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

A project life cycle is the series of phases that a project passes through from its start to its completion. A project phase is a collection of logically related project activities that culminates in the completion of one or more deliverables. The phases can be successive, iterative, or overlapping. The names, number, and duration of the project phases are determined by the management and control needs of the organizations involved in the project, the nature of the project itself, and its area of application. Phases are time bound, with a start and end or control point (sometimes referred to as a phase review, phase gate, control gate, or other similar term). At the control point, the project charter and business documents are re-examined based on the current environment. At that time, the project’s performance is compared to the project management plan to determine if the project should be changed, terminated, or continue as planned.

The project life cycle can be influenced by the unique aspects of the organization, industry, development method, or technology employed. While every project has a start and end, the specific deliverables and work that take place vary widely depending on the project. The life cycle provides the basic framework for managing the project, regardless of the specific work involved.

Though projects vary in size and the amount of complexity they contain, a typical project can be mapped to the following project life cycle structure. (PMI, 2017)

* Starting the project,
* Organizing and preparing,
* Carrying out the work, and
* Closing the project

Project Lifecycle

Generic Phases

**A generic life cycle structure typically displays the following characteristics:**

* Cost and staffing levels are low at the start, increase as the work is carried out, and drop rapidly as the project draws to a close.
* Risk is greatest at the start of the project as these factors decrease over the life cycle of the project as decisions are reached and as deliverables are accepted.
* The ability of stakeholders to influence the final characteristics of the project’s product, without significantly impacting cost and schedule, is highest at the start of the project and decreases as the project progresses toward completion. the cost of making changes and correcting errors typically increases substantially as the project approaches completion

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

In addition to the primary researcher(s), there might be others involved in the research process that take part in aspects of data management. By clearly defining the roles and responsibilities of the parties involved, data are more likely to be available for use by the primary researchers and anyone re-using the data. Roles and responsibilities should be clearly defined, rather than assumed; this is especially important for collaborative projects that involve many researchers, institutions, and/or groups. Eynden V D., at al (2011).

**Roles of data collection**

**Examples of roles in data management:**

* data collector
* metadata generator
* data analyzer
* project director
* data model and/or database designer
* computing staff responsible for backup and/or storage
* staff responsible for running instruments
* administrative support staff responsible for grant submission
* specialized skills as defined in the plan (GIS, relational database design/implementation, computer programming of sensors/input forms, etc.)
* External data center or archive.

**Steps for assigning data management responsibilities:**

* For each task identified in your data management plan, identify the skills needed to perform the task
* Match skills needed to available staff and identify gaps
* Develop training/hiring plan
* Develop staffing/training budget and incorporate into project budget
* Assign responsible parties and monitor results.

**Report in project completion:**

The project is unique in nature and it has its end one day, be it completed or closed.

**Project manager** is given the authority to manage the project. A completion report of the project is submitted internally to organization, in brief covering important aspects or based on desired outlines for the project.

Below is a format for submitting Project Completion Report. The document is a suggested reference only and can be customized to the project definition by adding or deleting certain referenced points.

The Government departments may have their own requirements associated with the approval of the projects, and as such they should be considered for the fictionalization of project completion reports. *SK Saxena (November 29, 2018)*

The project completion report is in fact a final progress report providing a comparison between the start of the project and the situation at the end of the project. Moreover, the project completion report includes lessons learnt and recommendations. The project completion report should reflect the opinion of both the implementing team and the beneficiaries.

**Instruction for project completion report**

The summary of the evaluation meeting with the beneficiaries makes up the most important part of the final report. In addition, the report should allow the reader to get sufficient insight in the purpose, results and activities of the project. A guidance document for the evaluation meeting with beneficiaries is provided. Finally, the implementing team is requested to write a short text for publication purposes.

**Question 3.What is organizational design? Explain your answer with examples**

Organizational design is a step-by-step methodology which identifies dysfunctional aspects of work flow, procedures, structures and systems, realigns them to fit current business realities/goals and then develops plans to implement the new changes. The process focuses on improving both the technical and people side of the business.

For most companies, the design process leads to a more effective organization design, significantly improved results (profitability, customer service, internal operations), and employees who are empowered and committed to the business. The hallmark of the design process is a comprehensive and holistic approach to organizational improvement that touches all aspects of organizational life, so you can achieve:

* Excellent customer service
* Increased profitability
* Reduced operating costs
* Improved efficiency and cycle time
* A culture of committed and engaged employees
* A clear strategy for managing and growing your business

By design we’re talking about the integration of people with core business processes, technology and systems. A well-designed organization ensures that the form of the organization matches its purpose or strategy, meets the challenges posed by business realities and significantly increases the likelihood that the collective efforts of people will be successful.

As companies grow and the challenges in the external environment become more complex, businesses processes, structures and systems that once worked become barriers to efficiency, customer service, employee morale and financial profitability. Organizations that do not periodically renew themselves suffer from such symptoms as:

* Inefficient workflow with breakdowns and non-value-added steps
* Redundancies in effort (“we don’t have time to do things right, but do have time to do them over”)
* Fragmented work with little regard for good of the whole (Production ships bad parts to meet their quotas)
* Lack of knowledge and focus on the customer
* Silo mentality and turf battles
* Lack of ownership (“It’s not my job”)
* Cover up and blame rather than identifying and solving problems
* Delays in decision-making
* People don’t have information or authority to solve problems when and where they occur
* Management, rather than the front line, is responsible for solving problems when things go wrong
* It takes a long time to get something done
* Systems are ill-defined or reinforce wrong behaviors
* Mistrust between workers and management

**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, 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.

**Designing 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 customers’ 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**

**Post-design workflow**



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. *(DR. Allen R. K. February 8, 2012)*

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

**Goals of project management:**

**Objectives/Goals**

Project Management has developed in order to plan, co-ordinate and control the complex and diverse activities of modern industrial and commercial projects. All projects share one common characteristic - the projection of ideas and activities into new endeavors.

The purpose of project management is to foresee or predict as many dangers and problems as possible; and to plan, organize and control activities so that the project is completed as successfully as possible in spite of all the risks. The ever-present element of risk and uncertainty means that events and tasks leading to completion can never be foretold with absolute accuracy. For some complex or advanced projects, even the possibility of successful completion might be of serious doubt.

Project management can involve the following activities: planning - deciding what is to be done; organizing - making arrangements; staffing - selecting the right people for the job; directing - giving instructions; monitoring - checking on progress; controlling - taking action to remedy hold ups; innovation - coming up with new solutions; representing - liaising with users.

**Setting Objectives**

Effective objectives in project management are specific. A specific objective increases the chances of leading to a specific outcome. Therefore, objectives shouldn't be vague, such as "to improve customer relations," because they are not measurable. Objectives should show how successful a project has been, for example "to reduce customer complaints by 50%" would be a good objective. The measure can be, in some cases, a simple yes or no answer, for example, "did we reduce the number of customer complaints by 50%?"

While there may be one major project objective, in pursuing it there may be interim project objectives. In lots of instances, project teams are tasked with achieving a series of objectives in pursuit of the final objective. In many cases, teams can only proceed in a stair step fashion to achieve the desired outcome. If they were to proceed in any other manner, they may not be able to develop the skills or insights along the way that will enable them to progress in a productive manner. *Miller, B. (2016)*

**Objectives can often be set under three headings:**

**1. Performance and Quality**

The end result of a project must fit the purpose for which it was intended. At one time, quality was seen as the responsibility of the quality control department. In more recent years the concept of total quality management has come to the fore, with the responsibility for quality shared by all staff from top management downwards.

**2. Budget**

The project must be completed without exceeding the authorized expenditure. Financial sources are not always inexhaustible and a project might be abandoned altogether if funds run out before completion. If that was to happen, the money and effort invested in the project would be forfeited and written off. In extreme cases the project contractor could face ruin. There are many projects where there is no direct profit motive, however it is still important to pay proper attention to the cost budgets, and financial management remains essential.

**3. Time to Completion**

Actual progress has to match or beat planned progress. All significant stages of the project must take place no later than their specified dates, to result in total completion on or before the planned finish date. The timescale objective is extremely important because late completion of a project is not very likely to please the project purchaser or the sponsor.

**Conclusion**

Project management has developed over the years, and involves various activities before a project is completed. Objectives should be specific so they are measurable, and although there may be one major project objective, there may be minor objectives throughout the project.

**The methods of project selection:**

It happens many times in life that you have many choices when selecting the best option. For example, you may have the option to select which movie you want to see or where you should go for your next vacation.

You may make the decision just randomly, or based upon your experience or suggestions from your family members or friends in your life. *(Usmani F., November 16, 2019)*

However, in professional life when you have been given options to make a selection, you go by a set of rules because here, the stakes are high and you cannot afford to make a wrong decision.

Suppose your organization has received many projects, but your organization cannot undertake all projects at once due to resource constraints. Therefore, your organization has to decide to select a project, which is less risky and could provide them with maximum profit and recognition.

There are various methods which help you choose your project wisely. These methods can be divided into two categories:

* Benefit Measurement Methods
* Constrained Optimization Method

Although there is a difference among methodologies used in each technique, the basic principle and ultimate goal are the same, which is to provide your organization with the maximum profit and recognition.

Every organization has a defined process that helps them to choose the right project aligned with its strategic objectives.

Generally, this process is performed by upper management such as the Steering Committee, Project Management Office (PMO), Project Selection Committee, etc.

They will evaluate many areas while evaluating the project, such as:

* Whether they are capable of doing it or not
* If they have all the resources required to complete the project
* If it will help them achieve their objective (recognition and maximum profit)

Now, we will discuss each type of project selection method.

**Benefit Measurement Methods**

This technique is widely used in the selection of projects, which is based on the present value of estimated cash inflow and outflow. Here, you calculate the cost and benefits and then compare them with other projects to make a decision.

We have to understand one crucial concept before we move to benefit measurement techniques: Discounted Cash Flows.

**Discounted Cash Flow**

We all know that the worth of money received today is more than the money received in the future. For example, the value 10,000 USD after ten years will not be the same as today; it’s worth will be far lower than the current value of 10,000 USD.

Therefore, we have to consider the concept of discounted cash flow while calculating the cost invested and return on investment.

Now, let us get back to benefits measurement methods.

The following is a list of techniques used in benefit measurement methods:

* Benefit/Cost Ratio
* Economic Model (Economic Value Added)
* Scoring Model
* Payback Period
* Net Present Value
* Discounted Cash Flow
* Internal Rate of Return
* Opportunity Cost

**Benefit/Cost Ratio**

This technique is also known as the Cost or Benefit Ratio.

As the name implies, it is the ratio between the present value of inflow (cost invested in the project) and the present value of outflow (value of return from the project). If the budget is not a constraint, the project with a higher Benefit-Cost Ratio (BCR) will be selected.

**Economic Value Added (EVA)**

Economic Value Added (EVA) is a performance metric that calculates the worth creation for the organization and defines the return on capital (ROC). It is the net profit after deducting all taxes and capital expenditure.

The project with the higher Economic Value Added (EVA) will be selected if you have many projects. Please note that EVA is expressed in dollar value, not a percentage.

**Scoring Model**

This is more like an objective technique. Here, the project selection committee will list a few relevant criteria, weigh them according to their priorities and importance, and then will add all these weighted values.

The project with the highest score will be selected once you complete scoring the projects.

**Payback Period**

This is the ratio of total cash out with an average per period cash in. In other words, it is the time required to recover the cost invested in the project.

The project with the minimum payback period will be selected if other parameters are the same.

**Net Present Value (NPV)**

This is the difference between the current value of cash inflow and the current value of cash outflow of the project. Net Present Value (NPV) should always be positive, and the project with the highest NPV will be the better option.

**Internal Rate of Return (IRR)**

This is the interest rate at which the Net Present Value becomes zero. In other words, you can say that it is the rate at which the present value of the outflow is equal to the present value of inflows.

You will select the project with the highest IRR if you have many projects to choose from.

**Opportunity Cost**

This is the cost that we are giving up by choosing some other project. You will choose the project with the lesser opportunity cost if you have many projects.

These are the few benefits measurement techniques used in the selection of projects. In general, for most organizations benefits measurement methods are enough to lead them to a decision.

**Constrained Optimization Methods**

This model is also known as the Mathematical Model of project selection, which is used for large projects requiring complex mathematical calculations.

The following is the list of techniques used in the Mathematical Model of project selection:

* Linear Programming
* Non-linear Programming
* Integer Programming
* Dynamic Programming

**Summary**

Project selection techniques help you to select a project which could provide you with a better return on investment and recognition. There are various methods to select a project; however, if the project is small and not very complex, you will go for the benefits measurement model. You will go for the constrained optimization method if it is a large and complex project. *(Usmani F. November 16, 2019)*

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

**I. Project evaluation**

The principles and policies governing the evaluation of ILO-supported projects. It describes how the evaluation of project achievements improves decision-making, organizational learning, accountability and impact. The section clarifies roles and responsibilities and sets out the procedures for managing project evaluations. Project evaluation is a systematic and objective assessment of an ongoing or completed project.

The aim is to determine the relevance and level of achievement of project objectives, development effectiveness, efficiency, impact and sustainability. Evaluations also feed lessons learned into the decision-making process of the project stakeholders, including donors and national partners. Evaluation is also an important part of the ILO’s accountability to its donors and to the Governing Body.

**II.Auditing**

Auditing is a thorough examination of the management of a project, its methodology and procedures, its records, its properties, its budgets and expenditures, and its degree of completion. It may deal with the project as a whole, or only with a part of the project.

The audits can be scheduled or random and can be performed by in-house personnel or external examiners.

Some common audit types include:

**Performance audits**: Used to appraise the progress and performance of a given project. The project manager, project sponsor, or an executive steering committee can conduct this audit.

**Compliance audits**: Usually performed by the project management office (PMO) to validate that the project is using the project management methodology properly.

Usually the PMO has the authority to perform the audit but may not have the authority to enforce compliance.

**Quality audits**: Ensure that the planned project quality is being met and that all laws and regulations are being followed. The quality assurance group performs this audit.

**Exit audits:** Usually for projects that are in trouble and may need to be terminated.

Personnel external to the project, such as an exit champion or an executive steering committee, conduct the audits.

**Best practices audits:** Conducted at the end of each life-cycle phase or at the end of the project. Project managers may not be the best individuals to perform the audit.

Professional facilitators trained in conducting best practices reviews are used. *Kerzner,H.(2009).* **III. Termination**

A project can be said to be terminated when work on the substance of the project has ceased or slowed to the point that further progress on the project is no longer possible, when the project has been indefinitely delayed, when its resources have been deployed to other projects, or when project personnel (especially the PM) become personae non gratae with senior management and in the company lunchroom.

There may seem to be a spark of life left, but resuscitation to a healthy state is most unlikely. On rare occasions, projects are reborn to a new, glorious existence (Baker, 1997). But such rebirth is not expected, and project team members who “hang on to the bitter end” have allowed optimism to overcome wisdom.

The PM must understand that the ancient naval tradition that the captain should go down with the ship does not serve the best interests of the Navy, the crew, the ship, and most certainly not the captain.

There are four fundamentally different ways to close out a project: extinction, addition, integration, and starvation.

**Termination by Extinction**

The project is stopped. It may end because it has been successful and achieved its goals:

The new product has been developed and handed over to the client, or the software has been installed and is running.

The project may also be stopped because it is unsuccessful or has been superseded:

The new drug failed its effi cacy tests; there are better/faster/cheaper/prettier alternatives available; or it will cost too much and take too long to get the desired performance. Changes in the external environment can kill projects, too. The explosion of the Challenger stopped a number of space shuttle projects overnight. More recently, extraordinary cost escalation in the technology and materials associated with automotive racing caused the ruling bodies of both Formula 1 and Indy-car racing to stop (and even repeal) technological change in their respective venues.

A special case of termination by extinction is “termination by murder.”\* There are all sorts of murders. They range from political assassination to accidental projecticide. When senior executives vie for promotion, projects for which the loser is champion are apt to suffer.

Corporate mergers often make certain projects redundant or irrelevant.

**Termination by Addition**

Most projects are “in-house,” that is, carried out by the project team for use in the parent organization.

If a project is a major success, it may be terminated by institutionalizing it as a formal part of the parent organization. NCR Corporation (prior to its merger and demerger with

AT&T), for example, used this method of transforming a project into a division of the firm and then, if real economic stability seems assured, into an independent subsidiary. Essentially the same process occurs when a university creates an academic department out of what originally was a few courses in an existing department. For example, most software engineering and/or information systems departments began by reorganizing an engineering or business school “subspecialty” into a full-fledged department.

When the project is made a more or less full-fledged member of the parent, it lives its first years in a protected status—carrying less than an “adult” share of overhead cost. As the years pass, however, the child is expected gradually to assume the economic responsibilities of full adulthood.

When project success results in termination by addition, the transition is strikingly different from termination by extinction. In both cases, the project ceases to exist, but there the similarity stops. Project personnel, property, and equipment are often simply transferred from the dying project to the newly born division. The metamorphosis from project to department, to division, and even to subsidiary is accompanied by budgets and administrative practices that conform to standard procedure in the parent firm, by demands for contribution profits, by the probable decline of political protection from the project’s corporate “champion,” indeed by a greater exposure to all the usual stresses and strains of regular, routine, day-to-day operations.

**Termination by Integration**

This method of terminating a project is the most common way of dealing with successful projects, and the most complex. The property, equipment, material, personnel, and functions of the project are distributed among the existing elements of the parent organization. The output of the project becomes a standard part of the operating systems of the parent, or client.

In some cases, the problems of integration are relatively minor. The project team that installed a new piece of software, instructed the client in its operation and maintenance, and then departed, probably left only minor problems behind it, problems familiar to experienced managers. If the installation was a server complete with multiple terminals and many different pieces of software, then the complexities of integration are apt to be more severe. In general, the problems of integration are inversely related to the level of experience that the parent organization (or client) has had with: (1) the technology being integrated and (2) the successful integration of other projects, regardless of technology.

Most problems of termination by addition are also present when the project is integrated.

In the case of integration, the project may not be viewed as a competitive interloper, but the project personnel being moved into established units of the parent organization will be so viewed. In addition, the project, which flourished so well in its protected existence as a project, may not be quite so healthy in the chill atmosphere of the “real world.” The individuals who nurtured the project may have returned to their respective organizational divisions, and may have new responsibilities. They tend to lose their fervid interest in the “old” project.

**Termination by Starvation**

There is a fourth type of project termination, although strictly speaking, it is not a “termination” at all. It is “slow starvation by budget decrement.” Almost anyone who has been involved with projects over a sufficient period of time to have covered a business recession has had to cope with budget cuts. Budget cuts, or decrements, are not rare. Because they are common, they are sometimes used to mask a project termination.

There may be a number of reasons why senior management does not wish to terminate an unsuccessful or obsolete project. In some firms, for example, it is politically dangerous to admit that one has championed a failure, and terminating a project that has not accomplished its goals is an admission of failure. In such a case, the project budget might receive a deep cut—or a series of small cuts—large enough to prevent further progress on the project and to force the reassignment of many project team members. In effect, the project is terminated, but the project still exists as a legal entity complete with sufficient staff to maintain some sort of presence such as a secretary who issues a project “no-progress” report each year. In general, it is considered bad manners to inquire into such projects or to ask why they are still “on the books.” *Meredith, J.R., Mantel, S.J. (2012).*

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

As a third part of our brief review of project leadership literature, we have looked into the publication activities of the International Journal of Project Management during the past two decades. The aim of this reading was to analyze the extent to which project leadership is actively inquired into in the project research community and also to identify any current themes and/or trends in this research. It appeared that the number of articles explicitly dealing with any aspect of project leadership was actually very small. Kangis & Lee-Kelley (2000) makes a similar observation: “Despite the plethora of leadership studies in diverse situations, relatively little attention seems to have been given to examining the variables involved in the context of managing the operations of temporary, small groups […]. Project management is a powerful tool for operational management as well as for strategic change. It is also useful for the implementation of initiatives such as business process re-engineering and total quality management, hence its increasing use. Projects are goal-oriented, budget-driven, timeline specific and generally operate outside the conventional organization structure of a firm. Such characteristics can create interesting challenges for the project manager, who has to cut across established lines of control. However, despite its increased adoption, not much is known on the relationship between leadership behavior and managing these structures.” (Kangis & Lee-Kelley, 2007: 393f). In our sample of articles, the main stream of research on project leadership deals with the relation between the project manager’s leadership style and the situational requirements of specific types of projects. Most of this research draws upon the seminal work by Fielder (1967), which formed the situational/contingency approach to leadership. In short, this approach states that team effectiveness are dependent upon the leader’s personality as related to the perceived environment. In very difficult or very simple situations, task-oriented leaders are preferable, while relationship-oriented leaders are better at handing situations with moderate difficulties. Over the past years, this has been studied in IT services projects (Thite, 2000, Lee-Kelley & Leong, Loong, 2003), construction projects in Thailand (Ogunlana et al, 2002), design consulting projects (Cheung et al, 2001) and in clinical research projects (Kangis& Lee-Kelley, 2000). In general, the research supports Fielder’s hypotheses and identifies certain leadership abilities and traits that are recommendable given the project situation at hand. There are also related research (departing from other conceptual sources) generalizing similar findings to all project managers from a certain national culture (Mäkilouko, 2004), to project managers in relation to line managers (Keegan & Den Hartog, 2004) and to the relation between project managers and project types in general (Müller & Turner, 2007). Common for this research is the assumption that different individuals represent different leadership styles and that they are consequently suitable for different project tasks, types or environments. In all cases, this was investigated by means of quantitative analyses of survey data. In addition, there are also some minor streams of research related to project leadership, again investigating individuals. El-Sabaa (2001) investigated the relation between skill profiles and career paths of project managers, concluding that the continuous broadening of functional and technical skills was necessary for a project management career. Aitken & Crawford (2007) investigated stress coping strategies of project managers, and Gällstedt (2003) made a qualitative study on critical incidents in projects and their relation to perceptions of motivation and stress.

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

**Attributes of an Effective Project Manager**

Effective project management entails having the following attributes that are essential in becoming an effective project manager:

**Effective communication skills.**

One of the qualities of a good manager is being a good communicator so that he can connect with people at all levels. The project manager must clearly explain the project goals as well as each member’s tasks, responsibilities, expectations and feedback.

**Strong leadership skills.**

Effective project management means having strong leadership qualities such as being able to motivate his team and drive them to maximum performance so that they can achieve their goals. **Good decision maker.**

An effective project manager needs to have decision-making skills because there will always be decisions that need to be acted on.

**Technical expertise.**

Since project management software and other related programs are essential in accomplishing the project goals, an effective project manager needs to have sound technical knowledge to understand the issues that are related to the technical aspect. Knowledge of theory as well as the technical side can greatly help the manager in taking strategic initiatives when needed.

**Inspires a shared vision.**

An effective project manager can articulate the vision to his team members very well. A visionary person can lead his people to the right direction as well as easily adapt to the changes that come in the way. They are good at empowering people to experience the vision on their own.

**Team-building skills.**

It is necessary that a team works in unison otherwise the project will undergo various relationship challenges that might hinder its success. Project managers need to know how to give each of them the importance they need by focusing on their positive traits. He has to be fair and just in the way he treats them.

**Cool under pressure.**

As the project goes on, certain incidents could take a toll on the project’s momentum and test the project manager’s patience. It is essential that a project manager keeps his calm at all times and be consistently grounded so as not to lose himself and adversely affect his relationship with the team.

**Good negotiation skills.**

One of the qualities needed for effective project management is the ability to negotiate. In times that conflict arise due to differences in opinion, project managers need sheer negotiating skills to settle the issue and maintain harmony in the team.

**Empathetic.**

Understanding and caring for people as well as being grateful for their help are a few of the things that an empathetic leader shows to his members. It includes understanding the needs of the project and its stakeholders.

**Competence.**

A good manager knows what he is doing, can initiate new projects as well as face the challenges that come with them.

It is necessary for an effective project manager to possess most of these attributes for him to succeed in managing the project. *(Martin, August 11, 2016)*

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

**Risks and mitigants involved in project financing**

Financing infrastructure projects, especially in developing countries, entails a formidable set of risks. It is the role of the project finance advisor, the project sponsor and other participants to structure the financing in such a manner that mitigates these risks. Lenders and investors always are initially concerned about financing immobile assets in distant, politically-risky areas of the world. The project finance advisor’s role is to carve out the risks, assigning them to the party who is best suited to be responsible for controlling them. The purpose of this section is to provide a checklist of the risks that a project finance transaction faces rather than a strict taxonomy of these risks.

Therefore, some of the categories listed below are naturally related and it is possible that some overlap exists between categories.

**Risks and Mitigants Pyramid**

**Country.** Country risks cover the political economy. Examples of country risk include civil unrest, guerrilla sabotage of projects, work stoppages, any other form of *force majeure*, exchange controls, monetary policy, inflationary conditions, etc. The country risk in some cases serves as the ceiling for a project’s risk rating. For instance, Standard & Poor’s credit rating agency limits specific project ratings by the sovereign credit rating that the agency assigns the country. That is, no project, despite its particular circumstances, can have a higher credit rating than the country’s credit rating. Specific mitigants might include political risk insurance against *force majeure* events or allocating risk to the local company. Involving participants from a broad coalition of countries also gives the project sponsors leverage with the local government.

**Political.** These risks cover changes within the country’s political landscape, i.e., change of administration, as well as changes in national policies, laws regulatory frameworks. Environmental laws, energy policies and tax policies are particularly important to pipeline projects. These risks are not confined to the most unstable regimes in the developing world. It is a mistake to simplify political risks into only the most drastic actions such as expropriation. In the political environment of the 1990s, these drastic actions are rare. Nevertheless, infrastructure projects in developing countries continue to face significant political risks, albeit in more subtle forms “such as price regulation, restrictions on working permits for foreign managers, renegotiation of contracts, and even buyouts.”

In a recent article in *Harvard Business* Review, Louis Wells and Eric Gleason cite an example in Thailand where the government “unilaterally ordered a private toll road opened and lowered the amount its foreign owners could charge in tolls.” The local sponsor, Thai Expressway and Rapid Transit Authority obtained a court order to force the project sponsors to open the toll road at a lower. It would be a mistake to confine these political risks to the developing world. State regulatory bodies in the United States can be just as fickle with rate regulations for power plants as any foreign ministry of energy.

Mitigants include, again, political risk insurance as well as flexible tariff agreements that incorporate adjustments for these types of contingencies. An intimate acquaintance with the local political environment also increases a project sponsor’s ability to foresee trouble spots.

**Industry.** Competitive forces within the industry represent significant risks to the project. It is necessary for project sponsors to analyzes the potential risks that their particular project faces vis-à-vis global and local industries. The prices of substitute products, inputs and outputs are critical factors in determining the economics of the project. Other competing projects within the country or in the neighboring region have competitive implications for the project. Standard and Poor’s checklist for competitive forces for pipelines provides an example of the types of industry risks that creditors emphasize:

• The influence of other existing or planned pipelines in the area;

• cost of transportation - the economics of the pipeline to the end users;

• Substitutes - other sources of energy that could compete with the fuel being transported;

• The potential for other uses and/or users of the feedstock being transported by the pipeline, which could render the pipeline obsolete;

• Present and prospective commodity price and supply situation;

• Potential for supply disruptions and exposure to price fluctuations.

The primary mitigant against industry or competitive risk is thorough industry analysis and insight into the industry’s underlying dynamics.

**Project.** Project risk is generally associated with the adequacy and track-record of the concerned technology and the experience of the project’s management. The chief mitigant in this area is the selection of contractors, developers and operators who have proven track records. Independent consulting engineers can play a role in assessing the technical feasibility of projects by making technical risks transparent to lenders.

**Customer.** The risk with customers is that demand for the product or throughput declines or widely fluctuates. Given the high fixed costs of infrastructure projects, it is difficult, if not impossible, for these projects to reduce costs to match lower demand. Thus, the chief mitigant against this type of risk is an offtake agreement, i.e., a contract which guarantees purchase of the throughput. Essentially, a project company agrees to sell a large share of its output (minerals, electricity, transportation services through a pipeline, etc.) to a customer or group of customers for an extended period of time. The price per unit of output can be fixed, floating or adjusted for inflation or other factors. The customer benefits from this arrangement by securing a long-term, guaranteed source of supply for the output, but generally forfeits a certain amount of flexibility in sourcing. The project company benefits by eliminating or substantially reducing its marketing risk.

**Supplier.** The general issue here is with securing supplies for the project - electricity, water, etc. - and, again, long-term agreements that guarantee that the project will have access to critical inputs for the duration of the project’s life are the chief instruments used to mitigate the risk. The three critical dimensions of supply are quality, quantity and availability. Does the input meet the necessary quality requirements of the project? Can the project get enough of the input? Is the supply reliable or are interruptions likely? For pipeline projects, rights-of-way might also be considered critical inputs because without them the project company would not be able to build the pipeline.

**Sponsor.** The project sponsor is typically an entrepreneur or consortium of entrepreneurs who provide the motivating force behind the project. Often, the project sponsor is an entrepreneur without sufficient capital to carry out the project. In other cases, the sponsor might have the necessary capital but is unwillingly to bet the parent corporation’s balance sheet on a high-risk venture. The primary risks with sponsors revolve around the sponsor’s experience, management ability, its connections both international and with the local agencies, and the sponsor’s ability to contribute equity. Investors and lenders can mitigate these risks by carefully evaluating the project sponsor’s track record with similar transactions.

**Contractor.** The principal construction risks are schedule delays and budget overruns. Standard & Poor’s, in fact, “believes that it would be difficult for a project to achieve investment-grade ratings prior to substantial completion of the project and initial startup.” Mitigating these risks involves scrutinizing the contractor, specifically the contractor’s experience with similar projects, reputation in the field, backlog of other projects and cash flow. The primary method of putting the burden of successful completion on the contractor, as opposed to on the lenders and investors, is a turnkey contract. A turnkey contract essentially binds the contractor to finish construction by a specified date for a fixed amount. The completed project must also meet the agreed upon technical specifications as certified by an independent engineer before payment is made. Additional mechanisms to ensure compliance with schedules and budgets include performance bonus and penalty clauses in the construction contract. Penalties for delays can be severe, as much as $750,000 per tariff day. It is also important to review the contractor’s bidding history. A contractor which has a history of consistently bidding too low presents a greater risk of cost overruns. Additionally, independent engineers can play a role in monitoring the project’s progress and certifying that the contractor has achieved the milestones on schedule.

**Operating risk.** The operator is the company or entity charged with the responsibility of maintaining the quality of the assets that generate the project’s cash flow. Of course, lenders and investors want to make sure that the assets remain productive throughout the life of the project, or more importantly from their perspective, the life of the loan or investment. Hence, operating risks center around the efficient, continuous operation of the project, whether it is a mining operation, toll road, power plant or pipeline. Contracted incentive schemes are one way to allocate this risk to the operator.

**Product.** Product risks might include product liability, design problems, etc. The underlying risk here is unperceived risks with the product, e.g., unforeseen environmental damages. For instance, an electrical transmission project running through a populated area might carry the risk of affected the population through the detrimental health effects of the electro-magnetic radiation. Using older, tested designs and technologies reduces the risk of unforeseen liabilities. For instance, the Asian infrastructure developer Gordon Wu built his reputation by recycling one straightforward power plant design in his many projects instead of re-designing each individual project. Through using a tested design, Wu was able to not only reduce product and construction risks, but also to reduce design costs through economies of scale.

**Competitor.** This risk is related to industry risk, however it focused more directly on resources with which the competitor might be able to circumvent competitive barriers. Exclusive agreements, offtake agreements and supply arrangements all contribute to defending a long-term competitive advantage.

**Funding.** The funding risk is that the capital necessary for the project is not available. For example, equity participants might fail to contribute their determined amount. Or, the underwriters might not be able to raise the target amount in the market. Another funding risk is re-financing which occurs if the duration of the initial funding does not match the duration of the project. Funding risks can also relate to the division between local and foreign currency funding. As funding is often the linchpin of project financings, it is difficult to reduce the risk of not finding the funding. The choice of an experienced financial advisor as well as seeking capital from a broad range of sources represent two ways to mitigate this risk. Also, it is sometimes possible to restructure transactions to delay drawdown dates or to change the amounts of foreign versus local currency.

**Currency.** There are two currency risks facing project companies. The first risk is exchange rate fluctuation, i.e., devaluation erodes the value of a contract or payment in the project company’s home currency, or the currency in which it must service its debt. The second risk is currency controls, i.e., the sovereign government limits the project company’s access to foreign exchange or curtails its ability to make foreign currency payments outside of the country. Another possible means of mitigating currency risk is to engage in a currency swap.

**Interest rate.** Interest rate fluctuations represent a significant risk for highly-leveraged project financings. Arranging for long-term financing at fixed rates mitigates the risk inherent in floating rates. Furthermore, projects can enter into interest rate swaps to hedge against interest rate fluctuations.

**Risk allocation.** Just as important as identifying the risks, is the need to allocate the risks to the parties that are most suited to control and address the risks. Thus, risk allocation is a form of risk mitigation at the macro level. If the wrong parties are responsible for risks they are not suited to manage, the entire structure is at risk. Therefore, the crux of every project finance transaction is the proper allocation of risk. It might also be the most difficult aspect of assembling a transaction. As one project financial advisor argues, “the most significant characteristic of project finance is the ‘art’ of minimizing and apportioning the risk among the various participants, such as the sponsors, contractors, buyers and lenders.”

How are the risks in a project finance transaction allocated? The principal instruments for allocating the risks and rewards of a project financing are the numerous contracts between the project company and the other participants. “While often the cause of delay and heavy legal costs, efficient risk allocation has been central to making projects financeable and has been critical to maintaining incentives to perform.”

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

**Sources of finance:**

Project finance may come from a variety of sources. The **main sources** include equity, debt and government grants. Financing from these alternative sources have important implications on project's overall cost, cash flow, ultimate liability and claims to project incomes and assets.

**What are equity and debt?**

**Equity** refers to capital invested by sponsor(s) of the PPP project and others.

**Debt** refers to borrowed capital from banks and other financial institutions. It has fixed maturity and a fixed rate of interest is paid on the principal.

**Equity** is provided by project sponsors, government, third party private investors, and internally generated cash. Equity providers require a rate of return target, which is higher than the interest rate of debt financing. This is to compensate the higher risks taken by equity investors as they have junior claim to income and assets of the project. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). (2008)

Lenders of debt capital have senior claim on income and assets of the project. Generally, debt finance makes up the major share of investment needs (usually about 70 to 90 per cent) in PPP projects. The common forms of debt are:

* Commercial loan
* Bridge finance
* Bonds and other debt instruments (for borrowing from the capital market)
* Subordinate loans

Commercial loans are funds lent by commercial banks and other financial institutions and are usually the main source of debt financing. Bridge financing is a short-term financing arrangement (e.g., for the construction period or for an initial period) which is generally used until a long-term financing arrangement can be implemented. Bonds are long-term interest bearing debt instruments purchased either through the capital markets or through private placement (which means direct sale to the purchaser, generally an institutional investor - see below). Subordinate loans are similar to commercial loans but they are secondary or subordinate to commercial loans in their claim on income and assets of the project.

The other sources of project finance include grants from various sources, supplier's credit, etc. Government grants can be made available to make PPP projects commercially viable, to reduce the financial risks of private investors, and to achieve socially desirable objectives such as to induce economic growth in lagging or disadvantaged areas. Many governments have established formal mechanisms for the award of grants to PPP projects. Where grants are available, depending on government policy they may cover 10 to 40 per cent of the total project investment. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), (2008)

**The main providers of finance for the PPP project are:**

* Equity investment from project promoters and individual investors
* National and foreign commercial banks and financial institutions
* Institutional investors
* Capital markets
* International financial institutions

Loans provided by national and foreign commercial banks and other financial institutions generally form the major part of the debt capital for infrastructure projects. The rate of interest could be either fixed or floating. Loans are normally provided for a term shorter than the project period. Often two or more banks and financial institutions participate in making a loan to a borrower known as syndicated loan. Refinancing of the loan is required when the loans are provided for a maturity period shorter than the project period.

In addition to commercial banks, international and regional financial institutions such as the World Bank or the Asian Development Bank often provide loans, guarantees or equity to privately financed infrastructure projects.

Institutional investors such as investment funds, insurance companies, mutual funds, or pension funds typically have large sums available for long-term investment and could represent an important source of funding for infrastructure projects either through private placement or via bonds purchases. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), (2008)

**Question 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. Davoren J. (April 05, 2018)

**What is the importance of Financial Management?**

Financial management is one of the most important aspects in business. In order to start up or even run a successful business, you will need excellent knowledge in financial management. So what exactly is this form of management and why is it important? Read on to find out more.

**What is financial management?**

Financial management refers to the strategic planning, organizing, directing, and controlling of financial undertakings in an organization or an institute. It also includes applying management principles to the financial assets of an organization, while also playing an important part in fiscal management. Take a look at the objectives involved:

* Maintaining enough supply of funds for the organization;
* Ensuring shareholders of the organization to get good returns on their investment;
* Optimum and efficient utilization of funds;
* Creating real and safe investment opportunities to invest in.

**Financial management is also made up of certain elements. These include:**

**Financial planning:** This is the process of calculating the amount of capital that is required by an organization and then determining its allocation. A financial plan includes certain key objectives, which are**:**

* Determining the amount of capital required;
* Determining the capital organization and structure;
* Framing of the organization’s financial policies and regulations.
* Financial control: This is one of the key activities in financial management. Its main role is to assess whether an organization is meeting its objectives or not. Financial control answers the following questions:
* Are the organizations’ assets being used competently?
* Are the organizations’ assets secure?
* Is the management acting in the best financial interests of the organization and the key stakeholders?
* Financial decision-making: This involves investment and financing with regards to the organization. This department takes decisions about how the organization should raise finance, whether they should sell new shares, or how the profit should be distributed.

The financial management department of any firm is handled by a financial manager. This department has numerous functions such as:

Calculating the capital required: The financial manager has to calculate the amount of funds an organization requires. This depends upon the policies of the firm with regards to expected expenses and profits. The amount required has to be estimated in such a way that the earning capability of the organization increases.

Formation of capital structure: Once the amount of capital the firm requires has been estimated, a capital structure needs to be formed. This involves debt equity analysis in the short-term and the long-term. This depends upon the amount of the capital the firm owns, and the amount that needs to be raised via external sources.

Investing the capital: Every organization or firm needs to invest money in order to raise more capital and gain regular returns. Hence, the financial manager needs to invest the organizations’ funds in safe and profitable ventures.

Allocation of profits: Once the organization has earned a good amount of net profit, it is the financial manager’s duty to efficiently allocate it. This could involve keeping a part of the net profit for contingency, innovation, or expansion purposes, while another part of the profit can be used to provide dividends to the shareholders.

Effective management of money: This department is also responsible for effectively managing the firm’s money. Money is required for various purposes in the firm such as payment of salaries and bills, maintaining stock, meeting liabilities, and the purchase of any materials or equipment.

Financial control: Not only does the financial manager have to plan, organize, and obtain funds, but he also has to control and analyses the firm’s finances in the short-term and the long-term. This can be done using financial tools such as financial forecasting, ratio analysis, risk management, and profit and cost control. LSBF Blog Staff (September 07 ,2018)

**Why is Financial Management important?**

This form of management is important for various reasons. Take a look at some of these reasons:

* Helps organizations in financial planning;
* Assists organizations in the planning and acquisition of funds;
* Helps organizations in effectively utilizing and allocating the funds received or acquired;
* Assists organizations in making critical financial decisions;
* Helps in improving the profitability of organizations;
* Increases the overall value of the firms or organizations;
* Provides economic stability;
* Encourages employees to save money, which helps them in personal financial planning.

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

**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.

**Contractor**.

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, Asea 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 **Customer.**

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 is granted by the local or federal government.

**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. While not part of the project finance angel, the following components make the angel diagram even more complex

**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.22 Credit agency ratings for project finance transactions, however, are making the capital market route much smoother by making credit evaluations more transparent.

**Direct equity investment funds.**

Private infrastructure funds represent another source of equity capital for project financings. Examples of these funds include AIG Asian Infrastructure Fund ($1.1 billion), Peregrine’s Asian Infrastructure Fund ($500 million), Global Power Investments ($500 million) and the Scudder Latin America Infrastructure Fund ($100 million, with target of $600 million). These funds raise capital from a limited number of large institutional investors. Then their advisory teams screen a large number of infrastructure projects for potential investment opportunities. The funds typically take minority stakes of the infrastructure projects in which they invest.

**Multilateral agencies**.

The World Bank, International Finance Corporation and regional development banks often act as lenders or co-financers to important infrastructure projects in developing countries. In addition, these institutions often based capital requirements; a general decline in commercial bank credit quality.

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