PROJECT SELECTION AND PERFORMANCE EVALUATION PRACTICES IN INDIA: A STUDY OF INDIAN FINANCIAL INSTITUTIONS

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ABSTRACT
The projects have a significant role in the development of the country. In this process the bank of the are remarkable. At the same time the banks or any other financial institutions have to appropriately ensure that they are investing in a suitable project. This paper makes an attempt to explore what are the major evaluation criteria that the financial institutions are imposing upon before selecting an project for investment. For this purpose, a structur3ed questionnaire was designed and circulated among 187 employees engaged in various managerial positions of banking sector. The data so collected was processed and factor analysis approach applied for finalising the factors that influence the project selection and evaluation. The study revealed that the major factors that influences the project appraisal process are proper allocation of funds, appropriate revenue generated by the project, adequate growth displayed by the project, sustainability aspects of the project, and the financial strength of the project.
KEY WORDS: Financial institutions, Project, Project evaluation

INTRODUCTION:
A Project itself is quite different from the traditional form of business. The financing of the traditional form of business is not as risky as in the case of the financing of projects. A specific project focuses on a specific task in terms of a business perspective such as construction of a bridge, road, rails, space mission, new research and development activity etc. Project financing is a means of distributing risks and returns more efficiently and effectively than under conventional financing strategies. Those who have specialized ability to bear specific kinds of risk associated with specific project are involved to do so. The result is a lower overall cost of financing, the elimination of unnecessary transfer of losses to consumers and investors, and, simply, followed by the successful completion of projects that might not otherwise be undertaken.
Some of the features of the organisations involved in the project finance are:
a. They are specially created organisations with a specific goal of investment.
b. The organisation will focus on a specific business or an asset with a specific life or utility.
c. The project financing is mostly a costlier affaire depending upon the complexity of the concern project.
d. The amount involved in the project is quite high.

PROJECT EVALUATION
Evaluation criteria are those criteria or parameters that will be used to assess the project proposals. It is also known as decision criteria and decision parameters. According to Frame, there are several types of decision criteria that can be used to evaluate project proposals, including: financial criteria, technical criteria, risk-related criteria, resources-related criteria, contractual conditions criteria, and qualitative criteria. In addition to evaluate project proposals, the establishment of decision criteria is also important to provide transparent

process. These criteria can be both quantitative and qualitative. The process of selecting and prioritizing project proposals is carried out through an assessment of each proposal towards these decision criteria. With the increasing project complexity and a large number of success factors for infrastructure projects, there is a need to identify decision criteria in selecting and prioritizing infrastructure project proposals. The identification and establishment of these criteria should follow a systematic process to ensure the validity and transparency of this establishment process. Although there has been a lot of research conducted to study the selection process of infrastructure projects, mostly focus on the selection method rather than on the decision criteria themselves.

LITERATURE REVIEW:

Infrastructure plays a crucial role in facilitating high economic growth. The effect of infrastructure outlay and its quality on economic development have been extensively studied and well recognized.

(Calderón& Servén, 2004). Röller and Waverman (2001) found the proof of strong positive causative linkage between telecommunications infrastructure and economic growth. Calderón and Servén(2003) conducted a study in the Latin American countries and found encouraging and noteworthy output contribution of transport, telecommunication and power.

Donaldson (2010) used Indian data from 1870 to 1930 and found that railroad development resulted in reduction of the cost of trading, boosted the overall trade and augmented the real income.

Mohammad (2010) found that the improvements in the basic infrastructure boosted growth in production. Agénor and Moreno-Dodson (2006) and Canning and Pedroni (2008) observed that despite substantial variations across countries, the infrastructure certainly contributes to economic growth in the long run. Though the correlation between economic growth and infrastructure is complicated (Fay, Toman, Benitez, & Csordas, 2010), it is an accepted fact that the expenses in creating new infrastructure have positive correlation with productivity and progression (OECD, 2007). Even though there are wide-ranging benefits of infrastructure outlay, there is a stark shortage in the capital outlay in the new infrastructure globally (Asian Development Bank, 2009; OECD, 2007).

According to Bhattacharya, Romani, and Nicholas (2012), many emerging markets, especially the low-income countries need essential measures to escalate their expenditure in infrastructure development, in order to accommodate rising urbanization and promote inclusive growth. The requirement of enormous capital expenditure coupled with thefiscal imperatives in the developing countries necessitates the private organizations to take a greaterpart in financing infrastructure.

Theoretical microeconomic approaches, related to principal-agency problems or moral hazard, are undertaken in Farrell (2003), Shah and Thakor (1987), Sorge (2011), Hainz and Kleimeier (2011), and Leland (2007). Other authors analyze thefact that project finance appears in developing countries as a way to transfer a significant share of the financing burden to the private sector (Yescombe, 2002). For example, Kleimeier and Megginson (1998), Wang et al. (2004), Griffith-Jones and Lima (2004), Hainz and Kleimeier (2004), and Vaaler et al. (2008) discuss a great deal about project finance in Asia and Latin America and, therefore, emphasize the ability of project finance to mitigate the corresponding political risk. The financial analysis of the project is of interest for lenders and investors. Therefore, there is a huge body of

literature on financial issues related to project finance. Although previous general overviews include several chapters on financial problems, we here add other specifics works, such as Chen et al. (1989), John and John (1991), and Leland (2007). A cumbersome problem is to determine the optimal leverage of a firm (John and John, 1991). The literature mostly focuses on project finance in relation to other issues, such as financial synergies (Leland, 2007).

As project finance deals with large-scale high-risk projects, risk management isa key area of research. The essence of project finance arrangements is to allocate risks to the parties who are best able to manage them. As a result of this allocation, project finance creates value to the project by improving project risk management (Sorge, 2011; Kong, 2008). In a recent paper, Byoun et al. (2013) finds that "project companies use less leverage and instead rely more on off-take agreements when the control benefits of cash flow from the project are high, suggesting that leverage and contract structures in the project company are important hedging mechanisms."

Many researchers stress that one of the key comparative advantages of project finance is that it allocates the specific project risks, such as completion and operating risk, revenue and price risk, and the risk of political interference or expropriation, to the parties who are best able to manage them (Kleimeier and Megginson, 2000; Sorge, 2004, 2011). Ballestero (2000a) comments that the agreements made under project finance make a project less risky and less expensive to perform by allocating the risks to the different participants with specific risks. Projects in developing countries usually face greater country risk, political risk, currency risk, and business risk. Esty (2004) states that, despite the importance of mitigating completion and operating risks, the function of project finance in mitigating sovereign risks cannot be replicated under conventional corporate financing schemes.

As far as we know, there are hardly any operational research (OR) models aimed at the computation of critical variables (e.g., limited recourse interest rate) or OR models to help make quantitative decisions concerning project finance arrangements. A compromise programming approach is Ballestero (2000a). Other contributions in the field of OR are Raskovich (2003), Schweik et al. (2005), Ballestero (2000b), and Ballestero et al. (2004), in which the authors introduce abinomial probability distribution model to determine the guaranteed minimum amount of revenues in order to bargain the off-take agreement.

OBJECTIVES OF THE STUDY
The literature review provided an overview of the research work that has been dedicated for finding out major factors applied for the selection of a project. But the research works are of the past period. At present the business environment is changing hence the project evaluation criteria might have changed. In this context the following objectives have been adopted for this research paper.
i.   To understand the project evaluation practices operating in India
ii. To find out the major factors affecting the project evaluation criteria in a project.

RESEARCH METHODS AND DATA ANALYSIS
TOOLS AND TECHNIQUES USED:
In this research various statistical tools such as descriptive statistics, Factor analysis, Regression analysis has been used for the data analysis and the results of the analysis has been discussed below.

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Regarding the position of the respondents in their respective organisations the answer revealed that 43% of the respondents are in the senior positions such as Senior project director, Project director or Project Manager. Remaining 57% of the respondents are of junior level. This indicates that the Reponses will be balanced in terms of experience and efficiency.

The questions with respect to their experience were asked to know the quality of the decision they would be taking in the organisations revealed that there are 47.3% respondents with experience more than 5 years and the rest 52.7% respondents are having experience less than 5 years. This indicates that the responses that have been collected will have some experience in it possessing some value.

The question regarding the type of project handled by the respondents will help to identify the diversity of the project handled by them. This will help us to understand the various forms of finance availed by the different types of sources of finance. The maximum 27.4% of the respondents belong to the social welfare projects, followed by the defence project 23.7% and educational projects 14.7% and other projects.

It is observed that the respondents belong to the Private sector banks (31%) and NBFCs (32.6%) followed by the foreign banks (19.6%) and lastly public sector banks (16.8%). This indicates that most of the respondents belong to the Non-banking Financial Corporations in India.

FACTOR ANALYSIS (PCA) OF THE PROJECT APPRAISAL ASPECTS

Factor analysis has been carried out to identify the common factors out of the 27 questions set for the project evaluation criteria. In this process the elements with high degree of correlation with each other. These factors identify will represent independent constructs. These constructs will be named on the basis of the common characteristics they represent. The various element of the factor analysis has been presented below.

Table – 1 represents the communalities of the variables taken for the factor analysis. At the preliminary observations the variable with communalities less than 0.3 were looked for and those elements were removed from the study. The elements so removed are question number PE12, PE17, and PE22. After removing these three variables rest other variables are considered for factor analysis.

The results of the factor analysis have been presented in the table – 1 for selecting the factor, the Eigen value has been taken as the parameter. The factors with Eigen value score more than 1 are taken as significant variables. In this factor analysis seven factors with Eigen value more than 1.

Table – 1: Variance Explained by the factors.

Total Variance Explained					
Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.246	23.847	23.847	5.246	23.847	23.847
2	3.303	15.014	38.861	3.303	15.014	38.861
3	2.676	12.165	51.026	2.676	12.165	51.026

4	2.359	10.725	61.751	2.359	10.725	61.751
5	2.172	9.872	71.623	2.172	9.872	71.623
6	1.891	8.594	80.217	1.891	8.594	80.217
7	1.618	7.353	87.570	1.618	7.353	87.570
8	.985	4.479	92.049			
9	.649	2.949	94.998			
10	.537	2.439	97.437			
11	.367	1.668	99.105			
12	.197	.895	100.000			
13	1.004E-013	1.020E-013	100.000			
14	1.002E-013	1.007E-013	100.000			
15	1.001E-013	1.006E-013	100.000			
16	1.001E-013	1.003E-013	100.000			
17	1.000E-013	1.000E-013	100.000			
Extraction Method: Principal Component Analysis.						

Source: Output of Factor Analysis

The above table – 1 represents the factor and their loading factors. The seven factors so finalised are capable of explaining the variance to the extent of 87.57%. but a careful observation of the factor indicates that the major portion of the variances (71.62%) has been explained by the first five factors.

Table – 2: Variance Explained by the factors.

Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
PE1 - Lifetime values created for the organisation	.397	-.263	.055	.558	-.401	.347	.324
PE2 -Improves the Structural capital of the firm	-.044	-.047	.173	.500	.558	.389	-.501
PE3 -The experience gained in the project improves the Human capital of the organisation	-.004	-.186	.140	.435	.517	-.584	.377
PE4 -Firm size of the parent organisation increases	.086	-.328	.583	-.584	.247	.096	.054
PE6 -Resources of the organisation are properly utilised	.861	-.176	.204	-.049	-.079	-.237	-.254
PE7 -The project makes significant contribution to the Annual revenue of the organisation	.153	.813	.527	.068	-.007	.073	.147
PE8 -The project is going to deliver highly reliable product to the customers	.806	.002	-.286	-.146	.315	.254	.248
PE9 -The ratio of the long-term debt to the total asset has remained under control	.861	-.176	.204	-.049	-.079	-.237	-.254
PE10 -There is a promising sales growth from the current as well as upcoming projects	.153	.813	.527	.068	-.007	.073	.147
PE11 -The project undertaken will improve the innovativeness of the organization	.806	.002	-.286	-.146	.315	.254	.248

PE13 -The project improves the competitive position against the competitors.	.397	-.263	.055	.558	-.401	.347	.324
PE14 -The short-term debts are helpful to maintain the asset liability management	-.044	-.047	.173	.500	.558	.389	-.501
PE15 -Firm Return on Assets (ROA) improves significantly	-.004	-.186	.140	.435	.517	-.584	.377
PE1 6-The intellectual capital of the firm improves	.086	-.328	.583	-.584	.247	.096	.054
PE18 -Return on equity (ROE) to the existing shareholders improves	.861	-.176	.204	-.049	-.079	-.237	-.254
PE19 -The essential factor leading to profitability of the project is the selection of profitable project	.153	.813	.527	.068	-.007	.073	.147
PE20 -Sales value forecasting accuracy	.806	.002	-.286	-.146	.315	.254	.248
PE21 -Profit margin estimation and its realisation	-.104	.473	-.438	-.100	.216	-.205	-.024
PE23 -Cashflow stability of the project	-.387	-.432	.559	.067	-.154	.031	.116
PE25 -Appropriate and timely adoption of new technology in the venture capitalist	.322	.472	-.285	.075	-.010	-.315	-.243
PE26 -Appointing appropriate, qualified and efficient project manager	-.367	-.382	.197	-.021	.139	.079	.154
PE27 -Application of appropriate cost control techniques	.516	-.146	.250	.263	-.406	-.347	-.273
Extraction Method: Principal Component Analysis.							
a. 7 components extracted.							

Source: Output of Factor Analysis

Table – 2 represents the component matrix for all the seven factors. The allocation elements for a particular factor is done as per the highest value of the component for a particular question. Accordingly, allotment has been made for the five prominent factors as identified in table 2. The nomenclature of these five factors as per their common characteristics has been done below.

CLASSIFICATION OF FACTORS
Factor- 1
PE6 -Resources of the organisation are properly utilised
PE8 -The project is going to deliver highly reliable product to the customers
PE9 -The ratio of the long-term debt to the total asset has remained under control
PE11 -The project undertaken will improve the innovativeness of the organization
PE18 -Return on equity (ROE) to the existing shareholders improves
PE20 -Sales value forecasting accuracy
PE27 -Application of appropriate cost control techniques

The above-mentioned factors are identified with the first factor. The variables that they represent are commonly indicating to a common fact of efficient allocation of the resource. Hence, these factors can be named as efficient allocation of resources.

Factor -2
PE7 -The project makes significant contribution to the Annual revenue of the organisation

PE10 -There is a promising sales growth from the current as well as upcoming projects
PE19 -The essential factor leading to profitability of the project is the selection of profitable project
PE21 -Profit margin estimation and its realisation
PE25 -Appropriate and timely adoption of new technology in the venture capitalist

The factor number two has the above five elements assigned it. As the characteristics of each element represents or give importance to the revenue of the project we can name the factor as the Revenue of the project.

Factor – 3
PE4 -Firm size of the parent organisation increases
PE1 6-The intellectual capital of the firm improves
PE23 –Cashflow stability of the project
PE26 -Appointing appropriate, qualified and efficient project manager

All the elements of the third project represent the growth factor associated in a project and hence we can name the factor as the growth perspective of the project.

Factor – 4
PE1 - Lifetime values created for the organisation
PE13 -The project improves the competitive position against the competitors.

The two elements of the factor 4 represents the sustainability of the project. Hence the fourth factor has been named as Sustainability of the project.

Factor – 5
PE2 -Improves the Structural capital of the firm
PE3 -The experience gained in the project improves the Human capital of the organisation
PE14 -The short-term debts are helpful to maintain the asset liability management
PE15 -Firm Return on Assets (ROA) improves significantly

All the four elements of the factor five indicates towards the financial health of the project. Hence the fifth prominent factor is to be named as Strong financial position of the project.

5.8 CONCLUSIONS
The demographic profile of the respondents revealed that the research questionnaire was mostly responded by the young project co-ordinators in the age group of 25 to 30 years of age. Another major finding of the demographic revealed that the most of the project professionals belong to the private sector banks and they are involved in the most of the agricultural project finance. This demographic profile led to the understanding that the young professional will refer to the latest project finance theories and practices.

The descriptive analysis as divided in three categories reveals that all the Reponses in the three sections have mean values are more than 3 except for few of the cases. This indicates that all respondents are in the favour (i.e., inclined towards strongly agree) of all the questions.

The results of the factor analysis are also very interesting. The factor analysis has revealed the major factors as presented below

Factor- 1   : Efficient allocation of the resource.
Factor -2   : Revenue of the project.
Factor – 3   : Growth perspective of the project.
Factor – 4   : Sustainability of the project.
Factor – 5   : Financial strength of the project.

Hence it is concluded that the major factors that influences the project appraisal process are proper allocation of funds, appropriate revenue generated by the project, adequate growth displayed by the project, sustainability aspects of the project, and the financial strength of the project.

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