explosive growth in privately financed infrastructure projects in the developing world, the technique is enjoying renewed attention. The purposes of this note are to contrast project finance with traditional corporate financing techniques; to highlight the advantages and disadvantages of project finance and; to propose that a single structure underlies every project finance transaction; to explain the myriad of risks involved in these transactions; and, to raise questions for future research.

Project financing techniques date back to at least 1299 A.D. when the English Crown financed the exploration and the development of the Devon silver mines by repaying the Florentine merchant bank, Frescobaldi, with output from the mines.1 The Italian bankers held a one-year lease and mining concession, i.e., they were entitled to as much silver as they could mine during the year. In this example, the chief characteristic of the project financing is the use of the project’s output or assets to secure financing.

Another form of project finance was used to fund sailing ship voyages until the 17th century. Investors would provide financing for trading expeditions on a voyage-by voyage basis. Upon return, the cargo and ships would be liquidated, and the proceeds of the voyage split amongst investors.2 An individual investor then could decide whether or not to invest in the sailing ship’s next voyage, or to put the capital to other uses. In this early example the essential aspect of project financing is the finite life of the enterprise. In corporate finance terms, we can also think of this mandatory liquidation as a fixed dividend policy. The idea of project finance predated the idea of permanent capital entrusted to a group of professional managers who would decide rather autonomously between paying dividends and reinvestment.

Project financing has evolved through the centuries into primarily a vehicle for assembling a consortium of investors, lenders and other participants to undertake infrastructure projects that would be too large for individual investors to underwrite. The more recent prominent examples of project finance structures facilitating projects are the construction of the Trans-Alaskan pipeline and exploration and exploitation of the North Sea oil fields. In the late 1990s, the technique has become rather prevalent and is frequently used to finance independent power plants and other infrastructure projects around the world as governments face budgetary constraints

The various participants of project finance structure are briefly explained as follows:

**Government**. Though local governments generally participate only indirectly in projects, their role is often most influential. The local government’s influence might include: approval of the project, control of the state company that sponsors the project, responsibility for operating and environmental licenses, tax holidays, supply guarantees, and industry regulations or policies, providing operating concessions.

**Project sponsors or owners**. The sponsors are the generally the project owners with an equity stake in the project. It is possible for a single company or for a consortium to sponsor a project. Typical sponsors include foreign multinationals, local companies, contractors, operators, suppliers or other participants. The World Bank estimates that the equity stake of sponsors is typically about 30 percent of project costs. Because project financings use the project company as the financing vehicle and raise nonrecourse debt, the project sponsors do not put their corporate balance sheets directly at risk in these often-high-risk projects. However, some project sponsors incur indirect risk by financing their equity or debt contributions through their corporate balance sheets. To further buffer corporate liability, many of the multinational sponsors establish local subsidiaries as the project’s investment vehicle.

**Project company.** The project company is a single-purpose entity created solely for the purpose of executing the project. Controlled by project sponsors, it is the center of the project through its contractual arrangements with operators, contractors, suppliers and customers. Typically, the only source of income for the project company is the tariff or throughput charge from the project. The amount of the tariff or charge is generally extensively detailed in the off-take agreement. Thus, this agreement is the project company’s sole means of servicing its debt. Often the project company is the project sponsors’ financing vehicle for the project, i.e., it is the borrower for the project. The creation of the project company and its role as borrower represent the limited recourse characteristic of project finance. However, this does not have to be the case. It is possible for the project sponsors to borrow funds independently based on their own balance sheets or rights to the project.

**Contracto**r. The contractor is responsible for constructing the project to the technical specifications outlined in the contract with the project company. These primary contractors will then sub-contract with local firms for components of the construction. Contractors also own stakes in projects. For example, Asia Brown Boveri “created a fund, ABB Funding Partners, to purchase stakes in projects where ABB is a contractor. Subscribers to the fund are a mixture of institutional investors focused on the energy sector, and the financing arms of big contractors.” Richard Ingham, managing director of the project finance group at Chase Manhattan, argues that much of the infrastructure development “is being driven by the contractors which may ultimately view equity investment as a cost of doing business.”

**Operator**. Operators are responsible for maintaining the quality of the project’s assets and operating the power plant, pipeline, etc. at maximum efficiency. It is not uncommon for operators to also hold an equity stake in a project. Depending on the technological sophistication required to run the project, the operator might be a multinational, a local company or a joint-venture.

**Supplier**. The supplier provides the critical input to the project. For a power plant, the supplier would be the fuel supplier. But the supplier does not necessarily have to supply a tangible commodity. In the case of a mine, the supplier might be the government through a mining concession. For toll roads or pipeline, the critical input is the right-of-way for construction which is granted by the local or federal government.

**Custome**r. The customer is the party who is willing to purchase the project’s output, whether the output be a product (electrical power, extracted minerals, etc.) or a service (electrical power transmission or pipeline distribution). The goal for the project company is to engage customers who are willing to sign long-term, offtake agreements.

**Commercial banks.** Commercial banks represent a primary source of funds for project financings. In arranging these large loans, the banks often form syndicates to sell-down their interests. The syndicate is important not only for raising the large amounts of capital required, but also for de facto political insurance. Even though commercial banks are not generally very comfortable with taking long term project finance risk in emerging markets, they are very comfortable with financing projects through the construction period. In addition, a project might be better served by having commercial banks finance the construction phase because banks have expertise in loan monitoring on a month-to-month basis, and because the bank group has the flexibility to renegotiate the construction loan.

**Capital markets**. Major investment banks have recently completed a number of capital market issues for international infrastructure projects. Through the private placement market, the banks have successfully raised capital from institutional investors. As a consequence, many pundits are touting the capital markets as the instrument of choice for financing emerging markets transactions. The capital market route can be cheaper and quicker than arranging a bank loan. In addition, the credit agreement under a capital market is often less restrictive than that in a bank loan. Furthermore, these financings might be for longer periods than commercial bank lending; might offer fixed interest rates; and can access wider pool of available capital and investors such as pension funds.

The disadvantages of capital market financings include: the necessity of preparing a more extensive disclosure document; capital market investors are less likely to assume construction risk; the bond trustee plays a greater role; more disparate investors - not a club of banks; unlike bank debt, proceeds are disbursed in a single lump sum, leading to negative carrying costs. Credit agency ratings for project finance transactions, however, are making the capital market route much smoother by making credit evaluations more transparent.

**Reference:**

*Clark, Kim B., and Steven C. Wheelwright. (1993). Managing New Product and Process Development: Text and Cases.New York: The Free Press.*

*Clark K., W. B. Chew, and T. Fujimoto. (1991). Product Development In the World Auto Industry: Strategy, Organization and Performance. Boston, MA: Harvard Business School Press.*

*Cleland, D. I. (1998). Strategic project management. In J. K. Pinto (Ed.), Project Management Handbook. A Francisco, CA: Jossey-Bass.*

*Cooke-Davies, Terence J. (2000). Toward Improved Project Management Practice: Uncovering the Evidence for Effective Practices through Empirical Research. UK: Leeds Metropolitan University.*

*Curling, David H. (1998). Globalization of the Project Management Profession. Accessed at*[*http://www.pmforum.org/docs/prof2col.htm*](http://www.pmforum.org/docs/prof2col.htm)*.*

*Dey, Prasanta Kumar. (2000). Managing projects in fast track: A case of public sector organization in India. International Journal of Public Sector Management 13 (7): 588–609.*

*IPMA. (2001). Project management creativity. IPMA International Symposium and NORDNET 2001 Proceedings in Stockholm, Sweden, May 31–June 1.*

*Kamara, John M., Chimay J. Anumba, and Nosa F. O. Evbuomwan. (2001). Assessing the suitability of current briefing practices in construction within a concurrent engineering framework. International Journal of Project Management 19: 337–51.*

*Lundin, Rolf A., and Anders Söderholm. (1998a). Conceptualizing a projectivized society. In Rolf A. Lundin and Christophe Midler (Eds.), Projects as Arenas for Renewal and Learning Processes. MA: Kluwer Academic Publishers.*

*———. 1998b. Managing the black boxes of the project environment. In J. K. Pinto (Ed.), Project Management Handbook. San Francisco, CA: Jossey-Bass.*

*Meredith, Jack R., and Samuel J. Mantel. (2000). Project Management: A Managerial Approach. New York: John Wiley & Sons.*

*Project Management Institute. (2000). A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – 2000 Edition. Newtown Square, PA: Project Management Institute.*

*Prasad, B. (1996). Concurrent Engineering Fundamentals (vol. 1): Integrated Products and Process Organization. NJ: Prentice Hall.*

*Sohmen, Victor. (1992). Capital project commissioning: Factors for success. Proceedings of the First World Congress on Project Management and Cost Engineering in Orlando, FL.*

*Steyn, Herman. (2001). An investigation into the fundamentals of critical chain project scheduling. International Journal of Project Management 19: 363–69.*

*Tukel, Oya Lemeli, and Walter O. Rom. (2001). An empirical investigation of project evaluation criteria. International Journal of Operations & Production Management 21 (3): 400–416.*

*Webster, Gordon. (1999). Project definition—The missing link. Industrial and Commercial Training 31 (6): 240–245.*

*Whittaker, John. (2000). Reflection on the challenging nature of projects. In Rolf A. Lundin and Francis Hartman (Eds.), Projects as Business Constituents and Guiding Motives. MA: Kluwer Academic Press.*

*Turner, Rodney J. (1999). The Handbook of Project-Based Management. UK: McGraw-Hill, Berkshir*