Project Evaluation

Lesson 18

KEY CONCEPTS

■ Project Finance ■ Project Evaluation ■ Project Appraisal ■ Feasibility Study ■ Due Diligence ■ Risk Assessment ■ Risk Mitigation ■ Credit Risk Management (CMS) ■ Project Report

Learning Objectives

To understand:

- The concept of Project Evaluation
- Factors affecting the cost of Project
- Importance of Project Appraisal
- Due Diligence in Project Finance
- Project Appraisal through Feasibility and Due Diligence (Technical, Financial, and Legal) and Role of Company Secretary
- The concept of Risk Assessment and Mitigation
- Credit Risk Management in Project Finance
- Steps involved in preparation of Detailed Project Report (DPR)

Lesson Outline

INTRODUCTION

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 assesses how well planning and managing for future impact is being done during the project cycle. Because projects are collaborative efforts, partners have co-responsibility for achieving outcomes and, ultimately, impact.

As a Company Secretary, it is important to understand the concept of project evaluation, appraisal process, feasibility studies, factors affecting cost of project etc. The organization raises funds for the various new and undergoing projects. Company Secretary as a Key Managerial Personnel can advise the Board on the optimum utilization of funds raised by the organization for the said purposes.

FACTORS AFFECTING THE COST OF PROJECT

Cost estimation in project management is the process of forecasting the financial and other resources needed to complete a project within a defined scope. Cost estimation accounts for each and every element required for the project like materials, labor, construction equipments, design of the project, time overrun etc. and calculates a total amount that determines a project's budget from the beginning till end. A brief on various cost incurred in a construction project is placed below:

a) **Material Cost-** Many factors can impact the cost of a construction project, and one of them is the materials used. Some materials, like concrete and steel, are very expensive and required in bulk, while others, like wood, are relatively affordable. The type of materials used can have a significant impact on the overall cost of a project. For example, a concrete foundation will be much more expensive than a wooden one. The cost of materials is just one factor to consider when planning a construction project, but it is an important one.

b) **Impact of Labor Wage on Project Cost-** The impact of labor wages on project cost is an important consideration for any business or organization. Labor costs can have a significant impact on the overall cost of a project, and this needs to be taken into account when budgeting for a project. Several factors can impact the cost of labor, including the type of work being done, the skills required, and the location of the work.

c) **Impact of Method of Construction on Project Cost-** The method of construction is how the project is built, and it can have a significant impact on the overall cost. For example, traditional methods of construction tend to be more expensive than newer methods such as modular construction. This is because traditional methods often require more materials and labor, and they are often slower and more complicated. Other factors that can impact the cost of a construction project include the size and scope of the project, the location, and the type of materials used.

d) **Impact of Variation Orders on Project Cost-** Projects are often subject to change which modify the scope of work that is requested by the client after the commencement of construction. These changes can be minor, such as adding an extra light fixture to a room, or major, such as adding a floor to a building. Change orders can have a significant impact on the cost of a construction project. It is important for construction managers to be aware of the potential impact of change orders on the cost and schedule of their projects, and to factor that into their planning.

e) **Impact of Delay on Cost Overrun in Project cost-** Construction projects are often delayed due to a variety of factors, including bad weather, material shortages, and problems with the construction

crew. While delays can be frustrating, they can also have a significant impact on the overall cost of the project. Cost overruns are common in construction, and they are often the result of delays. When a project is delayed, the contractor may need to pay overtime to the construction crew, and they may also need to pay for storage fees if the project site is not ready to receive materials. In addition, delays can lead to cost overruns by causing the contractor to miss their deadline for completing the project. This can result in a penalty from the client, which can add to the overall cost of the project.

f) **Nature of Construction site-** The project site can heavily influence the construction cost of the project. Site conditions such as poor soil, presence of pipes, uneven land, archaeological site, water bodies and environmentally hazardous spaces could increase the cost of the project manifold. Thus, they must be essentially covered in the project cost.

g) **Nature of Structure-** The type of structure and its structural form significantly influence the project cost. Simpler the structure, the lesser the cost will be. For example, if we have a simple grid, the structural design will be simple. Accordingly, the cost would be lesser comparatively.

h) **Project quality-** The quality of the project massively influences the cost. Whether you plan to incorporate modern amenities or wish to keep it simple, the project quality considerably influences the development cost of a house. Besides, high-quality projects involve the use of high-quality raw materials.

i) **Regulator and insurance requirements-** Approvals from the different regulatory authorities could be both costly and time-consuming. Also, it is crucial to consider the home insurance cost in advance as it can seriously blow your budget out of proportion.

j) **Size of the project-** A large-sized project requires a large workforce and more materials. Thus, the construction cost would enormously differ based on the size of the project. For instance, a project on 1,000 sq. ft. will entail lower development cost compared to a project on 5,000 sq. ft.

Determination of the Project Cost

It is of utmost importance to know the investment to be made on the different heads of the assets, to arrive at the total capital outlay on the project. The different heads under which investments are to be made for a manufacturing plant may be presented as under:

S. No	*Particulars of assets*	*Cost already incurred*	*To be incurred*	*Total Cost*
i	Land			
ii	Site Development			
iii	Civil Construction Work (Factory, Office and other civil structure) including building electrification)			
iv	Plant and Machineries (Giving break up for indigenous and imported separately)			
v	Plant Erection and installation expenses			
vi	Plant Electrification including cost of captive power plant			
vii	Other manufacturing assets like dies, moulds, materials handling equipment, Effluent Treatment Plant, etc.			

viii	Technical Know-how fees, if any			
ix	Deposits			
x	Other assets like furniture, office equipment, computers, vehicles, etc.			
xi	Preliminary Expenses			
xii	Preoperative Expenses			
xiii	Contingencies			
	Total Capital Cost			
xiv	Margin money for Working Capital			
xv	Total Project Cost			

The investment on each and every item mentioned above is appraised in detail and as such the report should provide complete information.

PROJECT APPRAISAL THROUGH FEASIBILITY AND DUE DILIGENCE (TECHNICAL, FINANCIAL AND LEGAL)

In narrow sense, project appraisal means comparing or assessing the project's credibility and viability to know the authenticity of a project. It is an important activity to evaluate the key factors of the project to check the viability of a project proposal.

In broader sense, Project Appraisal is a consistent process of reviewing a given project and evaluating its content to approve or reject this project, through analyzing the problem or need to be addressed by the project, generating solution options (alternatives) for solving the problem, selecting the most feasible option, conducting a feasibility analysis of that option, creating the solution statement, and identifying all people and organizations concerned with or affected by the project and its expected outcomes. It is an attempt to justify the project through analysis, which is a way to determine project feasibility and cost-effectiveness.

Project appraisal is an essential stage of any project, regardless of its nature, type and size. This stage represents the first point of the pre-planning or initiation phase. Without having appraised a project, it is financial and technically unreasonable to proceed with further planning and development.

Importance of Project Appraisal

Project appraisal is an important intellectual and systematic exercise carried out by the Financial Institutions/ Banks to consider the:

- Credit worthiness of the proposal;
- Critically analyse various assumptions made in the project report with respect to the cost and profitability; and
- Other factors affecting the viability of the project such as plant capacity, location of the business unit, proximity to raw materials, manpower, power and other utilities covered under both external and internal economies of scale.

Project report also serves as a benchmark for evaluating and monitoring the project during the implementation period. Based on the information furnished in the project report and considering the various external factors,

appraisal is done to ascertain feasibility/viability of the project. The lender generally satisfies on the following key parameters before giving sanction for project funding:

- ***Management Appraisal***: Whether promoters can manage the Project successfully and infuse the required equity capital into the project.
- ***Technical Appraisal***: Whether the necessary resources are available for the manufacturing of products.
- ***Marketing Appraisal***: Whether products can be sold in the market and can surmount the competition.
- ***Financial Appraisal***: Whether a project can make profit to meet the financial obligations without any default.
- ***Social Benefit Appraisal***: Whether it is in line with societal expectations.

To access the above key parameters, FIs/Banks focus on the following crucial aspects:

- Promoter's background, experience and their managerial skills.
- Technology adopted and its suitability to the local environment.
- Availability of raw materials and other resources.
- Scope of market for the product.
- Cost structure and expected profits in light of the cost structure.
- Impact of the project on the society in terms of employment generation, use of local resources and environmental impact, etc.
- Impact on foreign exchange reserves of the country due to export of the finished products and/or import of raw materials.
- Compliance of the Government policies and regulations.
- Acceptability of the risk level with reference to political, social, economic, technological and legal environment.
- Greenfield / Brown field / ESG impact and consequent Tax holidays / implications.

The detailed appraisal of all the above factors will help lenders to ascertain the risk involved in the project and shall help in forming opinion whether to extend the financial support or to decline.

Feasibility Study

There are five types of feasibility studies mentioned as under:

S. No	*Type of feasibility*	*Reason for conducting study*
1.	Legal Feasibility	Performed to understand if the proposed plan conforms to the legal and ethical requirements.
2.	Economic Feasibility	Involves a cost benefits analysis to identify how well, or how poorly, a project will be concluded.
3.	Technical Feasibility	Process of validating the technical resources and capabilities to convert the ideas into working systems.

4.	Operational Feasibility	Performed to understand well a proposed system solves the problems.
5.	Scheduling Feasibility	Measure of how reasonable the project duration is.

DUE DILIGENCE IN PROJECT FINANCE

Due diligence in project finance is a process that consists of multiple steps to ensure the most comprehensive analysis:

1. Assessment of promoter history and background;
2. Evaluation of the company and project business model;
3. Legal due diligence;
4. Detailed Analysis of financial statements of the project and its and capital structure;
5. Determine major risks associated with the project;
6. Analysis of tax effects;
7. Credit analysis and evaluation of loan terms;
8. Project valuation.

A. Legal Feasibility and Due Diligence

The due diligence process should ensure that the project is procured in accordance with current legal requirements, both in domestic and international terms, and that key aspects of the project have been analyzed from a legal perspective. In order to assess the legal feasibility of the project, legal due diligence should include following three important steps:

1. **Analysis of the applicable legal framework***:* This includes the identification and analysis of pertinent laws and regulations that may affect the project. Some of the legal and regulatory aspects that need to be reviewed are as under:

   - The enabling Project legislations, especially looking for particular requirements imposed on projects, such as minimum capital value and maximum contractual duration;
   - The public procurement law which may be partially applicable, especially in search of general contractual and procurement guidelines;
   - Legislation referring to foreign investment, property, and labor issues;
   - Legislation related to land use planning and environmental laws;
   - Legal aspects of dispute resolution and intellectual property;
   - Legislation relating to the granting of ownership/control of public assets or of responsibility for the delivery of public services to third parties;
   - Legal treatment of revenue sources associated with the concession.

   These reviews need to provide, firstly, a comprehensive list of requirements applied to the project that feed other feasibility exercises, such as the technical requirements and the commercial feasibility analysis. Secondly, they should indicate, whenever appropriate, the need for any change in law or regulation and, should it be the case, identify the process through which this change can be enacted and assess the time and resources needed to promote the change.

2. **Assessment of the legal readiness of the procuring authority.** Although this particular issue may have already been checked, it is important to review at this stage whether the promoting authority and other institutions involved have the legal authority to launch the project or proceed with the approval as needed. The legal empowerment issues also apply, in some countries, to the formal responsibility for the appraisal exercises. Some countries require official feasibility exercises to be conducted. In this case, there can be requirements about which governmental bodies should be included and how. Therefore, the legal due diligence must clearly conclude which authorities should be involved and to what extent in each case.

3. **In-depth legal analysis of the main project issues**. Large infrastructure projects often have particularities with significant legal implications. It is thus very important during appraisal to assess the adherence of several aspects of the project to the general legal framework. Particular attention should be given to the legal feasibility of:

   - The financial aspects of the project;
   - Issues considered relevant to commercial viability, including the bankability of the project;
   - The use of land and existing assets;
   - Potential alternative ownership claims on the land (common in countries with complex or undocumented systems of property ownership);
   - Rights of other users (for example, a state oil company that owns pipes buried under the land, a road route crossing under electricity transmission wires etc.);
   - Employment issues;
   - Tax and accounting issues considered in the financial model.

Category	*Example of Legal Issues*
Financial aspects	• Legal feasibility of the selected type of public support or guarantees where needed. • Approval process for public support and authorities involved. • Legal restrictions and limitations for charging private sector end-users if applicable. • Legal ability to develop collateral businesses (advertising, retail, leisure, and so on).
Commercial feasibility	• Possibility of granting step-in rights to lenders. • Possibility of taking security over assets, current and future income streams, shares, and insurance policies under the current law. • Possibility of being named on insurance policies as lender and beneficiary.
Foreign investment and currency exchange	• Restrictions on foreign direct investment (FDI) and currency exchange controls. • Limitations on repatriation of dividends and capital invested. • Limitations on foreign staff.
Employment issues	• Consequences for public sector employees if existing assets are to be taken over by the private sector.

Category	*Example of Legal Issues*
Environmental issues	● Are specific environmental clearances required by law for the particular site or project type, or are there exemptions that are applicable to the site/project?
Taxation and accountancy	● Regime applicable to the project. ● Regime applicable to imports (when significant equipment is included in the project Capex). ● Provision of tax exemptions and potential specific tax benefits for FDI. ● Other questions to be considered in the financial model.
Land and property assets issues	● Type of rights that can be assigned to the private sector. ● The country specific issues surrounding land availability (which can take the form of right of way or clearance for Transportation projects and/or site ownership for facilities). ● Rules regarding ownership of assets. ● Responsibility for relocating people living in the right of way.

One important assessment required during the analysis of the main issues is the legal classification of the land and any existing assets. Even if the assets are already held by the procuring authority, they may not be ready to be transferred to the concessionaire. In some countries, there is a requirement for a change in the type of use of the asset, from "public use" to "disposable use". Other countries require legal authorization to transfer the control of public assets to the private sector. In any case, the availability of the land or asset needs to be fully acknowledged and the issues surrounding it identified.

B. Technical Feasibility and Due Diligence

A technical feasibility study can serve as a great planning tool by providing an overview of how the project can evolve during the course of its development. The results of the study also require to troubleshoot potential problems and track the progress of project from concept to reality.

Technical due diligence requires to evaluate the viability of architecture and design ideas required to execute a project and its successful completion.

Generally the following types of technical due diligence is undertaken:

- Infrastructure functionality and performance
- Architectural peer review process for functionality
- Compliance with industry standards and regulations
- Equipment capabilities and performance
- Proof of concept testing
- Facilities that support project needs
- Data that supports the implementation of the technology
- Operational risk assessments
- Systems and applications Integration.

The broad purpose of the technical analysis is to ensure that the project is technically feasible to manufacture the finished products with the available inputs and resources. An in-depth appraisal is done to ensure that a project is:

1. Properly designed, taking into consideration the pertinent variables,
2. Appropriately engineered, and
3. Follow the accepted standards.

Many a time especially for large project, Banks insist for the techno viability study to be carried by their approved consultant. The aspects which are normally find place in technical details are as follows:

i. **Manufacturing Process and Technology:** The manufacturing process is basically a sequence of activities intended to achieve the desired product/service. In manufacturing, the process converts inputs like raw materials, labour, etc. into desired output with the help of various machines and equipment.

While elaborating the manufacturing process, it should ensure that the process covers the use of all the machines to be installed. FIs/Banks will certainly verify whether machines mentioned in the project report are required for carrying out the manufacturing activities to justify the investment in the plant and machines. Drawing a flow chart will help in understanding the process easily.

If any manufacturing activity is outsourced in the process, for which no machines are proposed, the same should be specifically mentioned and cost of such outsourcing is to be included in the expenses in the profitability estimates.

Further the level of technology and automation is proposed, will determine the investment in the machines and manufacturing process. In case the technical know-how is acquired from outside, the credentials of the technology provider, its suitability to local condition along with name of the units where such technology is used is insisted by the lenders.

ii. **Installed Capacity:** Taking into consideration the actual working days, number of shifts to be operated and the machines proposed to be installed. The installed capacity of the unit is to be determined very carefully and precisely.

All profitability estimates depend upon capacity to produce. It should also be ensured that the installed capacity so arrived at, matches with the plant capacity mentioned by the supplier in the quotation/offer. In case of unit is manufacturing multi products, product mix has also to be ascertained. It is desirable to work out the gross revenue at the full capacity.

It is observed that it takes time to achieve optimum capacity utilisation and therefore it increases gradually over a period of time. The year wise capacity utilisation should be mentioned in this para to know the production and sales at different capacity utilisation. It may be depicted as under:

Sl. No.	*Year*	*Capacity Utilisation*	*Production (Units)*	*Sales (Units)*
1		%		
2		%		
3		%		
4		%		

The revenue at different capacity utilisation will be reflected in the profitability estimates and correspondingly the other cost elements to arrive at the net profit/loss.

iii. **Location:** The choice of location is influenced by the factors like:

- Proximity to the raw materials.
- Proximity to the market for end product.
- Availability of other infrastructure like rail, road, air connectivity, power, labour, water, communications etc.
- Government policies and the special incentives declared by the various State Governments for the promotion of any location for development.

It is an irreversible decision and affects the profitability in long term. Taking into consideration the above factors, a location is selected.

Whether it is the proximity to the source of raw material or to the centre of consumption, the decision should be taken considering the relative transportation cost in the overall costing.

iv. **Raw Material availability and sources:** The report should mention the types of raw materials required for the manufacturing of the finished products and its total requirement at 100% capacity. It may be provided as under:

Sl. No.	***Name of the Raw Materials***	***Imported/ Indigenous***	***Quantity Required***	***Rate***	***Total Cost***
1					
2					
3					
4					
	Total				
	Add Wastage		%		
	Total Cost				

It is expected that report should contain the details on:

- All such raw materials which are more than the 10% of the value of the total consumption.
- The source of the major raw materials supply.
- Quotations from the suppliers should also be obtained to support the raw material cost.
- Separate details should be provided for indigenous and imported raw materials. This will help FIs/ Banks to assess the dependency on the imported raw materials and the country of export. A brief mention is also desirable about the import policy of the Government.

v. **Power and Utilities:** A broad assessment of utilities like power, water, steam, fuel etc. should be made properly.

Power: Power requirement should always be based on the machines installed and for general purpose. There are many industries which require initial heating load to charge the machines. It should also be taken care while working out the total power requirement.

It is also observed that all the machines are not required to operate simultaneously at all times and hence the maximum demand may be less than the connected load. It is to be noted that power connection cost and security deposit amount increases with the high-power demand. Therefore, power requirement is to be worked out very precisely to reduce the cost of the power connection.

If the company propose to install its own power generating unit for captive consumption, the same should be mentioned in the report and the capital cost to be incurred for such captive power plant is to be included in the project cost. And cost benefit analysis should be kept ready, if required by the FIs/Banks.

Other utilities: In addition, many units require water, steam and fuel (like coal, oil, etc.) for their manufacturing process. The requirement of such utilities and the sources are equally important and should to be mentioned in the report.

Cost of the power and other utilities is to be worked out at 100% capacity as well as at different capacity utilisation which will be reflected in the profitability estimates.

vi. Manpower Requirements:

The human factor in the projects is very vital for the smooth running of the unit. Report should contain the information on total manpower requirement. It is desirable that information should be classified and be given as under:

Sl. No.	*Particulars of employees*	*Salary Per Month*	*Total Cost*
1	Managerial		
2	Technical		
3	Supervisory		
4	Skilled		
5	Semi-skilled		
6	Unskilled		
7	Contractual and/or seasonal labour, if any		
	Total		
8	Add Fringe Benefits like PF and other statutory contributions.		
	Total Cost		

The bifurcation of the employees may be modified as per the nature of the enterprise. It should be ensured that the cost covers the minimum wages, prevailing salary and incentives, fringe benefits (like PF, ESIC, Bonus etc.) and should be taken into consideration while working out the total manpower cost.

vii. Environment clearance

The Government is now much more concerned about the environment protection and safety. A project may cause environmental pollution in various ways, such as:

- Water pollution
- Air pollution
- Noise pollution

Hence the environmental aspect of the project should be properly dealt with and all the necessary equipment must be provided in the project cost to control the pollution. It is observed that Government has issued notices to many industries for violation of environmental norms and suspended the operations due to non-compliance.

State Pollution Control Board/ Central Pollution Control Board are the authorities to give the consent and put the necessary conditions to be complied with for running any manufacturing plants.

The unit is required to obtain:

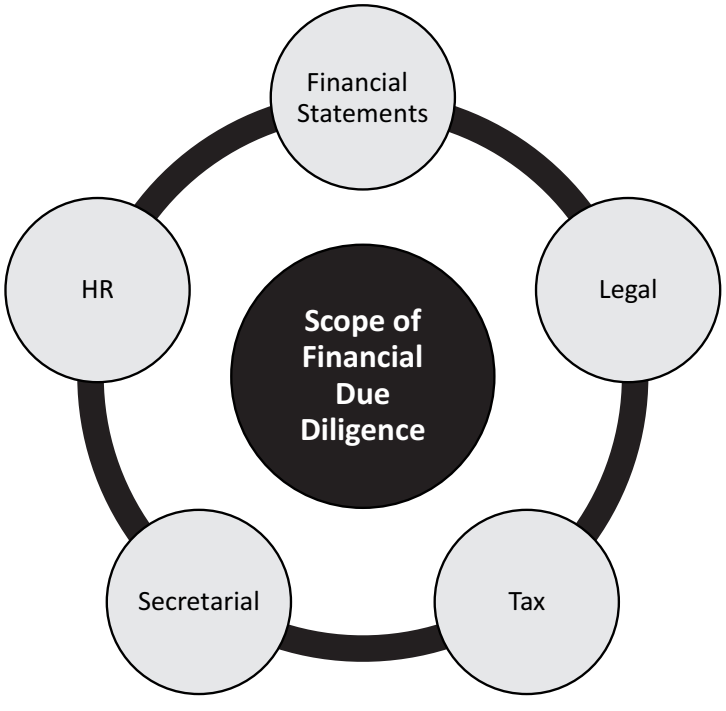
1. **Consent to Establish** before starting the unit and it is required to install necessary pollution control mechanism during implementation.
2. **Consent to Operate** is required to be obtained from the concerned authorities when the plant is ready for operation. The Consent to Establish is valid up to the implementation period and the validity of the Consent to Operate is given in the certificate.

viii. Others

- Carbon credits / Recycling/Upcycling Sustainability – all are given due weightage at the time of project evaluation
- Input costs on account of industry standard certifications e.g., ISO or ISI and other relevant substantial costs would need to be factored
- Cost of Patents, Licenses, Import of Technical manpower / Transfer Pricing Tax implications would need to be mentioned too as CS students are aware of all these aspects.

Financial Feasibility and Due Diligence

A very important investigative analysis of the financial performance of a company, somewhat similar to an audit, financial due diligence is conducted by outsiders looking to gain a better understanding of the financial situation that the company finds itself in, and its prospects for the future.



Checklist for Financial Due Diligence Report

It's the common and best practice to include all the important points of the financial health of an enterprise into the financial due diligence report. Some of them are mentioned below:

a) **Detailed Information on the Company Finances-** It includes tax returns, accounts receivable records, and financial statements for prior years also along with current one.

b) **Particulars of the Company Assets-** Comprising the details about the company's various buildings, equipment, and intangible assets like IPRs.

c) **Data on Clients, Partners, and Suppliers-** Detailed information on the many players in the company's supply chain and their interactions with one another has to be given here.

d) **Statistics on the employees of the Business-** It provides the information about the individuals who occupy key positions inside the business with their professional backgrounds. It might also provide information about previous ones also.

The basic object of making any business proposal is to make profit to meet business obligations and to remain financially viable at all times. Financial feasibility is determined by taking into consideration various technical parameters like plant capacity, product mix, cost of inputs, employees cost, other manufacturing expenses, interest, depreciation and administrative expenses. Within these parameters the financial estimates/projections need to be submitted to the FIs/Banks for their appraisal.

The following information may be included:

I. Determination of the Project Cost

II. Means or sources of Finance

III. Profitability Estimates

IV. Projected Balance Sheet

V. Projected Cash Flow/Fund Flow

VI. Financial Risk assessment.

I. Determination of the Project Cost:

It is of utmost importance to know the investment to be made on the different heads of the assets, to arrive at the total capital outlay on the project.

The different heads under which investments are to be made may be presented as under:

S. No	***Particulars of assets***	***Cost already incurred***	***To be incurred***	***Total Cost***
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x	Other assets like furniture, office equipment, computers, vehicles, etc.			
xi	Preliminary Expenses			
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xiii	Contingencies			
	Total Capital Cost			
xiv	Margin money for Working Capital			
xv	Total Project Cost			

The investments on each and every item mentioned above are appraised in detail and as such the report should provide complete information.

II. Means of Finance

After arriving at the total project cost as discussed earlier, sources from which these are to be funded should be considered. There are various alternatives and sources available to finance the project cost. According to the repayment capacity and profit generated by the unit, term loan component is determined. The finance may come from the following sources:

i. **Equity-** It is promoters' contribution by way of equity in the project. Being capital in nature, no interest can be provided and it cannot be withdrawn during the currency of the loan. In case of limited company, there is no provision in the Companies Act 2013 to provide any interest on equity and it cannot be reduced without the statutory compliances. However, in case of partnership firm, interest on capital is allowed under the Income Tax Act. FIs/Banks put strict conditions to ensure that capital is not withdrawn. Normally FIs/Banks desire that promoters should bring not less than 25% of the project cost by way of equity.

ii. **Internal Accruals-** In case the project is undertaken by an existing entity, the necessary equity for the project may come by way of internal accrual from their retained earnings and promoters need not to bring fresh capital. `It may be combination of partly from the internal accruals and partly from the infusion of fresh capital or unsecured loans.

iii. **Interest free Unsecured Loans/Deposits/Debentures (Quasi Equity) -** It is observed that out of the total promoters' contribution, promoters propose to bring their contribution partly in equity and

partly as unsecured loans. FIs/Banks normally allow this arrangement subject to the condition that such type of unsecured loans should remain interest free and should not be withdrawn during the currency of loans. This is being treated as quasi equity and FIs/Banks may allow such quasi equity up to 15% to 25% of the total promoters' contribution. However, such policy may vary from bank to bank.

iv. **Government Subsidy/Incentives-** Central and various State Governments declare incentives schemes to promote the under-developed areas and offers various incentives including capital subsidy. This capital subsidy should also be considered as means of finance, if it is available during the implementation period of the project. Otherwise, it should not be considered a part of the means of finance. However, a reference should be made in the report about its entitlement to claim it.

v. **Term Loans-** Term loan is a part of the finance that is funded by FIs/Banks. It is interest bearing loan repayable in instalments over a long period of time depending upon the project. Normally repayment tenure is between 5-10 years. FIs/Banks allow moratorium period in repayment where the borrower is not required to pay any instalment of term loans. However, interest is to be serviced regularly. Depending upon the gestation period and generation of the earnings, repayment schedule is fixed.

vi. **Deferral Payment Scheme (imported machines)-** Machines manufacturers of some countries offer machines on Deferred Payment Scheme (three years) on attractive terms to the importing country. In case it is proposed to be availed, the term loan on those machines shall be reduced.

Whatever may be sources, the following two criteria is normally applied while determining the financial pattern:

(a) Debt Equity Norms (D/E)

It is the ratio of debt to the equity. Lower the equity, higher the debt equity ratio or vice versa. Earlier D/E ratio of 3:1 was considered reasonable. The fast-changing technology and economic scenario, high D/E ratio is being considered risky. However, for mega project, high D/E ratios are still considered on case to case basis.

Today D/E ratio between 2:1 to 1:1 is considered by the FIs/Banks. Debt Equity ratio of 2:1 means debt is two times of the equity from the promoters and in case of D/E ratio of 1:1, promoters bring equal contribution.

(b) Margin Concept

Under this method, FIs/Banks keep certain pre-determined margin say 25% to 40% depending upon the nature of assets to arrive at the loan component and rest is the promoters' contribution in the project.

III. Profitability Estimates:

After the project cost and means of finance are finalised, based on the technical parameters, profitability estimates at different capacity utilisation are prepared till the repayment of the term loan.

The profitability estimates prepared under the following heads:

a. Capacity Utilisation

b. Sales and other Income

c. Cost of Production:

- Raw Material Cost, Indigenous and Import
- Power and Fuel Cost
- Manpower Cost
- Stores and Spare Consumed
- Other Manufacturing Expenses including Repairs & Maintenance
- Depreciation and Amortisation (specify Straight Line Method/ Written Down Value Method)
- Administrative Expenses like Travelling & Conveyance, Rent and Taxes, Insurance, Telephone and Communication Expenses, Stationary, Audit Fees, Legal and Consultation Fees, Office Electricity, Bank Commission and Charges, Office Expenses, Security Charges, etc.
- Selling Expenses including Sales Commission, Brokerage, Advertisement and Publicity Expenses etc.
- Interest on Term Loan
- Interest on Working Capital Loan
- Interest on Other Loans
- Profit Before Tax
- Provision of Income Tax computed as per the provisions of Income Tax Act, 1961 including payment of Minimum Alternate Tax. If any.
- Net Profit After Tax.

The detailed profitability estimates are normally prepared in the Credit Monitoring Arrangement (CMA) format prescribed till the repayment of term loans and should be attached to the report. However, the key points of the profitability estimate should always be given in project report, which may be as under:

Year	***1***	***2***	***3***	***4***	***5***	***6***	***Till Repayment***
Capacity Utilisation							
Gross Revenue							
Net Revenue							
Profit before Interest and Depreciation							
Depreciation							
Interest							
Income Tax							
Net Profit							
Add Depreciation							
Cash Profit							
Repayment of Term Loan							
DSCR							

The details of each of the items of expenditure are to be given in the report by way of annexure so that FIs/Banks can verify the correctness of the figures.

Regarding the depreciation, The Companies Act, 2013 prescribes the depreciation rate in Schedule II based on the useful life of the assets. These rates are based on the depreciation method followed i.e. SLM/WDV. These rates are different from the rates prescribed under the Income Tax Act. Hence while calculating the Income Tax liabilities; it is to be ensured that depreciation allowable under the Income Tax Act only should be considered for IT liability including MAT. Sometime a reconciliation statement due to different rates of depreciation is attached to the report.

IV. Projected Balance Sheet

The projected balance sheet showing assets and liabilities of the borrower is prepared in CMA format prescribed to understand the financial position. It is prepared till the repayment of the term loans. However, the key points should always be given in the project report itself, which may be as under:

Year	*1*	*2*	*3*	*4*	*5*	*6*	*Till Repayment*
Capital and Liabilities							
Capital							
Reserve and Surplus							
Net Worth							
Long Term Liabilities							
Short Term Liabilities incl. TL instalment due within one year							
Total Liabilities							
Assets							
Gross Fixed Asset							
Net Fixed Assets							
Investments							
Current Assets							
Non-Tangible Assets							
Total Assets							
Current Ratio							
TOL/Net Worth							
Net Working Capital Margin							

V. Cash flow/Fund flow Statement

Based on the profitability and balance sheet, cash flow/fund flow statement is also prepared. This will help to understand that sufficient cash flow is generated to meet all short term and long-term

liabilities and financial obligation in time. It also helps in understanding that long term surplus is available to meet the short-term liabilities. Vice versa, FIs/Banks may ask for explanation for utilising the short-term sources for long term purpose. Not all the times it is viewed negative. If the enterprise has sufficient liquid assets above the normal requirement to meet the current liability i.e., current ratio above 1.33, funds can be diverted for expansion. The detailed fund flow is to be given in the CMA format prescribed.

May provide the format covering expected cash flows from operating, investing and financing activities.

VI. Financial Risk Assessment

Risk is inherent in all the business as their performance is based on future projection, which cannot be predicted precisely. Risk assessment is very complex process and it is becoming a vital function in evaluation and appraisal of the project by FIs/Banks. Therefore, in FIs/Banks, now a days, a separate department with team of experts has been set up to assess the risk associated with the project. Prior to the sanction of any financial limits, risk assessment is carried out. There are several risks in a project, i.e., industry risk, market risk, international risk, financial risk, etc. Financial risk assessment plays an important role in appraisal. There is no single yardstick to assess it.

However, the following analysis may help to understand it better.

(a) Ratio Analysis

Ratio analysis is very simple and easy technique to understand critical components of the profitability estimate and projected balance sheet.

Profitability Ratio: In this ratio, each component of cost with respect to profitability estimates is critically analysed. Cost of the product consists of raw materials, power and fuel, manpower, interest, administrative expenses etc. The analysis of the various elements of cost gives the indication about which cost/expenses is more crucial in the project, which further requires management attention.

Balance Sheet Ratio: In Projected Balance Sheet, which shows financial position of the project; the ratio like Current Ratio, Outside Liability to Net worth etc. are widely analysed to know the financial soundness of the project.

Current Ratio which is useful to understand the current liquidity is calculated by dividing the current assets by current liability and ratio of1.33 is normally considered reasonable. In case of micro and small enterprises, ratio of 1.20 to 1.25 may be accepted. Higher the current ratio greater is the liquidity and financial soundness in short term.

The ratio of Total outside Liability (long term and short term both) to Net Worth (capital plus reserve and quasi capital) indicates how many times the borrowings are as compared to net worth. Normally FIs/Banks consider this ratio below 4 as reasonable. Lower ratio indicates higher commitment of promoters in the project and is viewed very positive.

(b) Debt Service Coverage Ratio (DSCR)

The Debt Service Coverage Ratio (DSCR) is the ratio of operating income available for debt servicing to repay the interest and principal of term loans. It is popular bench mark to measure the ability to repay loan.

$$\text{DSCR} = \frac{\text{Profit after Tax + Depreciation + Interest on Term Loans}}{\text{Interest on Term Loans + Principal of Term Loan}}$$

It is calculated for each year of profitability till the repayment of term loan. If the average DSCR is 2 and above, it will find favour with the FIs/Banks. Any proposal giving average DSCR below 1.5 is considered risky and promoters are asked to reduce the term loan and bring more equity. If it is between 1.5 to 2, it may be considered depending upon the promoters' background, type of project and collateral security offered. Higher DSCR sometimes result in reduction in repayment period.

(c) Break Even Analysis

Break-even analysis is done to understand at what capacity utilisation the unit achieves the break-even sales i.e., a point of sales where company makes no profit no loss. It recovers all expenses, fixed and variables. Break -even point may change with the change in the composition of the fixed and variable expenses and the realisable value of the products. Therefore, to calculate the breakeven is not an easy exercise and it requires understanding of the cost behaviour into fixed & variables expenses and that of the sale price. None the less analysis of BEP is very relevant in many decision makings like make or buy, to accept special order at low price, etc. Lower the breakeven point, higher the margin of safety or vice versa.

(d) Sensitivity Analysis

The behaviour of the various cost elements is never constant. It keeps on changing from situation to situation. Since the future is uncertain, it is important to know the impact of the changes in the various input cost and the realisable value on the profitability. Such analysis is called 'sensitivity analyses. The impact is always calculated negatively on the profitability. For example:

1. What, if raw material price is increased by .....%
2. What, if the power and fuel cost is increased by .....%
3. What, if the employees' cost is increased by .....%
4. What, if the selling priced is decreased by .....%

Such analysis helps to understand the extent of vulnerability of the project to certain input cost or price variability. FIs/Banks invariably calculate this analysis for the risk assessment purpose.

(e) Payback Period

Payback period is the time within which the initial outlay on the project is expected to be recovered through the cash inflows generated by the operations of the unit. It is one of the simplest and important investment appraisal techniques. Earlier the recovery more is the safety. However, it does not take into account the time value of money and also it does not take into account the cash flows post payback period. Some projects may generate higher cash flows in the later life of the project. This limitation can be resolved using the net present value of the earnings over a period of time. The discounting factor to be used to calculate the net present value may be the cost of capital.

(f) Internal Rate of Return (IRR)

Under IRR, future cash inflows are discounted at present value of cash inflows equal to the outflows on the project. This IRR is compared with the expected IRR and accordingly decisions are taken.

(g) SWOT Analysis

A SWOT analysis is an exercise to identify Strengths, Weaknesses, Opportunities and Threats to assist in making strategic plans and decisions.

A SWOT analysis also reveals the positive forces that work together and potential problems that need to be recognized and addressed.

Strengths and Weaknesses are considered to be internal factors over which enterprises have some measure of control whereas Opportunities and Threats are considered to be external factors over which enterprise have little or no control.

The overview of these four factors is necessary and should find place in the project report.

(a) **Strengths** - Strengths are positive aspects which help and support to accomplish mission and growth in the business. It may be good financial strength, good marketing network, easy access to the raw materials, etc.

(b) **Weaknesses** - Weaknesses are those negative factors that prevent in achieving full potential, however they can be controlled and mitigated by proper strategy. For example, dependency on the few customers for sale or on few suppliers for raw materials availability may be taken into consideration if such weakness observed in the proposal.

(c) **Opportunities**–Opportunities may arise from market, competition, technological changes, deregulation by Government, import restrictions, etc. An enterprise should be careful and recognize the opportunities and grasp them whenever they arise.

(d) **Threats** - Threats challenge the stability and survival of the enterprise. It may come from change in technology, product obsolescence, increase in cut-throat competition, development of substitutes, Government regulations, etc. They compound the vulnerability of the business and management should always be alert to such situation.

Strength, Weakness, Opportunity and Threat are relative terms and interchanges from time to time depending upon the situation. When writing the weakness and threat, it is also desirable to mention about measures to mitigate.

ROLE OF A COMPANY SECRETARY

The feasibility report is always prepared based on the information supplied by the promoters of the entity. As a professional consultant, when the work of the project report preparation, feasibility study, funding of the project and other incidental matters are assigned, it is desirable to seek the information from the promoters, which are required to be incorporated in the project report. The required information is to be framed in the questionnaire format, which is to be furnished by the promoters. The information required may be classified as:

- General Information
- Information of Management and Promoters Background
- Information on Technical details
- Information on Marketing Strategy
- Information of revenue and cost estimates
- Project Implementation Schedule
- Risk Associated with the Project.

At this stage, the promoters may be advised to disclose all the relevant information regarding the project, whether positive or negative. The unfavourable points, if any, can be addressed and dealt appropriately in the report at this stage without hiding it.

The Practicing Company Secretary plays an important role in the entire process of project report preparation, appraisal, and funding and project implementation. Due to expertise in corporate funding, compliances, governance and legal understanding and due diligence, Company Secretaries can provide professional services in the following areas:

Area of Practice*	***Professional services***
In Formation	1. To obtain DIN of proposed directors of the project 2. To ascertain the availability of name for the new company 3. To prepare the Memorandum and Articles of Association 4. To incorporate the Company/LLP
In Registration & Licence	1. To obtaining Udyam Registration for MSME status 2. To obtain Industrial Entrepreneurs Memorandum from Ministry of Commerce and Industry, Government of India for large scale registration 3. To obtain industrial licence from Government of India
In Raising Fund	1. To Prepare feasibility report for financial assistance from FIs/Banks 2. Representing case before the FIs/Bank and doing Liaison and follow up win FIs/ Banks 3. To obtain Credit ratings from external rating agencies 4. To raise the capital from capital market or Venture Capital
Other Corporate Services	1. To draft collaboration agreement and/or Shareholders Agreement, if required 2. To provide FEMA related advice on FDA and ECB guidelines 3. To carry on due diligence 4. To obtain Environment Clearance from the Concerned department
Corporate Compliances	1. To increase the authorised capital and comply with the statutory requirement for further issue of shares 2. To comply with the statutory requirement of accepting the unsecured loans and deposits and issue of debentures 3. To suggest proper capital structure 4. To allot shares and to issue share certificates 5. To help in executing the loan and other legal documents 6. To create/satisfy charge with MCA 7. To take search of the company's record and issue necessary certificate

** This is an indicative list for information purpose only.*

Activity Flow Chart for Company Secretary

The activities involved in the entire process of execution of professional assignment are illustrated as under:

➢ Initial discussion with the promoters on the project
➢ Understanding the scope of the work and discuss about the professional charges
➢ To apprise the broad about financing norms
➢ Obtain the assignment in writing specifying the scope of work and payment terms of professional fees
➢ Send the questionnaire format to furnish the information about the project and promoters
➢ Prepare the draft report based on the information received and discuss the report point to point with promoters and incorporate their suggestion before the final report
➢ Advise the promoters to read the entire project report very carefully so that during the discussion with the FIs/Banks, they do not make any such statement which is not in conformity with what is stated in the project report, unless revised or modified
➢ Submit the proposal to more than one FI/Bank and try to obtain the in-principle clearance to avoid the rejection at later stage
➢ Arrange the meeting of the promoters with bankers
➢ Remain in touch with bankers during the preparation of their appraisal note for sanctioning authority and also on the likely terms and conditions being stipulated. At this stage we can discuss on the change in terms and conditions which are not favourable to the borrowers
➢ Try to arrange the discussion with the higher authority sanctioning the proposal. This will always help in easy sanction.
➢ If the loan proposal is sanctioned by the FI/Bank, read the terms and conditions for disbursement of the loan
➢ Pay processing fee
➢ Express thanks to all involved in the sanction process, formally or informally
➢ Comply with the terms and conditions of the sanction and execute the loan agreement and other legal document

Feasibility and Due Diligence- Some examples

1. Feasibility study for the Expansion of Healthcare facility

If the healthcare facility wants to expand its area of a building, then it may conduct the feasibility study, which will help it in determining whether a hospital should go ahead with the project of expansion or not.

Different criteria which should be taken into account, like in the present case. Following are the factors that will include:

- Labor and material cost that will be incurred for the expansion.

- What will be the change in the revenue to the organization if the expansion is done?
- How disruptive it will be for the staff and its patients?
- What is the public opinion with respect to the new extension, i.e., whether the local community is in favor of such a project or they are against it?
- What is the response of the various stakeholders of the organization as the stakeholders play an important role in any organization as they are the people who have a major interest in a project or business?
- A detailed evaluation of all the project's pros and cons while conducting the study and then allotting the ranks to them with respect to each other. All the responses should be gathered properly and analyzed on different parameters as applicable. Based on that, it will be determined that the organization go ahead with the project expansion or not.

2. Setting up a New Food Outlet

A detailed and thorough feasibility study before opening the outlet will help the owner in saving time and money as, with the help of a study, he can make an informed decision regarding the chance of success of the venture.

Following are the different factors that may be focused on:

- *Preparing Market Statistics:* Feasibility study should include studying the demographic characteristics like age and income to know the size of the potential market. In the case of the family restaurant, one should know the number of families residing in the area as singles or students will not count for the potential share.
- *Potential Locations:* The location for the family restaurant should be the area having high-traffic. Parking and other factors should also be considered to make sure that the place is easily accessible to customers.
- *Level of Competition:* At the time of the Feasibility study, one should gather information about the total number of nearby restaurants and the style of those restaurants. The area should not already be saturated with a similar concept as planned. Thus one should properly analyze the strengths and weaknesses of all major competitors.
- *Extensive Industry Analysis*: For studying the feasibility, one should join the various organizations of the same industry and attend their meetings to know more about the health and growth of the industry.
- *Recent Economic Environment:* Decide whether as per the current economic environment launching a new restaurant is advisable or not. Whether any restaurants were closed in the past few years or not and their reasons thereof.
- *In depth Cost Structure:* One should break down the cost of each item on the menu and determine the major suppliers in the future and prices offered by them. Also, there should be a proper cost projection of the food cost projections.
- In the feasibility study, one should evaluate management capability, i.e., whether an entrepreneur has the required skill and experience to make a venture successful. He should also have the capability to manage the staff and to understand properly about kitchen operation.

These are some of the important parameters that one should evaluate to conduct a feasibility study on starting a new family restaurant. Apart from these, other factors like laws and regulations, logistics, and other factors as applicable should also be considered before making the decisions.

All the facts and figures should be evaluated deeply with their positive and negative aspects to take a sound decision.

PROJECT VIABILITY AND RESEARCH ON INNOVATION

The viability of the project can be understood in terms whether it can be completed successfully given the time, money, and other resources that are available with the Organization.

This is very important aspect in Project Management which qualitatively and quantitatively evaluates the strength of the projects, identifies gaps in practices, and advises upon the actions to take to minimize project risk in later stages.

Factors that can impact the viability of a project, including its scope, complexity, and the skill level of the team working on it along with the availability of resources can also play a role in determining whether or not a project is viable to undertake further.

The assessment of a project viability is based on a review of the status and plans for key Project activities like financing, permitting, engineering, procurement, construction, interconnection, start-up and testing, operations, fuel supply, water supply, wastewater discharge, labor agreements, site control, commissioning of the project, civil work etc.

Economic viability of the project is considered positive if the economic benefits of the project exceed its economic costs, when analyzed for society as a whole. The economic costs of the project are not the same as its financial costs—externalities and environmental impacts should be considered. This concept is also known as SCBA i.e. Social Cost Benefit Analysis.

Steps for Viability Check

- Define the scope of the project: This will include project's goals, objectives, and deliverables and any restrictions or limitations.
- Conduct a market analysis: This entails investigating and evaluating the project target market, identifying possible clients, Competitors, and recent market trends.
- Preparing a financial plan: It will include making a budget for the project, projected income and costs, and calculating the payback period.
- Risk assessment and understanding uncertainties: This includes locating and assessing any potential risks or uncertainties that may affect the project in any way, such as governmental changes or market conditions.
- Report Preparation: The data collected above should be compiled into a report that explains the viability study results and offers options for continuing the project.
- Review and feedback: Presenting the report to all the stakeholders to get their input, and make any necessary adjustments.

Project viability in financial terms

Financial viability should be analyzed in present value terms, which means **the costs and revenues over the life of the project are expressed in terms of today's money**. This is essential for making meaningful comparisons of benefits and costs that occur at different times and for comparing different projects.

Financial Viability Analysis of a Construction Project- An Illustration

- Project is expected to cost Rs. 5000 crores. It is planned to be financed by equity and borrowing.
- The net cash flow during the construction period (2016-2019) is negative as there will not be any inflow but fixed interest on loan is to be paid. It is positive during the operation period (2019-2039).

- It is agreed that the SPV will be started with an equity of Rs. 2000 crores to be provided by the sponsors and rest would be borrowed form a leading financial institutions. This arrangement will make debt equity ratio to be 3:2. Interest on loan is expected to be 12% p.a. to be paid semi-annually at the end of September and March. Loan is taken on 1st April 2016.
- The loan is to be repaid in five equal installments starting from 16th year of the project (reckoned from the date of operation). It is expected that the project would generate enough cash flows in the latter phase so as to repay lender from 16th year of the project.
- Annual Operation and Maintenance cost is expected to be 2.5% p.a. of project cost. In addition to this, there will a periodic maintenance at the end of every five years starting from 5th year of operation. The annual operation and maintenance cost is expected to increase 2% annually in next 5 years and thereafter it will increase by 1%.
- After the completion of construction on 31st march, 2019, revenue is generated from toll from vehicles during the operation period, which is fixed based on technical viability of the project. Toll revenue is expected to be 8% of project cost in first year i.e. by the end of March, 2020. It is also supposed to increase 10% annually over previous year up to 2028 and thereafter it will increase by 5%.
- Depreciation means allocation of project cost over the life of the project. It only reduces taxable income and provides an annual tax advantage equal to the product of depreciation and the (marginal) tax rate, but it does not lead to a cash outflow from the company. The most common method for depreciation is straight-line depreciation. Under this method, annual depreciation equals a constant proportion of the initial investment. It is assumed that the project cost of Rs. 5000 crores is to be written off over the 20 years which is the life of the project.
- Corporate Tax rate is 34%.

A project can be considered as financially viable, if the following conditions are satisfied:

- The Net Present Value (NPV) for the project should be positive. The discount rate for financial analysis may sometimes include a premium for risk over the current commercial lending rate.
- The financial IRR should have a value greater than the discount rate.
- The cash flow (liquidity position) in each year of the concession period should be satisfactory. That means the cash balance at the end of every year should be positive.
- Payback period/Breakdown year should be less than the concession period.

Questions for discussion

Q. 1. Comment on the financial viability of the project by taking into account the following measures assuming a discount rate of 12%:

a. NPV

b. Payback period

c. Discounted payback period

d. Profitability Index

e. Project IRR

f. Equity IRR

Q. 2. If the maintenance cost goes up by 50% from 1st year and expected revenue is 6%, how would these affect the financial viability of the project?

Cash Flow of the Project from 2017-2024

	2017	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***2024***
Toll Revenue				400.00	440.00	484.00	532.40	585.64
Less: Operation & Maintenance				125.00	127.50	130.05	132.65	135.30
Interest on Loan	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Depreciation				250.00	250.00	250.00	250.00	250.00
PBT	-360.00	-360.00	-360.00	-335.00	-297.50	-256.05	-210.25	-159.66
Less: Tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAT	-360.00	-360.00	-360.00	-335.00	-297.50	-256.05	-210.25	-159.66
Repayment of loan								
Project Cash Flow	-360.00	-360.00	-360.00	-85.00	-47.50	-6.05	39.75	90.34
Equity Cash Flow	-597.60	-597.60	-597.60	-322.60	-285.10	-243.65	-197.85	-147.26

Cash Flow of the Project from 2025-2033

	2025	***2026***	***2027***	***2028***	***2029***	***2030***	***2031***	***2032***	***2033***
Toll Revenue	644.20	708.62	779.49	857.44	900.31	945.32	992.59	1042.22	1094.33
Less: Operation & Maintenance	138.01	139.39	140.78	142.19	143.61	145.05	146.50	147.97	149.45
Interest on Loan	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00	360.00
Depreciation	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00
PBT	-103.81	-40.77	28.70	105.24	146.69	190.27	236.09	284.25	334.88
Less: Tax	0.00	0.00	9.76	35.78	49.88	64.69	80.27	96.65	113.86
PAT	-103.81	-40.77	28.70	105.24	146.69	180.51	200.31	234.38	270.19
Repayment of loan									
Project Cash Flow	146.19	209.23	278.70	355.24	396.69	430.51	450.31	484.38	520.19
Equity Cash Flow	-91.41	-28.37	41.10	117.64	159.09	192.91	212.71	246.78	282.59

Cash Flow of the Project from 2034-2039

	2034	***2035***	***2036***	***2037***	***2038***	***2039***
Toll Revenue	1149.05	1206.50	1266.82	1330.16	1396.67	1466.51
Less: Operation & Maintenance	150.94	152.45	153.97	155.51	157.07	158.64
	2034	2035	2036	2037	2038	2039
Interest on Loan	360.00	360.00	288.00	216.00	144.00	72.00
Depreciation	250.00	250.00	250.00	250.00	250.00	250.00

PBT	388.11	444.05	574.85	708.65	845.60	985.87
Less: Tax	131.96	150.98	195.45	240.94	287.51	335.19
PAT	307.84	347.40	460.99	576.69	694.63	790.42
Repayment of loan		960.00	888.00	816.00	744.00	672.00
Project Cash Flow	557.84	597.40	710.99	826.69	944.63	1040.42
Equity Cash Flow	320.24	-600.20	-367.09	-131.87	105.59	320.90

Solution to Question No. 1

a. Net Present Value (NPV) is the difference between present value of Future Cash Flow (FCF) and the initial cash outlay. For this, we are considering project cash flow calculated in the previous page.

Present value of FCF	(INR 1,519.25)
Initial Outlay	INR 5,000.00
NPV	(INR 6,519.25)

Net present value is negative. Hence, it can be said that the project will not be profitable for the company. Under the present forecasts, the project does not look financially viable.

b. Payback period is the time taken to recover initial investment. For this, we need to calculate cumulative cash flow and identify the time where the initial investment gets recovered. The project will recover the initial investment between 2038 and 2039.

Payback period 21.87 Years
If we consider concession period only, then it will break even in between 18 and 19 years.

c. Discounted payback period considers time value of money. If we consider time value of money, then this project will never be able to recover its initial investment of Rs. 2500 crores.

d.

Profitability index = Present value of cash inflows/ initial outlay	
Present value of cash inflow	130.09
Initial outlay	5000
Profitability Index	2.60%

So, the above calculation shows that for every 100 rupees investment in the project, cost recovered is only Rs. 2.6.

e.

Project IRR	1.53%	IRR is calculated using IRR function in excel

f. Equity IRR is negative. It cannot be calculated.

Based on the above estimates, we can that the project is not very viable financially.

Solution to Question No. 2

If maintenance cost goes up by 20% and projected revenue is 6% instead of 8%, then project will not be financially viable at all.

REGULATORY AUTHORITIES/AGENCIES

These are the independent governmental bodies established by legislative act in order to set standards in a specific field of activity, or operations, in the private sector of the economy and then to enforce those standards. Regulatory agencies function outside direct executive supervision.

Philosophy behind the regulatory framework

- Checking the anti-competitive practices
- Taking steps to prevent market failure
- Focusing on the public interest
- Ensuring the flawless running of industrial development

The following are Regulators in Indian Financial system:

- SEBI: The apex regulator in the Indian capital market is the Securities and Exchange Board of India (SEBI).
- IRDAI: The Insurance Regulatory and Development Authority of India (IRDA) is the regulatory authority for the insurance sector.
- RBI: Reserve Bank of India (RBI) is the apex regulator for banking sector.
- PFRDA: Pension Funds Regulatory and Development Authority (PFRDA) regulate pensions.
- MCA: Ministry of Corporate Affairs (MCA) regulates the functioning of corporate sector in accordance with law.
- AMFI: Association of Mutual Funds in India is a non-statutory body. It is a body to control mutual fund industry in the country.

Approvals/clearances required for doing business and corresponding agencies granting the same in India

Approvals/Clearances required	*Department/Agencies to be approached and consulted*
Incorporation of Company	Registrar of Companies, Ministry of Corporate Affairs
Registration/IEM/Industrial license	DIC for SSI/SIA, Department of Industrial Policy & Promotion for large and Medium industries
Allotment of land	Concerned State DI/SIDC/Infrastructure Corporation/ SSIDC
Permission for land use (In case industry is located outside an approved industrial area)	State DI Department of Town and Country Planning Local authority/ District Collector
Consent under Water and Air Pollution Control Acts Environment Impact Assessment	State Pollution Control Board Ministry of Environment and Forests, Government of India

Approvals/Clearances required	*Department/Agencies to be approached and consulted*
Approval of construction activity and building plan	a. Town and country planning b. Municipal and local authorities c. Chief Inspector of Factories d. Pollution Control Board
Sanction of Power and power safety	State Electricity Board/Companies and state electricity inspector
Use and storage of explosives	Chief Controller of Explosives
Manufacturing pharmaceutical products.	Drugs Inspectorate
Boiler Inspection	Chief Inspector of Boilers
Finance	SFC/ State Industrial Development Corporation for term loans For loans higher than Rs. 15 million, all India financial institutions like IDBI, ICICI, IFCI etc.
Registration under State Sales Tax Act State Excise Act Central Excise Act	i. Sales Tax Department ii. State Excise Department iii. Central Excise Department.
Extraction of Minerals	State Director of Mines and Geology
ISI (Quality) Marking	Regional Office of the Bureau of Indian Standards (BIS)
Quality Marking Certificate	Quality Marking Centre of the State Government
Labour Act	Labour Department
Weights and Measures	Inspector of Weights and Measures
Code Number for Export and Import	Regional Office of Director General of Foreign Trade.

Source: https://www.oecd.org/gov/regulatory-policy/44925979.pdf

RISK ASSESSMENT AND MITIGATION

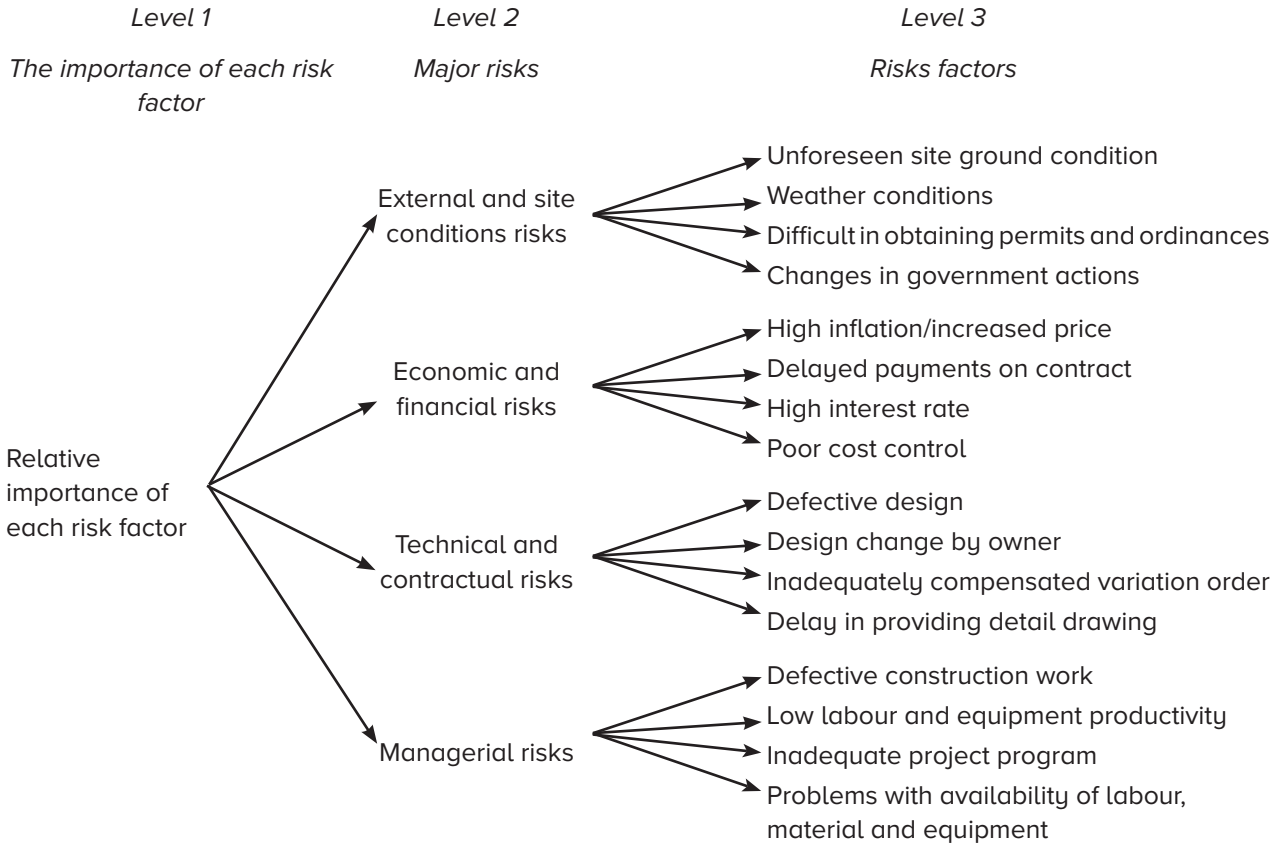
A risk is generally defined as an elaboration of unfortunate consequences of certain events. Risk can be managed properly if it is assessed and identified timely. So the Risk management refers to the problems that may occur which are only in term of probability, at the same time in the actual time of occurrence there can be a number of other events happening which are unknown but predicable generally.

In the Projects, risk usually refers to the factors that may hamper the objective of the project regarding time, cost and quality. Risk Identification that can be faced is important for the contractor to get alert and prepare in advance for the uncertainties that arises.

Risk level = Risk probability × Risk impact

Risk Types/Attributes in Project Management

- General, dynamic or static Risk;
- Internal or external risks;
- Financial risk;
- Time risk;
- Physical risk;
- Personnel risk;
- Design and technical risk;
- Contractual risk;
- Political and regulation risk;
- Safety risk;
- Economic Risk;
- Legal Risk and Managerial Risk.



Majorly Risk analysis, also known as risk assessment, begins from the identifying the risk before the project is carried out. It is very important to identify all potential hazards in a project well in advance. The whole process of Risk Management can be understood from the following images, which are very clearly explaining what and How of the Risk.

CASE STUDY

The Project is estimated to cost Rs. 382.12 crores and is proposed to be funded by way of Rs. 69.00 crores of equity, Rs. 191.03 crores of Debt and Rs. 122.09 crores grant from Government.

Detailed Project Description

As per the concession agreement, the scope of the Project would include the following Core Construction Requirements: Design, Build, Finance, Operate and Transfer [DBFOT] basis and maintenance during construction period and functions associated with the construction of the Project Highway and roadside facilities. The Project Highway is to be widened to have a 4 lane divided carriageway facility.

Project Facilities:

Toll Plaza(s): There are three toll plaza(s) to be erected 1st Km 43/600 on SH10, 2nd Km 125/000 on SH70 3rd in Km 80/200 on SH70 of the project highway for the purpose of regulating the entry and exit of vehicles.

Road side Furniture: To be provided for the entire length of the project highway. Viz., sign board, overhead portal with sign boards etc.

Pedestrian facilities: Facilities of safe and unhindered movement of pedestrian and cyclist shall be provided on the project highway.

Landscaping and Tree plantation: All along the road, tree shall be planted as per standards; tree shall be planted in rows and on either side of project highway as per standards. The plantations in the median shall comprise of shrubs and flowing plants. Tree plantation shall also be taken to environmental balance and loss due to cutting of trees for road widening.

The scheme for landscaping shall be part of overall environmental mitigation plan (EMP). The area around toll plaza and check post shall be properly landscaped. All depressed/scraped area shall be properly landscaped all along project road.

Bus-bays and passenger shelter: These shall be provided in accordance with CA and places mentioned therein.

Cattle crossing: Facilities for crossing highway at busy intersection is proposed through vehicular underpass.

Highway Lighting: The lighting shall comply with the provisions of standards and specifications, the project Highway shall also be provided with adequate lighting system in Urban /built up areas, Under Passes/ Cattle Passes, at grade intersections, Toll plaza, Bus Stop etc.

Administrative: Operation and Maintenance Base Camp: A minimum of 300 Sqm of covered area for functional base camp shall be provided. The base camp shall be located near the plazas location.

The proposed facilities available at base camp are described here under:-

Toll plaza /collection centre, Main collection centre administrative block, Equipment and machinery required for operation and maintenance and Storage space for equipment and material for traffic signs and marking, Workshop, General Garage and repair shop, Testing laboratory and First Aid Box.

Bridges & Other Structures: The Project includes **c**onstruction of 8 major bridges widened for four lanes, widening of 20 minor bridges, one Road over bridge.

Risks Identification of Project of Highway Construction

❖ Vital Risks of this Project

- **Traffic Risk-**Traffic during the construction process. Inconvenience for the commuters to travel.

- **Toll Risk-**Due to the lower traffic density, the collection of toll reduced. Toll risk lead to the failure in recovery of construction cost. Total construction cost increased.
- **Constructional Risk-**The project is implemented by the way of fixed price and time. So the risk in the increase of material cost increased.
- **Operational and Maintenance Risk-**Due to the delay of the project, the Operational and Maintenance cost increased which affected the commencement of operation to cover the estimated maintenance expenditure.
- **Land Acquisition-**Delay in the project due to land acquisition leading to increase in the estimated construction cost.

❖ Slight Risks in this project

- **Utilities-** Non availability of fuel, electricity and utilities not relocated at time delays the work of the day.
- **Noise-** Repetitive, excessive noise causes long term hearing problems in labour and can be a dangerous distraction.
- **Material & Manual Handling-** Materials and equipment is being constantly lifted and moved around on a construction site, whether manually or by the use of lifting equipment. Different trades will involve greater demands, but all may involve some degree of risk.

❖ Corrective Steps

- **Traffic Risk-** The base, Toll able Traffic had been considered based on the Independent Traffic report given by Executive Engineer Public Works Department. However, considering a fall in the base traffic number by 5 % in the process of working out sensitivity analysis, the Min DSCR and Avg DSCR are at acceptable levels.
- **Toll Risk-** Financial indicators of the project are highly sensitive to tariff growth assumptions. In the model it is considered with an average traffic growth of 5%, though there is enough potential due to anticipated industrial growth.

A reduction in the traffic growth to 4% found that the DSCRs are at acceptable levels.

There is no risk perceived on the WPI factor, since the toll fee given by Government if for the total concession period and the revised toll fee numbers are also mentioned.

Constructional Risk- The Project is implemented by way of a fixed price fixed time EPC contract. Hence the risk on account of price increase in material cost is mitigated.

Operational and Maintenance Risk- O&M contract for periodic maintenance is likely to be awarded to IVRCL. IVRCL has substantial experience in implementing road contracts. It is also proposed to have a major Maintenance Reserve (MMR) to be built up through internal accruals from commencement of operation to cover the estimated major maintenance expenditure.

Utilities- There should be adequate amount of fuel in backup inn case of emergency, electricity backup should be there in case of power cuts for completion of project on time without any delay.

Noise- Using simple ear plugs does not necessarily offer total protection against hearing damage – employers are required to carry out and document a comprehensive noise risk assessment.

Material & Manual Handling- Where employee's duties involve manual handling, then adequate training must be carried out. Where lifting equipment is used, then adequate training must also be carried out, but may involve some form of test, to confirm competency. Records of training must be maintained for verification.

Result:-

- Initial base traffic reduced by 5%.
- Traffic growth rate reduced from 5% to 4%.
- Interest rate increased by 1%, both during construction and operation period.
- Increase in O & M expenses by 10% during operation period.

Conclusion from the case study was drawn that the flow chart of the different activity for better planning of risk management is necessary. Effective risk management process encourages the construction companies to identify and mitigate the risks and later if those risks managed effectively, they can efficiently enjoy financial savings, and greater productivity, improved success rates of new projects and better decision making. The risk management in any project is very essential. It identifies the factors that cause uncertain risks in a Toll project and a possible process of mitigating them timely.

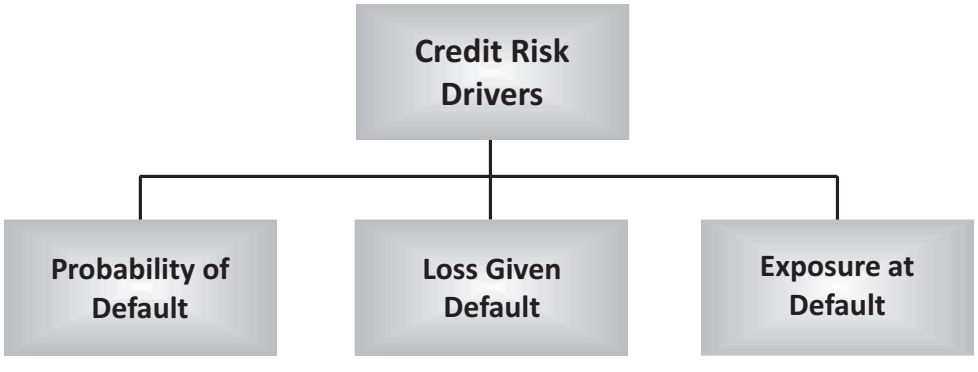
CREDIT RISK MANAGEMENT IN PROJECT FINANCE

The risk management is project finance, is all about identifying the various type of risks associated with a project and the appropriate allocation of these risks among the different parties engaged in the concerned project as to mitigate it. The project finance risk can be categorized into different categories like credit, construction, operations, financing, volume risk etc.

Credit risk which is the risk of loss that may occur from the failure of any party to make required payments on loans**.**

According to RBI, credit risk is "The possibility of losses associated with diminution in the credit quality of borrowers or counterparties.

Lenders face different types of credit risks—**default risk, concentration risk, country risk, downgrade risk, and institutional risk**. Institutions can have a check on the credit worthiness by using the "5 Cs" of credit risk—credit history, capacity to repay, capital, conditions of the loan, and collateral.



Credit risk management refers to measuring and mitigating the risks associated with the amount given as loan to the projects and preparing the organization to cope up with this risk.

Managing Credit Risk helps lending authorities to understand the credit worthiness of the borrowers, thereby helping them decide whether or not to approve their loan applications.

Certain specific strategies to manage credit risks may include:

– Efficient data aggregation

- Apt credit-scoring model
- Realistic credit limits
- Streamlined on boarding of customers
- Clear contracts
- Advanced automated systems.

Financial Institutions focus on the credit rating while financing a project. All FIs/Banks invariably carry out credit rating of the proposals. It may be:

- Internal Credit Rating
- External Credit Rating.

Internal Credit Rating: Each FI/Bank has its own credit rating model and credit risk committee which weigh the proposal considering various parameters and assign the marks for each parameter. If the proposal scores the marks above the investment grade, the proposal is considered for sanction and project scoring high marks are often offered lower rate of interest.

S. No.	*Rating (Long term)*	*Degree of safety/default on Long term Scale*	*Rating (short term)*	*Degree of safety/default on Short term scale*
1	AAA	Highest safety	A 1	Very strong
2	AA	High safety	A 2	Strong
3	A	Adequate safety	A 3	Moderate
4	BBB	Moderate safety	A 4	Minimal
5	BB	Moderate risk of default	D	Defaulter or expected to be defaulter
6	B	High risk of default		
7	C	Very high risk of default		
8	D	Defaulter or expected to be defaulter		

External Credit Rating: Apart from the internal rating done by the FIs/Banks while appraising the project, they may insist for the credit rating from external agency in case the loan amount is exceeding the prescribed limit. Few important agencies are CRISIL, CARE, ICRA, FITCH, SMERA, BRICKWORK, etc. They evaluate the project and assign the rating according to risk perception. Higher rating increases the negotiating power for the better terms from the FIs/Banks.

There is uniformity between the various Credit Rating Agencies regarding assignment of credit rating. The following chart indicates rating model being followed by Credit Rating Agencies:

(i) Due Diligence

The present economic scenario increases the importance of due diligence to ensure the compliances of the various statutes and systems. The due diligence may be in the following areas:

- Market due diligence
- Technical due diligence

- Legal due diligence
- System due diligence
- Financial and Accounting due diligence
- Tax due diligence
- Environmental due diligence, etc.

Depending upon the nature and size of project and purpose of the financial assistance, due diligence may be insisted upon by FIs/Banks.

(ii) Collateral Security

Apart from the first charge on the assets of the project, FIs/Banks insist on the additional collateral security from the borrower to increase the security coverage and the comfort level. There is no yardstick for such collaterals. The quantum of the collateral securities depends upon the risk perception and borrowers profile.

It is be worthwhile to mention that Government of India and SIDBI had set up the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE). Under this scheme, Micro and Small industries are eligible for collateral free credit facilities up to Rs. 200 lakhs from any FIs/Banks.

Personal Guarantees of Directors and Major Shareholders

Personal guarantees of the proprietor, partners, and directors are invariably provided for the loans taken. If the promoter of any project is a corporate entity, the FIs/Banks will insist on the corporate guarantee also.

It is also observed that personal guarantees of the major shareholders (Holding 10% and above) are being asked by the lenders, if they belong to promoters' family. If investment is made as an investor only, depending upon the situation, personal guarantee may not be insisted upon. However, FIs/Banks normally insist on the guarantee of shareholders holding not less than 51% shares.

Corporate Guarantees.

As explained in preceding paragraph, if the promoter of the project is a corporate entity or one of the major shareholders is a corporate entity belonging to promoter family, corporate guarantee may be insisted upon.

(iii) Execution of Legal Documents

After sanction of loan, FIs/Banks issue detailed sanction letter incorporating the various terms and conditions of the sanction which may include loan amount, interest rate, repayment schedule, securities, guarantees, margin, promoters' equity contribution etc. These conditions may be stipulated for pre disbursement and post disbursement. After complying with all the terms of the pre disbursement conditions, Loan documents are executed. During this process, FIs/Banks may take the search of the properties, valuation of the properties, legal due diligence, search on MCA site, etc. All documents are to be properly stamped as per local Acts. In case of corporate borrowers, charge is to be created on MCA site.

PREPARATION OF DETAILED PROJECT REPORT (DPR)

A Project Report is a written document relating to any investment containing the data on the basis of which the project has been appraised and found feasible. The information on economic, technical, financial, managerial and production aspects of the Project are shown as the part of Project Report**.**

The concept of Detailed Project Reports (DPRs) is quite demanding which are the outputs of planning and design phase of a project. DPR is a very detailed and elaborate plan for a project indicating overall programme, different roles and responsibilities, activities and resources required for the project. It can be called a blueprint of the project plan.

Importance of the Project Report

Project report is a blueprint of future trajectory of any business organisation. A well drafted Project Report plays a pivotal role in strengthening the investment proposal which in turn assist immensely in obtaining financial assistance from Financial Institutions/Banks (FIs/Banks) or any other stakeholder, i.e. equity shareholder, preference shareholder, debenture holder etc. of the business. A project report contains the information and data on the basis of which project is appraised to study its feasibility. Project Report submitted at the beginning to the FIs/Banks mainly contains the information about the business ideas and its promoters.

It is worthwhile to mention that while preparing the project report, as far as possible, all relevant information as mentioned above should be given in the report itself instead of giving by way of annexure. Giving information in annexure requires the appraising officer to switch between annexure and main report which distracts the attention and continuity. If annexure is necessary, then gist of the contents of the annexure is to be incorporated in the project report itself.

Many a times, it is observed that sanctioning authority does not meet and interact with the promoters in person but take decisions based on the information given in the project report. Therefore, it is advisable to give complete information about the project and its promoters along with supporting data. A SWOT (S-Strengths, W-Weaknesses, O- Opportunities and T-Threats) analysis of the project proposal in the report with appropriate solution is well appreciated by the FIs/Banks. The proper presentation provides confidence to the sanctioning authority to consider the proposal favourably. Furnishing the information “as and when asked for” should always be avoided. It delays the processing and sometimes adversely affects the decision.

The necessity of detailed project report can be understood from the fact that it is an extensive document that gives intricate details about the proposed business idea focusing on the information about the business proposal and different strategies that would be taken into account in order to implement the plan. It provides a sound base for investing in a project. If a good DPR is prepared, it can result into benefits like:

- Managing the budget of the Project
- Risk Minimization
- Efficient Project progress follow up
- Holdover the project by the concerned Authorities.

Contents of the Project Report

The project report should provide all the necessary relevant information so as to enable FIs/Banks to appraise the project in a systematic way. In view of this, it should contain the following information:

- General Information
- Management and Promoters Background

- Technical Feasibility
- Marketing Strategy
- Financial Feasibility
- Social Cost -Benefits Analysis
- Project Implementation Schedule
- Risk Assessment.

The information to be incorporated under each of the above heads are elaborated and discussed in the respective chapters of this book. These information are normally required by FIs/Banks and are indicative in nature. Each FI/Bank has its own appraisal system and policy. They may ask more information/clarification to satisfy themselves before committing any type of funding. Previous exposure of funding in the similar line of activity and experience of FI/Banks may sometimes have impact on the funding decision.

General Information

This is the first part of the project report which gives general information about the project. The information may include:

i. **Name of the entity**

ii. **Address**

iii. **Constitution** of the entity i.e Sole Proprietorship, Partnership, Society, Trust, Limited Liability Partnership, Private or Public Limited Company.

iv. **Date of Incorporation and Registration Authority**

v. **Status/Size of the Project**

vi. **Registration Number and Issuing Authority**

vii. **Licensing Requirement:**

There are certain products which require compulsory licence to manufacture. The enterprise should obtain the same from the Government before taking any effective steps. These items are specified in the Industrial Policy of the Government of India.

i. **Nature of Activity and Products to be manufactured:**

The report should mention the details of the products to be manufactured and its use in brief. If the production process gives rise to any by products, it should also be mentioned in the report since in many cases, by products are important source of the revenue. For example, Sugar industry gives rise to molasses as by products which has substantial realisable value in the sugar industry.

ii. **Plant Capacity:**

The report should mention in brief the installed capacity for all the products to be manufactured.

iii. **Nature and Amount of Financial Assistance:**

The financial assistance requested from the FIs/Banks should mentioned in brief i.e. the amount of:

- Term Loan (Rupee loan and loan in foreign currency)
- Working Capital Loan (fund based)

- Non-Fund Based Limits (Letter of Credit/Bank Guarantee limit)
- One time LC limit for import of machines, if any.
- BG for duty free import of machines, if any.
- BG/LC for raw material purchase, performance, tender etc. for working capital.

Management and Promoters Background and their Appraisal

This is one of the most important part of the project report which is being read very carefully by financial institutions/banks and many a time it determines the fate of the proposal. Therefore drafting the promoter's background needs special attention and care. The appraisal of the management is very subjective and there is no yardstick to measure it. Following factors are considered while appraising Management and Promoters' background:

i) Past track record and technical qualification and industry specific skills

ii) Business competence and experience (especially in the proposed activity)

iii) Performance of the associate concerns

iv) Bankers Report

v) Financial Resources

vi) Existing organizational setup & degree of professionalism

vii) Achievements and Recognitions received from any Government or Trade and Industry Association or Professional Bodies.

It should be ensured that none of promoters name and their associate concerns are appearing as defaulter in the RBI defaulters list/CIBIL Report.

The promoters' background may be divided into two parts:

A. Promoter's individual profile

Detailed Profile of each of the promoter such as:

- Name
- Address
- Age
- Educational Qualification
- Experience

Some FIs/Banks expect that in this part, promoters should give details of their experience after finishing their education and entering into the business/job. This helps them to understand their growth and achievements.

B. Details of Associate Concerns

Details of all the associate concerns in which promoters are interested as proprietor/partners/director are to be provided. The detail should contain the following information:

- Name of the Associate Concern
- Address of the Concern

- Names of Proprietor/Partners/Directors
- Year of Establishment
- Nature of Activity/Business
- Name and address of the Bankers
- Financial Limits enjoyed:
  (a) Term Loans
  (b) Working Capital Loans
- Past performance and financial position for the last three years indicating turnover, profits, net worth and outside liabilities. The presentation may be as under:

S. No	***Particulars***	***Year***	***Year***	***Year***
A. Financial Performance				
1	Sales and other income			
2	Profit before depreciation, interest and tax			
3	Depreciation			
4	Interest			
5	Income Tax			
6	Profit after Tax			
7	Net Cash Accruals			
B. Financial Position				
1	Capital			
2	Reserve & Surplus			
3	Term Liabilities			
4	Current Liabilities			
5	Net Fixed Assets			
6	Current Assets			

The performance of the associate concerns or subsidiary companies is equally important to consider the proposal favourably. All the above information helps the lenders to understand the promoters 'future achievements and their growth.

A new entrepreneur with no business background, having service experience should mention about the name of the employer/s, nature of job and responsibility undertaken.

Things to consider while writing a DPR

An ideal DPR should be clear, concise, accurate and well organized with clear section headings. It must be easy for the audience to understand. Presentation of the facts and figures report writing is quite crucial. Formatting, revising and proof reading is very important process for good report writing that must be well focused.

A **detailed project report** must include the following information:

- Brief information about the project
- Experience and skills of the people involved in the promotion of the project
- Details and practical results of the industrial concerns of the promoters of the project
- Project finance and sources of financing
- Government approvals
- Raw material requirement
- Details of the requisite securities to be given to various financial organizations
- Other important details of the proffered project idea include information about management teams for the project, details about the building, plant, machinery, etc.

The DPR needs to provide information covering the following areas:

1. **Sectoral Background and the broad objective of the Project**
    - Existing status of the physical infrastructure (brief description)
    - Base line information in terms of user coverage & access (by different user categories/segments)
    - List of various projects proposed for the sector
    - List of other capital expenditure projects supported by other schemes for the sector
    - Existing tariff and cost recovery methods and extent of cost recovery for past 5 years
    - Any other qualitative information e.g. list of key issues related to that sector.
2. **Definition of the Project and its Scope**

    The project is needed to be clearly defined in terms of Land
    - Total quantum of land required and being provided for the project
    - Confirmation that the required land is owned /already purchased
    - Land title should be clear and unencumbered
    - Physical infrastructure components.

    Environmental compliance/protection measures/improvement measures
    - Environment impact assessment
    - Environment management plan.

    Other information
    - Details of surveys and investigations required

- Assessment of requirements related to utilities shifting
- List of clearances and agencies from which these are to be obtained
- Disaster related risk assessment and broad countermeasures (including earthquake/other natural disaster resistant design of structures).

3. Project Cost

The project (construction) cost should cover major elements, including but not limited to these specific components listed here:

- Land acquisition/site development
- Physical infrastructure component-wise cost
- Environmental compliance cost
- Cost of surveys & investigations
- Cost of shifting utilities
- Cost of consultancy services:
  - (a) Design
  - (b) Supervision
  - (c) Quality Assurance
- Other statutory compliance costs if applicable
- Finance/interest cost during construction
- Contingency
- Any other.

For all cost elements, assumptions (rates, methods of calculations etc.) are to be clearly given either in the main text or as an attached appendix of the DPR.

Note:

- All cost heads are to be provided for in the DPR; if an element is not applicable, "0" may be put against it when entering actual figures. O&M costs are covered in a separate section; this section covers only capital cost.
- if survey cost is included in design cost , this may be clearly specified to avoid double counting
- The project, for implementation purposes, can be broken into contract packages for tendering. This perspective of cost is being covered separately in the section on Project Institutional framework.

4. Institutional Framework of the Project

Roles of different institutions involved in the construction phase of the project

- A Roles/responsibility matrix could be a convenient option to present this information.
- The relationship between SPV and the state government agencies on the other are to be made explicit. Innovative approaches to provide for improved coordination and/or working arrangements can be highlighted.

Areas of involvement of the private sector in the construction phase (tick mark as appropriate):

i	Project Feasibility Study	
ii	Project Engineering Design	
iii	Specialized Surveys	
iv	Construction Works	
v	Supervision Consultants	
vi	Quality Assurance Consultants	
vii	Any Other Please Specify (example: Equipment Lease)	

Additional information regarding the above can be provided. (In brief) if required**.**

5. Financial Structure of the Project

Overall Financial Structuring of the project which can involve a combination of equity, grant, debt and finance from private participation (and in some cases, contribution from user communities)

Review of options for

- Institutional debt and/or
- Private sector participation

The Debt Component can be from:

(a) general bank finance: however banks are unlikely to accord long tenure finance (these could typically be around eight years at a stretch)

(b) specially issued bonds

(c) term loan from financial intermediary such as HUDCO, LIC, IL&FS, IDFC, SBI Caps ICICI bank; state level financial institutions (including those specific to development of urban infrastructure) etc.

The ideal debt component is dependent upon a number of factors including the status, nature and sector of the project, project cash-flows as well as the financial condition of the economy along with availability of finance.

Private sector participation can be through

- a separate legal entity created specifically for this purpose (SPV)
- a direct BOT/BOOT arrangement and its variant models with or without an SPV arrangement
- a simple management contract or lease based contract.

All variants involve payment to the private entity to enable them cost recovery of construction (and also for O&M). This could be in the form of:

- Private party being allowed direct recovery of user charges for a specified long term duration (say, for illustrative purposes only, 15-25 years)
- Private party being paid a fixed annuity (or on a fixed rate per unit quantity for service delivery undertaken) for its services over the specified term duration.

6. Phasing of the Project

It refers to a collection of activities within a project and also called structuring of projects into stages. Phasing can be done as for following activities:-

a) Schedule for tendering/selection for procurement of services

(i) Construction contractors

(ii) Consultants / firms for supervision and quality assurance

(iii) Consultants for any other activity required.

b) Schedule for obtaining all clearances (along with list of major clearances)

c) Schedule for shifting utilities.

The implementation schedules/work plan can be presented in a simple bar chart on weekly, fortnightly or quarterly basis, as shown below by adding the columns according to the convenience.

7. Operation & Maintenance Planning of the Project

The DPR is to incorporate/include information relating to the following five areas:

(i) The institution to be engaged in the O&M of the created infrastructure asset/enhanced infrastructure assets.

(ii) Brief outline of the existing method of billing & collection (including user/customer-segment wise differentiated strategy, if any).

(iii) Select performance metrics in regard to billing & collections (for the most recent completed financial year, and if possible, for the current quarter of the ongoing financial year).

(iv) The scope for private entity/community /NGO to be involved in defined aspects of O&M for any specific/all components of the infrastructure asset.

(v) The DPR should clearly define the requirements of manpower, energy, spares and consumables etc. for O&M on an annual basis giving details of existing usage, norms and proposed additional requirements.

In regard to tariff and user cost recovery, the DPR is to provide:

(i) The tariff (revenue) model for each customer/user group for the sector (including underlying assumptions) and forecast growth of customer/ user groups over the next 20 years.

(ii) Unit cost of service and unit price (existing year and forecast for next 20 years).

(iii) Outline plan to restructure tariff system to any or all categories of user groups to comply with MoA requirement.

8. Assessment of Financial Viability of the Project

- NPV & IRR (overall): examines overall project viability, including finance cost and asset replacement cost.
- NPV & IRR (O&M): examines only O&M viability.

The complete supporting project cash flow projections along with underlying assumptions have to be presented.

It should clearly explain the cost of capital considered and calculation method to arrive at the same for the project.

DPR should provide:-

Cash Flows - Detailed cash flow covering the last 5 years on an actual basis and projections for the next 20 years. (The underlying assumptions for the projections also need to be mentioned)

An assessment of the annual impact of the project on the finances (i.e. revenue receipts, revenue expenditure, capital receipts and capital expenditure).

Debt situation assessment

- Debt schedules and terms for all debt taken
- Debt service coverage ratio (DSCR)
- Debt-equity ratio for the project.

In case of Special Purpose Vehicle (SPV) or Joint Venture (JV) as a separate legal project implementation entity, the Profit & Loss (P&L) Statement and Balance Sheet forecasts for the next 20 years shall be provided.

9. Social Cost Benefit Analysis of the Project (SCBA)

Along with the financial perspective, SCBA is very important covering a list of benefits from societal perspective (both social and economic) supported by:

- Explanation or description in qualitative terms.
- Quantification of these benefits to the extent possible (or wherever possible) along with underlying assumptions.

Social benefits must be assessed as compared to the project outlays verses project benefits for the society.

- access	- supply continuity	-time savings
- coverage	- safety	-environment improvement
- service quality	- cost savings	-employment
- improved efficiency	- improved efficiency	- improved quality of life, etc.

Negative impacts must also be stated in terms of:-

- Explanation or description in qualitative terms
- Quantification of these negative/adverse impacts to the extent possible (or wherever possible) along with underlying assumptions. Examples of negative/adverse impacts include:

– Pollution; environmental distortions
– Reduced green cover
– Reduced access to any specific user segments
– Supply interruptions (especially during project construction phases) etc.
– Displacement of inhabitants
– Disruption in livelihood /reduced employment/ labour redundancy
– Possible haphazard development around/adjacent project site areas

SCBA can be done in the following format:-

S.No	*Benefits Description*	*Comments*	*Quantitative Impacts & Underlying Assumptions*
Societal Benefits			
1			
2			
3.			
Societal adverse impacts			
1			
2			
3			

Limitations of the Project Report

As mentioned earlier, project report is a written document pertaining to any investment proposal. It contains relevant data, on the basis of which the project is prepared and appraised. A project Report is prepared by the expert after detailed study and analysis of the various aspects of a project. However, there are certain constraints and limitations of the project report. They are:

- There is no uniform loan application form prescribed for the loan application by FIs/Banks
- There is no uniform format for project report prescribed by FIs/Banks
- There is no uniform appraisal process. Each bank has its own appraisal System
- The report is prepared on assumptions, which are likely to change when implemented. As the project evolves, assumptions may come prove correct or wrong. Changing circumstances may compel to modify previously identified assumptions.

In either case, the project must be prepared to considering the contingent factors.

LESSON ROUND-UP

- 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.
- Cost estimation in project management is the process of forecasting the financial and other resources needed to complete a project within a defined scope.
- Project Appraisal is a consistent process of reviewing a given project and evaluating its content to approve or reject this project, through analyzing the problem or need to be addressed by the project, generating solution options (alternatives) for solving the problem, selecting the most feasible option, conducting a feasibility analysis of that option, creating the solution statement, and identifying all people and organizations concerned with or affected by the project and its expected outcomes.

- The due diligence process should ensure that the project is procured in accordance with current legal requirements, both in domestic and international terms, and that key aspects of the project have been analyzed from a legal perspective.
- Technical due diligence requires to evaluate the viability of architecture and design ideas required to execute a project and its successful completion.
- Financial feasibility is determined by taking into consideration various technical parameters like plant capacity, product mix, cost of inputs, employees cost, other manufacturing expenses, interest, depreciation and administrative expenses.
- The Practicing Company Secretary plays an important role in the entire process of project report preparation, appraisal, and funding and project implementation. Due to expertise in corporate funding, compliances, governance and legal understanding and due diligence, Company Secretaries can provide professional services in the various areas.
- The viability of the project can be understood in terms whether it can be completed successfully given the time, money, and other resources that are available with the Organization.
- Risk management refers to the problems that may occur which are only in term of probability, at the same time in the actual time of occurrence there can be a number of other events happening which are unknown but predicable generally.
- Credit risk is the risk of loss that may occur from the failure of any party to make required payments on loans**.**
- Detailed Project Report is a very detailed and elaborate plan for a project indicating overall programme, different roles and responsibilities, activities and resources required for the project. It can be called a blueprint of the project plan.

TEST YOURSELF

(These are meant for recapitulation only. Answer to these questions are not to be submitted for evaluation.)

1. What do you mean by Project Evaluation? What are factors which affect the cost of a Project?
2. Explain the project appraisal through Technical, Legal and Financial feasibility study.
3. Elaborate the concept of risk assessment and mitigation. Also, define the role of credit risk management in Project Finance?
4. How to prepare a Detailed Project Report (DPR)?
5. Explain the role of Company Secretary in project appraisal and due diligence?

LIST OF FURTHER READINGS

- Approach to Project Finance and Understanding Financial Statements, ICSI-CCGRT Publication
- Project Finance for Business Development by John E. Triantis
- Introduction to Project Finance by Andrew Fight

OTHER REFERENCES

- https://www.oecd.org/gov/regulatory-policy/44925979.pdf
- https://www.structuralguide.com/factors-affecting-project-cost/
- https://www.sketchbubble.com/en/presentation-feasibility-study.html
- https://alcorfund.com/insight/how-to-determine-the-feasibility-of-a-business-idea/

WARNING

Regulation 27 of the Company Secretaries Regulations, 1982

In the event of any misconduct by a registered student or a candidate enrolled for any examination conducted by the Institute, the Council or any Committee formed by the Council in this regard, may suo-moto or on receipt of a complaint, if it is satisfied that, the misconduct is proved after such investigation as it may deem necessary and after giving such student or candidate an opportunity of being heard, suspend or debar him from appearing in any one or more examinations, cancel his examination result, or registration as a student, or debar him from re-registration as a student, or take such action as may be deemed fit.

It may be noted that according to regulation 2(ia) of the Company Secretaries Regulations, 1982, 'misconduct' in relation to a registered student or a candidate enrolled for any examination conducted by the Institute means behaviour in disorderly manner in relation to the Institute or in or around an examination centre or premises, or breach of any provision of the Act, rule, regulation, notification, condition, guideline, direction, advisory, circular of the Institute, or adoption of malpractices with regard to postal or oral tuition or resorting to or attempting to resort to unfair means in connection with writing of any examination conducted by the Institute, or tampering with the Institute's record or database, writing or sharing information about the Institute on public forums, social networking or any print or electronic media which is defamatory or any other act which may harm, damage, hamper or challenge the secrecy, decorum or sanctity of examination or training or any policy of the Institute.

PROFESSIONAL PROGRAMME
STRATEGIC MANAGEMENT & CORPORATE FINANCE
GROUP 2 • PAPER 5

(*This test paper is for practice and self-study only and not to be sent to the Institute*)

Time allowed: 3 hours *Maximum Mark: 100*

Answer all Questions

PART I - STRATEGIC MANAGEMENT (40 MARKS)

Question No. 1

Case Study:

About the Company

White Silver Limited (WSL) is a public limited company in Country-X engaged in mining and production of coal and coal products. The mission of the company is "to be a partner in the economy by producing and fulfilling the energy demand of the country by providing quality coal in economical and sustainable manner". The company is listed on a stock exchange of the Country X. Shares of the company are held by the Govt. of Country-X, Mutual funds & FII and general public in proportion of 78%, 10% and 12% respectively. During the financial year 2022-23, the company has produced and dispatched 1000 million tonnes of coal. Of this 82% to power plants, 4% to steel plant and rest to other sectors.

Coal is the prime source of energy and fulfills approx. Approx. 80% of energy demand of the country B. The thermal power plants, steel manufacturing plants, cement and fertilizer plants are the major consumers of coal.

The country-B has a large reserve of coal but the quality and cost are major concern. In the last few years there has been increase in import of coal by steel and power plants. The steel plants import coal due to quality and cost advantage over domestic coal. As per a study report conducted by the WSL, good quality of coal can be produced only through deep and underground mining. Underground mining requires highly automated technology.

Challenges before WSL

For adopting deep underground mining the WSL is required to acquire land for new mines and latest automated machines for mining. Land acquisition in country-X has been a hard task due to land acquisition related laws and protests by the local community and NGOs as WSL has acres of idle land in the form of used abandoned mines which cannot be used for agricultural activities or human rehabilitation due to the risk of landslides. WSL is a labour intensive company with low productivity. Employee cost is the major cost of WSL which accounts for 60% of total cost. WSL is second largest employer in country X.

Till recent past, the WSL was the only company which was allowed for mining and marketing of the coal in the country but with the changing economic scenario and to meet the growing energy demand the Govt. of Country-X is mulling to allot coal blocks to steel plant and thermal power plant for captive consumption.

The Govt. of the Country X is committed to boost manufacturing and industrial infrastructure of the country in next 10 years. Power and steel sector would be witnessing a multifold increase in demand not only from Government schemes but also from private and domestic consumers.

To meet the energy demand, the Government has reduced the duty on imported coal. The Government being a

signatory of Paris agreement on climate change, is committed for sustainable development by reducing carbon emission caused by usage of fossil fuels. It has entered into various technological MoUs to install clean energy sources like nuclear, solar and wind in near future.

Required:

(i) Identify and describe the five forces of Porter with respect to WSL.

(ii) Identify the stakeholders in WSL. Discuss the strategy which WSL should adopt to prioritize the stakeholders.

(iii) Explain the strategy WSL should adopt to survive and gain competitive advantage.

(iv) If WSL wants to change itself from a labour intensive organization to a modern technology driven organization, state how WSL can manage the resistance to change from employees related unions?

(5 Marks each)

Question No. 2

a) A company is finding difficult to adapt itself in the changing environment. A strategic consultant has advised it to go for an environmental scanning to deal with the current problem.

Being company's consultant, submit a report stating the strategic fit between external and internal environment so as to enable the company to regain its previous sustainable market position.

(5 Marks)

b) Two firms X and Y are belonging to the FMCG sector. They are identical except growth rate and market share because of location and other external reasons. Firm X has high market share and high growth rate while firm Y has a high market share with a low business growth rate.

You need to identify the category of firm X and Y to which they belong referring to the BCG matrix and advise them right strategy so as to remain competitive in the market.

(5 Marks)

Question No. 3

a) A startup company is thinking of launching a low cost detergent powder in the market. The market for the said product is already dominated by big FMCG players. As a strategic professional, suggest the Company Management for adopting the best business level strategy.

(5 Marks)

b) Logistics strategy plan is an important part of formulation of strategy'. What are the major elements of Strategic Plan?

(5 Marks)

PART II – CORPORATE FINANCE (60 MARKS)

Question No. 4

(i) Sri Foods Ltd. wants to issue 10000 shares through a book built offer within a Price Band of Rs. 140 to Rs. 160. Bids are received as follows:

Bid Price	*No. of Shares*	*Total Demand*
Rs. 160	2000	2000
Rs. 150	3000	5000

Bid Price	*No. of Shares*	*Total Demand*
Rs. 148	5000	10000
Rs. 140	10000	20000

(a) What is the cut off price in this offer? Can the company decide the cut off at a lower price at which the issue is subscribed? Can the company allot the shares to the retail investors at a price that is at a discount to the cut off price?

(b) What would be the allocation pattern, presuming the company fulfils the eligibility criteria regarding net tangible assets, average operating profit, net worth etc.?

(c) What would be allocation pattern, if the company does not meet the criteria as mentioned above in part (b)?

(5 Marks each)

(ii) Following is the extract from the Balance Sheet of M/s of Shaktikant Industries Limited as on 31 March 2023:

Current Liabilities	*Amount (Rs. in Lakh)*	*Current Assets*	*Amount (Rs. in Lakh)*
Bank Borrowings	870	Inventories	700
Trade Payables	230	Financial Assets	
Other Current Liabilities	200	Investment	300
		Trade Receivables	75
		Cash and Cash Equivalents	125
		Bank Balance other than (iii) above	150
		Other Financial Assets	350

Shaktikant Industries Limited has bank borrowings of Rs. 870 Lakhs which includes bills discounted with the bank. It wishes to avail loan for its working capital and approaches your bank for financing.

While maintaining the minimum current ratio of 1.33, calculate the Maximum Permissible Bank Finance (MPBF) as per methodology suggested by Tondon Committee. Should the bank sanction the loan request or not ?

(5 Marks)

Question No. 5

a) Alpha Ltd. would like to issue US $ 1000 million Global Depository Receipts (GDRs) for setting up cloud computing services. Managing Director of the company requests you as a Company Secretary to prepare a checklist for the issue of Depository Receipts. Prepare a checklist considering conditions to be fulfilled by a company as per the provisions of Companies (Issue of Global Depository Receipts) Rules, 2014.

(5 Marks)

b) Gamma Ltd. makes an application for Bank Guarantee Limit for the Financial Year 2022-23 with following data to Kuber Bank Ltd:

(i) Outstanding Bank Guarantee as per the last Audited Balance Sheet: Rs. 1.05 Crore

(ii) Bank Guarantee required for the Financial Year 2022-23: Rs. 1.25 crore

(iii) Estimated maturity or Cancellation during the period: Rs. 80 lakhs

Compute the Bank Guarantee limit of Gamma Ltd. for the Financial Year 2022-23.

(5 Marks)

Question No. 6

a) The provisions relating to ''Special Situation Fund (SSF)'' has been notified by SEBI vide SEBI (Alternative Investment Funds) (Amendment) Regulations, 2022. Explain the above referred provision in view of requirement with regard to minimum corpus funds for each scheme of SSF and minimum investment required by different types of investors of SSF.

(5 Marks)

b) Distinguish between Real Estate Investment Trusts (REITs) and Infrastructure Investment Trust (InvITs) with reference to brief concept, growth prospect, income stability and associated risks.

(5 Marks)

Question No. 7

Jasmine Ltd. is a newly incorporated company and it would like to purchase raw materials from domestic sources as well as from other countries under Letter of Credit (LC). On the basis of the following information, calculate the limit for Letter of Credit (LC) for the Financial Year 2022-23:

a)	Estimated Raw Material purchase for FY 2022-23		Rs. 300 crore
b)	Estimated purchase under Letter of Credit (LC) for FY 2022-23 (90%)		Rs. 270 crore
c)	Of which import of Raw Material under Letter of Credit (30%)		Rs. 81 crore
d)	Lead Time	- Domestic - Import	1 Month 45 days
e)	Transit Time	- Domestic - Import	1 Month 45 days
f)	Credit (Usance) Period available	- Domestic - Import	1 Month 90 days

(5 Marks)

Question No. 8

a) Explain the provisions of the Companies Act, 2013 for issue of Sweat Equity Shares. To what extent the Sweat Equity Shares can be issued to an Independent Director?

(7 Marks)

b) How to prepare a Detailed Project Report (DPR)? Also, explain the role of Company Secretary in project appraisal and due diligence?

(8 Marks)