CHAPTER II

CONCEPTUAL FRAMEWORK
AND REVIEW OF LITERATURE
An investment proposition whether industrial or otherwise amounts to the consumption of scarce or at least limited resources in the nearest future, with the hope of obtaining in return the benefits over a longer period. Hence for setting up a project, firstly, resources are needed to be mobilized in an adequate amount. Secondly, the project in which these resources are proposed to be deployed should offer the best amongst the available alternatives and thirdly, these resources should offer returns in financial and/or social terms for a sufficiently long time.

In order to raise resources for the project, the entrepreneur/promoter approaches a bank or a financial institution for financial assistance. Since there is always a commitment on the part of the promoter to repay the assistance in time, it becomes necessary to ensure that the project has capacity to generate sufficient economic returns. Therefore, the banks and financial institutions make a thorough evaluation of the project to ensure timely repayment of the advances lent and recycling of scarce financial resources entrusted to them by the investing public.

There are following six phases in a project:

i. Identification

ii. Selection

iii. Formulation

iv. Evaluation

v. Implementation

vi. Follow-up

Identification is concerned with scanning the environment to assess opportunities and threats. Selection involves choosing the project after considering the objectives and constraints. Formulation is concerned with translating the investment opportunity into a concrete project with its important aspects specified clearly. Evaluation deals with analyzing the technical, commercial, financial, managerial and economic feasibility of the
proposed project. Implementation deals with completing the project expeditiously within the resource budget and follow-up is the scrutiny of the progress and to take corrective steps against any deviations.

The process of getting finance for a project begins when the project is conceptualized. The promoter carries out a detailed study of the project to know its feasibility and viability. He studies the market to see if demand for the product exists, then chooses a technology and finally analyses the project's cash flows to find out if it is financially viable to him. It is only after he prepares the detailed project report, the role of a bank or a financial institution starts.

The promoter fills up the application form of the financial institution on the basis of the detailed project report prepared. At first, the financial institution to determine whether the project is to be considered at all does a preliminary appraisal. Project looked at in an overall manner to judge its viability, an appraisal officer is appointed for the purpose and thereby the process of evaluation starts. The process of preliminary appraisal is first examined and which follows the evaluation in detail.

2.1 PRELIMINARY APPRAISAL

In preliminary appraisal, as to prepare a flash report for the consideration of Senior Executives/Committees, the following checks are made as to whether:

i. The promoter(s) inspires confidence and has the resources to provide the necessary minimum contribution to the project.

ii. The market potential is distinct.

iii. The technology is a proven one and raw materials etc. are readily available.

iv. In case of foreign collaboration, the collaborators inspire confidence.

v. The financial ratios are as per norms.

Satisfaction of this quick initial evaluation follows the detailed analysis and examination of the viability of the project.
2.2 PROJECT APPRAISAL

Project appraisal is the process which brings to bear an independent and objective assessment of the various aspects of an investment proposition for arriving at a financing decision. Appraisal exercises are basically aimed at determining the viability of a project. These are also designed to reshape the project so as to upgrade its viability. The lending institution examines the viability of each project to ensure it generates sufficient return on the resources invested in it. The art of project appraisal puts more emphasis on the economic and technical soundness of the project and its earning potential than on the adequacy and liquidity of the security offered. The focus is on the project to be financed and anticipate earnings out of expected operations. In case of new projects, the unit is not at all in existence and attempts are made to assess the viability and capability of anticipated generation of funds on the basis of papers/reports submitted by the entrepreneur. Thus the process of appraisal requires dynamic approach as it is linked with a sense of uncertainty.

In India the practice of making appraisal of term loan applications on scientific lines did not make any progress till 1961. This was partly due to the fact that such loans were given mainly by the larger banks to highly credit worthy constituents and hence no elaborate enquiry was considered necessary. The need for such appraisals came to be increasingly felt when term lending expanded. Lending institutions in 1961 focussed attention on the task of a scientific examination of term loan applications making use, to the extent permitted in the Indian context, of criteria adopted by financial institutions in other countries.

Reserve Bank of India took a lead by setting up a working group represented by various financial institutions under chairmanship of Shri K.N.R Ramanujam to submit a report for processing of application for term loans by banks. The report of the working group "Appraisal of Applications for term Loans" was presented at eighth annual conference of the representatives of the State Financial Corporations which met in Madras (now Chennai) on November 24 and 25 1961. The most important factors suggested in the appraisal process were the type of organization and activity of the borrowing unit, the nature of its product and its market potentiality, its size, the quality of its management and
soundness of financial position, the amount and term of the loan required and its repayment schedule.

There were no guidelines, manuals or instructions, issued by the Govt. of India or the Planning Commission to the concerned ministries or the public sector undertakings for preparing any detailed feasibility study of a project. It was only after large projects failed to contribute to the targeted output in time and at the anticipated costs, Planning Commission, Govt. of India in 1966 used first the guidelines in the form of a "Manual of Feasibility Studies For Public Sector Projects". The manual outlined approval phases before project implementation and emphasized the techniques of conducting feasibility studies under separate heads viz; determination of location of the project, processes and layout of project, technical development, demand analysis and determination of selling price of the product, analysis of commercial profitability and analysis of national economic benefits. The manual recommended the use of discounted cash flow techniques for project analysis. It further recommended an economic analysis by presenting it as a difference of benefits and costs and considering maximization of absolute return rather than rate of return for such analysis as more relevant for a developing economy. This manual was supplemented by the guidelines for the preparation of feasibility reports for industrial projects issued by the Project Appraisal Division of Planning Commission, Govt. of India in 1975. The guidelines suggested detailed formats for each of the four steps of project feasibility and appraisal reports viz; commercial (market) analysis, technical analysis, financial analysis and social profitability analysis.

Thereafter various studies have been focused towards strengthening the project appraisal practices in financial institutions. Clifton and Fyffe (1977) quote that the project of new ventures are not encouraging and 16 out of 17 companies fail. They further said that many of them should never have been started and probably would not have been, if a thorough feasibility analysis had been made. Project appraisal has been observed as a most important activity of development banks and in the absence of adequate appraisal many units assisted by development banks are becoming sick (Kuchhal 1984, Srivastava 1984). Krishna (1983), while examining the national policy for project planning in India since 1951, came with a conclusion that the processes of project planning, identification, formulation and appraisal were within the jurisdiction of a national plan. She observed that
the procedure and practices for preparing feasibility reports for industrial projects have improved their quality. However, due to time, staff and information constraints, a sound appraisal practices are not carried out. Murthy and Reddy (1990) made a commentary on 1989 World Development Report in which the World Bank has come out with several interesting inferences (a sample of Development Finance Institutions (DFIs) of 25 developing countries) about what went wrong and what should be done with DFIs. One of the suggestions put forth was that the appraisal team should be held responsible for the failure of the project – a system similar to one prevalent in most of the commercial banks. The report emphasized that evolution of such a system would lead to resistance of external pressures and proper evaluation of the project. Chhikara (1992) in his study of the State Financial Corporation and the commercial banks as major source of institutional finance found that the smaller units felt the burden of interests more; found the moratorium shorter and mode of repayment more difficult. Other difficulties he found were related to lack of information about various schemes, hard conditions for loans, multiplicity of documents, security requirements, delays and repeated visits of officials and corruption.

Reserve Bank of India through various committees like Tandon Committee (1979), Chore Committee (1979) and Marathe Committee (1982) provided some guidelines for commercial banks in assessment of granting credit to industry. The guidelines include the assessment of credit requirements of industry, better supervision and control over borrowers, specific formats for obtaining details of quarterly operating data, adequate forecasting of fund requirements and information systems to improve the quality of credit appraisals. Narasimham committee (1991) on financial sector stated that the risk assessment and a measure of judgment evaluation based on experience are the special skills required of manager in the financial system. The report further added that the financial institutions should operate in an environment where their decisions are not influenced by extraneous pressures but are based on their own commercial judgment and their professional appraisal of loan proposals under competitive conditions. This calls for development of professional skills while, at the same time, complying with essential prudential norms and safeguards to govern their operations.

Balasubramanium (1984) observed that the Industrial Development Bank of India (IDBI) and other financial institutions by and large follow the general principles of project
evaluation but stressed that the investment proposals should be closely assessed on strategic, technical, commercial and financial criteria. Bhattacharya (1984) emphasized the role of formulating criteria for evaluation. He stressed that the formulation of hypothesis should be clearly defined and scope of evaluation be derived from these. The success of any evaluation is correct judgment in regard to the problems in implementation and in suggesting measures for remedial action. The database and time factor determining the degree of sophistication be introduced in appraisal exercise of these projects (Pai 1981). Cano (1992) emphasized some of the factors that influence project feasibility are originality, ethics, available completion time, labour and other resources, safety, technical issues, natural-environment aspects, social benefit, market economic and finance aspect's and social and political issues. He further stressed that risk identification, evaluation, strategies and basic procedures must be defined in the feasibility study, and the accuracy of the risk and profitability assessment depends on the process of constantly reviewing and updating the data as and when new and better data and feedback becomes available. The minimum information stored should pertain to standard prices of varieties of machinery and equipment, full particulars about the background of promoters, the number of units promoted by them and the health of these units, and this information would help not only the appraising staff in development financial institutions but also motivate the promoters to do their homework more seriously. Davar (1984) observed that the financial appraisal includes the evaluation of profitability estimates as well as scrutiny and examination of cash flow statements for a period of ten years, break-even analysis, internal rate of return, sensitivity analysis etc; in managerial and organizational effectiveness be emphasized that the background of promoters, their business and industrial experience are very relevant considerations; and in the commercial appraisal, purchase of raw material, sale of finished goods, dealership arrangement, after sale service etc. are the key factors to be examined. In economic appraisal, he stated that economics rate of return, potential to generate employment, social cost benefit analysis, international competitiveness are more important.

Kolay (1993) examined the present practice adopted by banks and financial institutions for appraisal of projects from potential entrepreneurs for credit granting decisions in the Indian context. To promote entrepreneurship, he stressed the need for
introduction of a uniform system of objective assessment of projects throughout the system, keeping the interests of the different relevant groups, like the promoters, the banks and financial institutions, the customers, the society and the nation as a whole. As per his methodology, the worth of any project may be assessed, based on its relative contribution to the different criteria within each interest group against the targets that may be set from time to time by the credit control agencies. He further stressed that appropriate weightage may be assigned to different criteria depending on the national plan priorities to estimate the specific project score i.e. the relative net worth of any project and in this context a minimum score may be introduced as appropriate in view of high number of bad advances in the banking system. Such an objective assessment of all the credit proposals would facilitate the creation of a computerized data base of all the projects submitted, sanctioned or rejected in the whole of the banking system for future planning and control purposes. KumaraKel (1995) observed the following aspects as generally appraised to determine the viability of the projects:

- Choice of technical process and / or appropriate technology
- Technical collaboration arrangements, if any
- Size and scale of operations
- Locational aspects of the project and availability of infrastructural facilities
- Selection of plant, machinery and equipment together with background, competence and capability of Machinery/ Equipment Suppliers
- Plant layout and factory buildings
- Technical and Engineering services
- Project design and network analysis for the assessment of project implementation schedule
- Aspects relating to effluent disposal, management of energy, utilization of by-products etc.
- Project cost and its comparison with other similar projects, based on technology, equipment, product mix and time spread.
• Determination of parameters of project cost estimates, profitability projections etc.
• Sensitivity analysis of projected performance
• Promoter's background, their experience etc.

Project appraisal has been observed as a challenging technique for evaluation of technical feasibility, economic feasibility, managerial feasibility, commercial and financial feasibility and cost benefit analysis, which has to be done carefully to make the investment in the project more productive, more useful and more helpful in the growth of economy along with the considerations of social benefits to the society too (Chaterjee 1976, Chaudhary 1981, Bhatia 1983, Jain 1986). Thus processing of a term loan proposal and appraising the project involves the examination of the proposal from five angles viz; technical, management, economic, commercial and financial. The financial institution must be satisfied on all these five scores before taking a favourable credit decision in the matter.

2.2.1 Technical Appraisal

Technical appraisal of the project is to ensure that necessary physical facilities required for the production will be available and the best possible alternative is selected to procure them. It is an attempt to find out how well the technical requirements of the unit can be met, which location would be most suitable and what should be the size of the plant? It includes the study of manufacturing process, technical arrangements, product mix, selection and procurement of plant and machinery, plant layout and schedule of project implementation.

While appraising technical feasibility of any project the following points are carefully considered:

i. Suitability of the selected technical process under prevailing conditions in the country, and the arrangements made or proposed to be made thereof.

ii. The locational aspect, i.e., the project's nearness to sources of raw materials; the availability of utilities-water, power, transport facilities; the availability of fuel, skilled and unskilled labour, and market for the product; whether the location poses flood and earthquake hazards.
iii. Adequacy of plant and equipment and their specification, plant layout, particularly with reference to production flow, the reputation of machinery suppliers, the balancing of the different sections of the plant, the proposed arrangements for the procurement of plant and equipment, etc.

iv. The scale of operations, and whether the size of the unit would be adequate for the economic viability of the project.

v. The availability of technical-know-how during the implementation period and for the operation of the project.

vi. Arrangements for the disposal of factory effluents and the utilization of the project.

vii. The construction and installation schedules, and an examination of PERT and CPM charts with a view to judging whether the time estimate would be considered realistic.

viii. Technical collaboration arrangements, if any.

In the past, the assessment of technical feasibility of the project has been the overriding concern in the project appraisal process (Murelius, 1982). However, wrong choice of technology, inadequate assessment of raw materials, unsuitable location, uneconomical plant capacity and unwise market projections had been some of the important factors resulting in project disasters (Deol 1982, Roy and Dosaj, 1985). Technical inputs and assessment of raw material procurement were found neglected area in the process of project appraisal by financial institutions (Nadkarni, 1979). Kuchhal (1984) studied projects of All India Development Banks to ascertain the factors responsible for success and sickness of new projects. He recommended that the use of SWOT analysis, Programme Evaluation and Review Technique and Critical Path Method to be undertaken while examining the viability of the project. Naik (1983) while observing the implications of the cost over-runs on viability of the project suggested use of PERT and CPM as measures of project implementations to check cost and time over-runs and to optimize the uses of physical and financial resources. Cracknell (1994) suggested an integrated approach whereby clear need has been to ensure that projects are not only prepared and
assessed in a logical way but also should cover the key sustainability factors like policy support, appropriate technology, environmental protection measures, etc.

2.2.2 Management Appraisal

Managerial ability is one of the most essential factors, which should be considered by development banks in scrutinizing the loan applications. The institution’s confidence in the repayment prospects of a loan is conditioned by its opinion of the borrowings unit’s management. Management is responsible for optimizing the benefits from the investments made in the project. Even if the project is technically sound, economically and commercially viable and financially profitable it will not be worth financing venture, if the project cannot be managed properly. Where the technical competence, administrative ability, integrity and resourcefulness of the management are well established and its continuity is also fairly certain, the loan application will naturally get the most favourable consideration.

“Man behind the project” is most important aspect of management appraisal. As such he faces many challenging situations during successive phases of the project’s useful economic life, as the business climate does not remain static and continuously throws up new hazards as well as opportunities. Thus an entrepreneur should have a multidimensional personality with good background in financial, technical, economic and personnel disciplines besides thorough familiarization with the industry, he is required to set up and manage. Management appraisal also analyses the strengths and weaknesses of the Board of Directors, the Chief Executive, the management structure, as also evaluates the systems and styles obtaining in the unit since all these have bearing on its ultimate success.

While evaluating management in the appraisal process, the words put forth by Drucker (1965) as to be borne in mind are, “Management is independent of ownership, rank of power. It is an objective function and ought to be grounded in the responsibility for performance. Management is a function, a discipline, a task to be done, and managers are the professionals who practise this discipline, carry out these functions and discharge these tasks. It is no longer relevant whether the manager is also an owner; ownership is incidental to the main job, which is to manage”.

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Gupta stressed on the various parameters of appraising the management. In management appraisal he opined that the evaluation should be made in respect of the entrepreneur, Board of Directors, Chief Executive Officer and the management structure. He further stressed that since the banker is mainly interested in the credit worthiness of the borrower; he must possess the entrepreneurial qualities like involvement, integrity, leadership, patience, frankness and foresightedness to become capable of repaying the bank's dues.

The management deficiencies are reflected in the operations of the industrial units and quite often it is these deficiencies, which cripple the capacity of the unit to cope with the changing environmental factors. Many studies in India and abroad have substantiated that one of the major causes of industrial sickness has been deficiency in management to run the units successfully (Parekh 1979, Pasricha 1979, Pai 1981, Petric 1983, Davar 1984, Gulliver 1987, Jain 1988, Singh 1990, Khanka 1993, Cracknell 1994, Gupta 1994, Shukla 1994, Shinde 1995, Bhat 1998). Some of the major management inadequacies in the Indian context as observed by the seminar on “Evaluation of Management in Project Appraisal”, by Management Development Institute (1979) are enumerated below:

i. Proprietary style of management which includes a lack of faith in professionalism.

ii. Absence of proper organizational set up including failure to develop a second line of management.

iii. Dissensions amongst the main promoters.

iv. Lack of appreciation by the management of market potential, market fluctuations and other environmental factors affecting sales.

v. Absence of proper management reporting/accounting information systems and/or communication gaps with the banks and financial institutions.

vi. Closed mind towards creativity and innovations.

The studies so far, have identified a list of the traits, which are most significant and have high productive significance. Newalkar (1979) observed an improvement in the appraisal formats of national level financial institutions since 1975, however, scientific
parameters and uniform criteria for identifying and appraising the entrepreneurial talents with them was lacking. Rangneker (1979) lists achievement, power and systems motivation as three basic characteristics of the entrepreneur and stressed the need for scientifically measuring these qualities through scientific tests and tools and quantifying them. Deol (1982) pointed out that the appraisal is heavily biased towards technical and financial aspects of the project and inadequate attention was paid to entrepreneurial traits. He suggested a PEM score sheet to do management appraisal on three attributes namely personal, entrepreneurial and managerial each with different number of characteristics and weights. Based on the available literature (Parekh 1979, Rao and Rao 1979, Chaudhary 1981, Bhatia 1983, Andrew 1984, Sadhak 1984, Srivastava 1984, Jain 1986, Toori 1992, Kolay 1993, Thomas and Padmakumar 1993, Gillies and Rigby 1995, Khan 1998, etc.) the following are the basic personnel traits required by a manager/entrepreneur, which often need a close assessment by the appraisal officer:

a) Integrity b) Character

c) Qualification d) Experience

e) Leadership f) Frankness

g) Track record h) Creativity

i) Intelligence j) Commitment

k) Age l) Sex

m) Risk bearing capacity n) Foresightedness

o) Caste and religion p) Risk taking ability

q) Social caste r) Financial skills

s) Technical skills

The literature also provides the methods for evaluating the above traits which includes interviews, psychological tests, simulation exercises etc. The basic traits absolutely essential are listed and scores from different appraisal officers are obtained to avoid subjectivity.
2.2.3 Economic Appraisal

The object of this appraisal is to undertake social cost benefit analysis of the project with a view to determine the contribution of the project towards fulfillment of the national objectives and in assessing the social return on the project. The major criteria in this are national objectives, economic life of the project and social-cost benefit analysis of the project.

Financial institutions, which are responsible for socio-economic transformation of the country, are expected to examine the industrial projects from national point of view to ensure that the project renders maximum to the socio-economic benefit of the country. This appraisal considers the impact of the project on employment generation, minimization of inequalities in the distribution of economic and wealth, removal of regional imbalances, development of import substitution, export orientation, agriculture and other priority sectors, uplift of the weaker sections of the society, which calls for social-cost benefit analysis. The appraisal of a proposed project from a socio-economic point of view should aim at the study of contribution of the proposed project to the development of that particular sector and the economy as a whole to eradicate the socio-economic evils of the country (Rao and Rao 1979).

The need for social cost benefit analysis for appraising industrial projects in developing economies has been felt since long. 'Manual of Industrial Project Analysis' by the Organization for Economic Cooperation and Development (OECD), Paris (1968) put a major breakthrough in the methodology of project appraisal by recommending the use of world prices as the basis for evaluating all project inputs and outputs. Sau (1971) while proposing a model of cost-benefit analysis suggested that the distortions in market prices to be corrected by a 'synthetic discount rate'. UNIDO (1972) Guidelines argued that commercial profitability (including analysis of NPV or IRR) does not truly reflect the national desirability of the project due to market distortions, unequal income distribution, externalities etc. The practical application of UNIDO methodology proceeds in four successive stages. The first stage deals with the evaluation of aggregate consumption benefits due to the project at market prices. The second stage makes an adjustment for shadow prices of foreign exchange, skilled and unskilled labour. In the third stage, the
distribution of net aggregate benefits to different classes of society (viz.; workers, the
government and the private sector) and shadow price of investment is taken into account.
Finally to get at the financial national economic profitability of the project, the net
aggregate consumption benefits and redistribution benefits are combined in a sensitivity
analysis.

Little and Mirrlees (1974), in their revised methodology, suggested that the
international prices be used for valuation of project inputs and outputs, it being assumed
that local prices are distorted by the imperfections of the local market. The inputs and
outputs are divided into two categories viz. tradable and non-tradable. All traded goods
should be valued at international prices and conversion factors be used to approximate
international values for non-tradable items. The approach considers the shadow wage rate
to be function of the marginal productivity of labour, cost associated with urbanization and
the cost of having an additional amount committed to consumption. They assign greater
importance to savings; therefore, revalue future consumption in terms of savings and the
rate at which savings are discounted is called as Accounting Rate of Interest (ARI). They
suggest that the exact choice of ARI can be avoided and in its place trail rates can be
chosen—high, low and medium to select the good or reject the bad projects.

India is one of the countries where attempts have been made to apply these
doubted the relevance of Little and Mirrlees approach of project appraisal to developing
countries like India. He observed that the rationality of a policy couldn't be judged
independently of a country's development objectives. The valuation of governmental
savings in terms of world prices suffers from a practical disadvantage as an instrument for
raising the level of domestic savings.

Industrial Credit and Investment Corporation of India simplified the Little and
Mirrlees methodology with the help of World Bank and used it for appraising its projects
(ICICI, 1975). Industrial Finance Corporation of India introduced Social Cost Benefit
Analysis in the year 1980 and claimed there after giving due consideration to factors like
regional growth, new entrepreneurs, energy conservation, environmental and ecological
imbalance (IFCI, 1983). Popularly known as partial Little Mirrlees methodology, it is
applied by ICICI, IDBI and IFCI for appraising their projects costing more than Rs.5.00 crores. The feeling of inapplicability of the advanced SCBA methodologies (UNIDO or OECD) in the Indian context does not appear to be well founded (Singh and Anand 1993-94).

Venu (1986) observed that cost-benefit analysis in project appraisal stress the analysts to look at a project in the wider socio-economic perspective for estimating all significant costs and benefits, both directly pertaining to the project and spilling over into the rest of the economy creating externalities. Anand (1993) found that social cost benefit analysis under a sensitivity analytic framework for project appraisal by SIDCs is feasible; it sharpens the project choice decision and it provides useful information for better project management. Gupta (1994) observed need to attend to broader social, community, political, environmental, scarce natural resources usage and other aspects affecting and affected by them.

The state level development banks viz; SIDCs and SFCs do not make use of Economic Rate of Return (ERR), Domestic Resource Cost (DRC) and Effective Rate of Protection (ERP) as tools for economic appraisal of industrial projects (Singh and Anand 1992). Although a manual for project appraisal may mention that the economic benefits of a project to the country in general and the region in particular, be accounted for; and the project contribution to the establishment of ancillary industries in the region be measured. Yet, in practice, the economic review of the projects by these development banks is confined to qualitative statements e.g. number of persons given employment, whether a project is set up in a backward area or not and whether the project is import substituting and export promoting.

2.2.4 Commercial Appraisal

The income generating capacity of a project primarily depends upon the quantum of its production, demand for the product in the market, the best price at which it can be sold and the effectiveness of distributing channels used for marketing the product. One of the crucial factors that determine the commercial viability of an industrial project is the market for the product(s) proposed to be manufactured by the new or existing unit (Srivastava, 1984). In the present economy such factors as recession, sickness in the
industry etc. make it all the more imperative that a detailed market survey and a thorough appraisal thereof are carried out before launching a project. For this purpose a study of the product(s) and product mix, an analysis of the demand and supply position of the product(s), their cost and price structure, demand patterns, trends in capacity utilization and prices, demand growth rate, etc. and forecasts made there of, marketing and sales strategies, sales organization and selling arrangements and other relevant factors -- all these are to be taken into account.

Nadkharni (1979) in his study of the process of project appraisal by financial institutions listed marketing as one of the neglected areas. A well-predicted and carefully planned marketing strategy would save organization from financial losses and provide an opportunity to explore ventures for profitable risk taking. Patil and Agnihotri (1981) found that risk element was underestimated or sometimes totally ignored by marketing economists. Srinivasan (1983) emphasized marketing considerations as an important component of project formulation. He pointed out that simply assuming gap between demand and supply, as justification for the project is erroneous. Sarma (1983) focus on a systematic approach to investment decisions with regard to continuously exploring potential markets for products, review the operating efficiency of existing plants and the need for modernization as well as investigating the potential competition from new products. He also observed that developing a cut-off rate or minimum acceptable rate of return would also help in eliminating unprofitable projects. Desikan and Shekar (1992) stressed for a detailed study of the demand and supply pattern of the product to be assessed as undertaken by the promoters to determine the marketability and profitability of their projects. Most preferred methods viz; trend analysis and regression models be employed carefully while estimating the demand. Another study conducted by Kolay (1993) confirmed that while assessing the commercial viability of the project, the financial institution base their methodology on existing and potential demand of the proposed product or service.

2.2.5 Financial Appraisal

The financial appraisal translating all the aspects of project into money values leads to estimate the capital cost of project, means of finance, fixing the repayment schedule on
the basis of financial capacity stemming from increased output and income and also determine the terms and conditions under which the financial institution would be prepared to finance the project. This also decides whether the project gives reasonable and adequate return to the shareholders after improving its own reserve position.

Rao and Rao (1979) stressed that in view of the limited financial resources in vaults of the bankers, unlimited proposals for loans, problem of recovery and bankers great obligation to meet the timely demands, he ought to scrutinize, evaluate or appraise the proposals to select the most eligible projects for financial help. Bankers, both development and commercial, are now considering need-based credit and the emphasis on the security aspect is not the prime consideration in granting loans and advances. On the basis of these radical changes it has been suggested for bankers and financial institutions to study and examine the financial viability of the proposed projects. Singh and Anand (1992) stated that the aim of financial appraisal is primarily to assess financial viability, which in turn involves assessment of liquidity and solvency of the applicant concern, its ability for granting funds to meet its financial obligations; and measurement of the margin of safety for determining as to how much debt the project should be able to bear. The indicators for these are to ascertain the minimum promoters contribution, debt equity ratio, debt service coverage ratio, cut-off internal rate of return and cost of capital besides other important ratios (liquidity, solvency, profitability and turnover ratios), which enable them to evaluate the financial and operational soundness of the project.


The main steps involved in appraisal of financial viability of a project by a financial institution consist of:
- Cost of Project.
- Means of Financing.
- Financial Projection.
- Financial Analysis.
a. Cost of Project

Estimation of the capital cost of project provides the basic information to decide its pattern of financing and viability. Any mistake will lead the preparation of cash flow and profitability estimates a futile exercise because the project loan amount, depreciation, interest and dividend will change with the change in the capital cost of the project. Any over estimation of the cost of project will be an inducement to the entrepreneur for diversion of funds for other purposes, which has to be avoided. Any item of capital nature left out will cause cost over-run and delay in the implementation of the project. Berry (1982) stressed for a realistic estimation of project cost and opined that the underestimated project cost projections were as undesirable as the overestimated ones which results in the sickness of the projects. Unrealistic estimates of financial outlays, lack of realistic provision for cost escalation and contingencies has been observed as important challenges to be faced for keeping the overruns under permissible limits (Pandit 1977, Gupta 1978, Cano 1992, Gupta 1994, Kumarakel 1995).

Estimated cost of project and the break up submitted by the entrepreneur along with the application for finance requires further documents for appraisal for reasonableness of the estimates. Various items, which constitute the total cost of the project and the supporting documents for valuation, are as follows:

i. **Land and Site Development:** It includes cost of land and its development, legal charges for registration, cost of laying roads and cost of fencing or boundary walls. Agreements for purchase of land and estimates of expenditure proposed have to be perused.

ii. **Buildings:** It includes the cost of construction of factory buildings, godowns, residential quarters, wells, architects fees and also expenditure to be incurred for sewerage and drainage facilities. The estimate for each item are carefully studied by computing the rate per square foot of each construction and compared with the market rates. Proposed plant layout and past record of building contractor and architect is scrutinized.

iii. **Plant and Machinery:** The cost of indigenous as well as imported machinery as already approved in technical appraisal is verified from the quotations submitted.
inclusive of delivery dates, credit terms etc. Further charges towards transportation and insurance during transit, installation charges and import license (if required) are ascertained to reach the aggregate value of plant and machinery.

iv. **Engineering and Consultancy Fees:** The expenses of foreign technicians, training for Indian technicians, technical know-how fees and consultant's fees for preparing the project report are aggregated. Contract with consultants and foreign collaborators and relationship, if any, between promoters and consultants is perused and appropriateness of these costs are ensured.

v. **Miscellaneous Fixed Assets:** This head includes the cost of furniture, office machinery and equipment including computers, vehicles, laboratory and workshop equipment, electric installation effluent collection and disposable arrangements. Details of each item along with the necessity are to be justified by the promoters and the cost to be incurred is verified from quotations submitted.

vi. **Preliminary and Preoperative Expenses:** Expenditure on capital issue including brokerage and commission, mortgage expenses, interest on term loan and miscellaneous expenses during construction and cash losses if any are reasonably estimated under this head.

vii. **Provision for Contingencies:** This provision includes probable increase in cost due to new addition, sales tax, excise duty, transportation charges, fluctuations in foreign exchange rates etc. This provision is made on non-firm items of cost at the rate of 5% to 15% depending on inflationary trend and period of project implementation.

viii. **Margin Money for Working Capital:** The total working capital requirements for first year (second year in case profitability estimates of first year indicates cash loss) is arrived on the basis of level of raw materials, consumable stores, goods in progress, finished goods and debtors. This is done with due considerations on availability of raw materials, capacity utilization, process time, credit terms from suppliers and practice prevailing in the industry. Usually 25% of the total current assets arrived is to be financed by long-term sources and thus included in the capital cost of the project.
The cost of the project is compared to the costs of similar projects in hand or other sources like other financial institutions, consultancy organizations, trade associations or experts, in order to give an idea for reasonableness of the overall estimate. In case of major deviation, the appraisal officers have to go deeper and to ascertain whether the difference is desirable. Since the cost of project provides basis for making arrangements to finance and financial projections, requires a pragmatic approach.

b. Means of Financing

After firming up the capital cost of project, the means of finance is fixed. Any one or more of the following sources can finance a project:

A. Issue of Shares and Debentures
   a. Equity Shares.
   b. Preference Shares
   c. Debentures.

B. Loans from Financial Institutions like
   a. Industrial Finance Corporation of India
   b. Industrial Development Bank of India
   c. Small Industries Development Bank of India
   d. Industrial Credit and Investment Corporation of India
   e. State Financial Corporation(s)
   f. Industrial Reconstruction Bank of India
   g. State Industrial Development Corporation(s)
   h. State Industrial and Investment Corporation(s) etc.

C. Loans from investment institutions like
   a. Life Insurance Corporation of India
   b. General Insurance Corporation of India.
   c. Unit Trust of India etc.
D. Foreign Investments  
E. Deferred credits from equipment suppliers  
F. Leasing Finance  
G. Public Deposits  
H. Unsecured Loans from promoters, friends etc.  
I. Capital Subsidy  
J. Internal accruals from existing undertakings (retained earnings)

The above sources can broadly be classified into equity capital (equity and preference shares, retained earnings, convertible debentures and capital subsidy) and all others as borrowed capital. The proportion between these two categories of funds may vary considerably from one industrial unit to another, depending upon the nature of project, its size, and location, background of promoters, expected profitability and norms of the financial institution.

Debt is cheaper to finance a project as compared to equity owing to taxation policy. Equity capital does not require any fixed servicing cost viz; dividend or repayment of capital. The banks or financial institutions prefer more equity capital, which serve as a cushion in the event of unfavorable conditions and also provides more asset coverage for the loan. The contribution envisaged by the promoters has to be justified with evidences relating to resource sufficiency. The relationship between term liabilities and owned funds is known as Debt Equity or Gearing Ratio and is expressed as:

\[
\text{Debt Equity Ratio} = \frac{\text{Long Term Debt}}{\text{Owned Funds}}
\]

The financial institutions normally allow up to 2:1 for medium and large-scale industries and 3:1 for small-scale units. However, the ratio is relaxed in case the project is capital intensive like cement plant or the project is set up in industrial backward area or by a technocrat. The promoter's contribution, which is exclusively in the form of equity shares by the core promoters, should not be less than 15% of the project cost.

There is a considerable literature stressing financial institutions to give greater importance to a sound financial plan for a project irrespective of big or small (Pasricha
Davar (1984) stated that debt equity ratio, which is an important criteria in term loan assistance by financial institution depends on the nature of industry, size of the project, gestation period as well as profitability of the industry. He suggested financial institutions that instead of prescribing any rigid debt equity mix, the effort should be to match some of the appraisal factors, evaluate these factors and determine the debt equity mix, which is appropriate to the needs of the project. Once such a financial plan comprising of a sound debt equity ratio and a suitable promoters contribution has been decided upon, disbursement of loans will precede a pace consistent with the progress of a project and its requirement. However, Rajagopalan and Vyasulu (1990) analyzed a project appraisal report of Utter Pradesh Financial Corporation for sanctioning of term loan and found the present norms based approach with considerable demerits. In his opinion the most fall out has been tendency to cook-up figures to meet the stipulated norms and unduly over-stressed debt equity norm. He suggested that since the development banks are concerned with the repayment of loan, it would be more reasonable to work out the debt equity in each case based on pre determined level of debt service coverage ratio rather than fix debt equity ratio independently (which affects the debt service coverage ratio). He further stated that the norms should be regarded as guidelines and not as something sacrosanct.

Maitra (1997) stated that typically, large projects suck funds in the first few years and churn out regular cash flows later. The rule-of-thumb when deciding the financing mix that best accommodate the project profile: the bigger the project, the bigger should be the share of debt financing since equity is a permanent liability while debt can be paid off. He further observed that the greater the risk attached to the cash flows, the greater should be the reliance on equity financing as dividends, unlike interest payments, are not contractual obligations. To determine the quantum of financial assistance, Chakravorthy (1997), suggested that the financial institution must evaluate cash flow risks, forcing them to be more involved in the day-to-day operations of the borrower. He stressed that once the institution has appraised the cash budget, adhoc requests for more funds be not entertained and this will demand sound resource planning and working capital management.
c. Financial Projections

While undertaking a financial analysis for assessing the financial viability of the project, projected statements to be screened are balance sheet, income and expenditure statement, appropriation of returns and cash flow statement. Arnold III (1982) studied 50 requests for term loans made at eight New York and regional banks and found that the banks ask for financial information as start – historical financial statement (typically five years) as well as a forecast of companies income statement, balance sheet and the sources and uses of funds statement for each year. Normally a financial institution calculates earning before interest and tax (EBIT) as sales less cost of sales less selling, general and administrative expenses to know about the position of principal and interest repayments. After the EBIT stream, the company's balance sheet is the most important financial indicator because the assets are the institution's secondary source of repayment if earnings are not adequate to repay the loan. Sell 1994 observed that the ex-post reports and the preparation of a feasibility study are quite a different task as a firm has a vested interest in not giving too much information about cost and sales structures, funds flow statement is not very informative with respect to costs and sales but starts with reporting the difference between these items as profit or loss instead. For interpreting a financial feasibility study, however, exact information about the estimated sales volume and the different cost estimates plus a documentation of the background of these forecasts are needed. This detailed information is available in the cash flow statement, which serves in the financial analysis as a tool for financial planning and for the calculation of the project's profitability.

Before undertaking the analysis of the above statements it is quite essential to examine the various assumptions enumerated below based on which these projected financial statements are drawn:

i. Installed capacity, capacity utilization and number of shifts to be operated.

ii. Proposed product mix and estimated demand and sales realization for each product.

iii. Contents and consumption of raw materials and other major inputs like packing material, stores and spares, water, power etc. and their cost.
iv. Estimated cost of salaries, wages, factory overheads, selling expenses, administrative overheads etc and increase thereof over the period.

v. Assessment of working capital requirement and projected bank borrowing.

vi. Repayment schedule of the term liabilities.

vii. Rate of interest on term loans and working capital.

viii. Rate of excise, sales tax, royalty etc.

ix. Tax policy and tax assumptions likely to be available.

x. Normal and special capital expenditure.

xi. Method of charging depreciation.

xii. Dividend likely to be announced.

The above assumptions give a shape to the projected financial statements. Before embarking on financial analysis, the understanding and verification is very essential as even a slight change may bring about a substantial change in the projected financial statements. These statements are follows:

i) **Profitability Estimates**

Assessment of the earning capacity of the project is to ensure that the products manufactured will be in demand and that the firm is in a position to manufacture them at costs and sell them at prices, which allow adequate profit margin even in a competitive market. It is essential that the profitability statement or known as Profit and Loss Account is prepared for a period covering the repayment of term loans to verify whether sufficient surplus shall be generated for payment of term loan installments.

ii) **Cash Flow Estimates**

After the cost of the project and profitability, the financial institution must ascertain when the project will need money for different purposes and the different sources for such funds. This will ensure sound financial planning and reasonable assurance of the availability of cash to meet the requirements of the project from time to time such as for acquisition of fixed and other assets during the construction phase and for working capital
when operations commence. Repayment of installments of loans is also arranged according to the cash accruals.

**iii) Projected Balance Sheet**

Balance sheet analysis is an integral part of financial appraisal. This statement exhibits as to what an enterprise owns and what is owes on a given date. Prepared on the basis of profitability and cash flow estimates, a balance sheet helps to interpret the firm’s growth composition of various assets and liabilities, liquidity and solvency of the firm.

d. **Financial Analysis**

In case of new projects the financial analysis is based on estimates and conjectures. In case of expansion of existing concerns past records and future forecasts based on previous performance are available and the established techniques of financial analysis can be applied to facts and not to expectations only as in the case of new ventures. It will determine the quality of management, the financial strength of the concern, the market situation for the product etc. than one could know about a new project. It is, therefore, desirable to study the financial statements for the past five-year or so and estimate future projections. For a new project, all the necessary figures must come from financial projections to judge the financial and operating health of the proposed set up and determine if the company would have the capacity to service its debts properly.

The researchers have found various analytical tools used by financial institutions in drafting and interpreting the various financial statements. McManus (1981) discussed the four most common methods of financial appraisal in the project evaluation process viz; the payback period, the return on investment, the net present value and discounted cash flow method. Selection of the relevant tools as well as the relevant factors and time periods in investigation will do much to reduce the amount of detailed work to be done and will increase the yield of efforts made. Rao (1995) observed that after a firm’s formal request for long-term debt, the main tool that a financing agency uses to determine a firm’s ability to make timely payments of principal and interest is a financial statement analysis, especially a ratio analysis with special emphasis that relates income and cash flows in addition to operating profit margins, return on capital and return on total assets. He also observed that many other factors, which come into play, are industry risk and the market

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position in the industry, operating efficiency, management and accounting quality. Financial analysis helps the institutions in appraising management performance, efficiency, financial strength and weakness, credit worthiness and other aspects of a project. Ratio analysis, break-even analysis, simple rate of return and payback and discounted cash flow techniques are widely used tools for financial decision making in financial institutions. These tools are described as follows:

i) Ratio Analysis:

Ratios in financial analysis mean functional relationship between various connected items of financial statements. Ratio analysis is the process of determining and interpreting numerical relationship based on financial variable and are used to asses the firm’s structure of capital position, its earning capacity and profitability in relation to its sales and capital invested and the ability of the concern to meet obligation as and when they mature. Ratios when compared over a period of time of the same unit depict a picture of improvement or deterioration over the performance of earlier years and when compared with similar units can ascertain the position of the units as against the industry. A few important ratios like debt equity ratio and debt service coverage ratio are looked at routinely and necessarily by all banks/financial institutions but the rest of the ratios are used with different degrees of emphasis according to judgment of the appraising officer. The financial ratios as predictor variables for the evaluation of project and the assessment of the ability of a firm to service its debt and equity are widely used by the financial institutions in determining the financial viability of the projects. Industrial Reconstruction Bank of India (1992) in its observation on methods of appraisal examined the usefulness of the concept of debt service coverage ratio (DSCR) as a tool for financial analysis, which indicates the ability of a unit to service its debt (long term loans and interest). To classify different aspects of a project, financial ratios have been classified into four major groups:

- Liquidity Ratios: Current, Quick and Working Capital /Total Assets.
- Solvency Ratios: Net Worth /Total Assets, Net Liabilities / Net Worth and Debt/Equity.
- Profitability Ratios: Net Profit/Total Assets, EBDIT/Sales, Operational Cash Flow/Sales, EBDIT/Total Assets, EBIT/Sales, Gross
Profit/Net Worth, Operating Profit/Sales and Net Profit/Sales.


The financial ratios taken individually cannot provide sufficient information for undertaking the various dimensions of a project. Nanda and Dhir (1991) suggested that a set of financial ratios might contain more useful information than any particular representative ratio.

ii) Break-even Analysis

In this analysis break-even point is calculated and expressed as a percentage of full capacity production and at which plant may be said to cover its costs including full debt service. At this point, customarily, losses cease and beyond it profits are realized. The analysis attempts to find out four things:

i. Sales level at which the unit will break-even on its costs.

ii. Time the unit will take to break-even on given assumptions of sales and cost structure.

iii. The percentage of capacity at which the unit will have to operate to break-even.

iv. Margin of safety i.e. the amounts by which the unit is operating above break-even in the optimum year.

iii) Traditional Evaluation Techniques

Two techniques used under this method are payback period and accounting rate of return. Payback method is to ascertain the period required for recovering the entire investment made in a project. The cash inflows are accumulated, year by year, until it equals the initial investment made. The length of time required for total cash inflow to recover the original investment is called payback period. This method ignores the cash inflow received after crossing the payback period and does not give the rate of return. However, it can be used where emphasis is on evidence of long-term risk or on the liquidity value of investment.
Accounting rate of return (ARR) also known as average rate of return is based on the traditional concepts of accounting income and return on investment. It is considered to be an improvement over the payback method for it considers the earnings of a project during its entire economic life. As an accept-reject criterion the ARR is compared with the cut-off rate usually cost of capital.

**iv) Discounted Cash Flow Techniques**

A project is expected to earn sufficient return over a period of time at least equal or more than the cost of investment made in it. The conventional method of project appraisal does not take into account the time frame of cash outflows and inflows. As such discounted cash flow techniques are more realistic and rational methods of evaluation. Net Present Value (NPV) and Internal Rate of Return (IRR) are the two commonly used techniques for financial analysis in the project appraisal process. The project life, for evaluation on discounted cash flow techniques, is taken as 12 years (Anand 1993, Sarda 1996). However, in certain industries such as chemicals, petro-chemicals, and electronics, where the rate of technological obsolescence is faster, the project life can be less than 12 years. In the case of hotel or other industries where the major assets are in the form of buildings, a longer project life can be assumed.

The net present value is the excess of present value of project cash inflows (stream of benefits) over that of outflows (cash outlays). The rate of discount employed for obtaining the present value of cash flows is some desired rate of return, which is mostly equivalent to the cost of capital. If the present value of cash inflows exceeds the present value of cash outflows, the result is termed positive which indicates the project earns more than the minimum acceptable rate of return.

Internal rate of return is the discount rate that equates the present value of net benefits from the project with the cost of the project. When the internal rate of return for the project is determined, it is compared with the project's cost of capital to measure the profitability of the project. The project that produces an internal rate of return greater than the cost of capital is considered financially viable.
v) Analysis of Risk and Uncertainty

Despite every care in estimation of costs, it is quite possible that they may vacillate to a certain degree. It is due to the assumptions made while estimating sales, raw material costs, foreign exchange rates etc. Due to this possibility the cash flows arrived would not be correct and will give an incomplete picture of the financial viability of the project. For this reason a sensitivity analysis is done which envisages the worst estimated scenario and thus certain important parameters are calculated in each scenario. Some of these are:

i. There is a delay in implementation of the project.
ii. Product will fetch less price than estimated.
iii. Cost of raw materials, wages etc. are higher than estimated.
iv. Foreign exchange rate is higher than estimated.
v. Price protection from imports is less.

The degree of vacillation for each above item may call for prudential judgment of the appraising officer. In each scenario (or various combinations), the banker calculates break-even point, IRR and debt service coverage ratio to ensure that the project remains financially viable even if the environmental conditions are not exactly as envisaged. Inspite of being an important tool in the financial analysis, the researchers have found that the sensitivity analysis of the proposed projects is hardly worked out by the development banks (Joshi 1979, Singh and Deshpande 1982, ICAI 1983, Chandra 1984, Davar 1984, Singla 1984, Cano 1992, Singh and Anand 1992, IRBI 1992, Gupta 1994, Rao 1995, Chakravorthy 1997).

From the above discussions it may be concluded that the focus in project appraisal process is not to reject but to strengthen the project. Weakness sighted in the project by the appraising officers are tried to overcome with suitable modifications which may include change in product mix, technology, location, debt equity mix etc. The modifications are included as conditions on the appraisal stipulated by the financial institution for the purpose of granting the loan. Over the years, substantial work has been done with regard to strengthening the project appraisal practices in development banks. It is felt that inspite of the various principles and guidelines provided, the actual handling of such situations would
largely depend upon the development of the expertise for such tasks within the institution itself. It has been found that no such study has been conducted in ascertaining the reasonableness of the project appraisal practices followed by development banks of Jammu & Kashmir. The present study has been undertaken towards this direction. Before the actual project appraisal practices, followed in these development banks are dealt with, there is a need to analyze the working of these development banks and make an assessment of the procedure adopted for entertaining and processing of applications of the entrepreneurs towards sanctioning term loan assistance.