

KEY DETERMINANTS FOR SUCCESSFUL PROJECT IMPLEMENTATION IN THE INDUSTRIAL AREA OF WEST BENGAL.

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Abstract— This paper aims to identify Key determinants for successful Project Implementation in the state of West Bengal with special focus in the Durgapur Industrial area. The research is motivated by the fact that of late there has been limited success in Project Implementation in West Bengal which had earlier been very successful in large scale project Implementation. Project related Professionals of the region were deliberated and interviewed. An objective realization instrument developed using 47 factors identified in the research as possible drivers in Project implementation based on Likert's seven point scale of ranking. Weighted scores of respondents who have been involved in project implementation in the area to the factors were analysed using Factor Analysis, while the effects of the quantified weight of the critical factors were analysed using regression tool. Result of the analysis clearly identifies the Key determinant among all factors which are essential for successful Project Implementation. The 47 factors are further grouped into few segments like Human, Resource, and Infrastructure etc. So through this research segment priority is also determined for the area and project manager based on priority can devote their time and energy to ensure that the Project is successfully completed. The customisation of Project planning and Project design has been the key determinant for successful project implementation

Key words— Project, Project management, Project Implementation, determinants, Factor Analysis, Success Factors, Regression, Likert's ranking scale.

I. INTRODUCTION

The Project is defined as a temporary endeavour undertaken to create a unique product or service. A project plays an important role in creating new infrastructure, new facility, new industry or new service which in turn leads to development of the entire region or country. As referred by Lock(1), Project management involves project planning and project implementation, organizing, directing and controlling of the company's resources for a relatively short term objective that has been established to complete specific goals and objectives. The Project Management has been defined in similar way in UK Body of Knowledge UK (BOK)(2). One of the major problems confronted by developing countries like India where population is growing rapidly, (is aware, well informed and politically active) is smooth implementation of Large size projects with overall social economic development along with maximizing the net benefit to the populace. The project implementation has become more critical and difficult with growing tendency to politicise, limited availability of Land, large scale unemployment, huge expectation and priority conflict between agriculture vs Industry.

As reiterated by Ralf Muller (3) The Project manager's role is vital to anticipate all such problems and plan his project in such a way that it's successfully Implemented. Project is implemented in a specially designed organisation whose life is synchronous with the life of Project. So the Project team must rise to the occasion and be in complete sync with the needs of the project. Project team composition in respect to competency, ethnicity and diversity plays a vital role. Research work and Papers of J K Pinto and D P Slevin (4)(5) published in IEEE Transactions of Engineering Management and Sloan Management Review have been referred extensively.

II. OBJECTIVE OF RESEARCH :

The central objective of this Research is to improve the level of Project Delivery in West Bengal specially the industrial area near Durgapur through identification and integration of the critical success factors of the Projects in the Project Management system. The Project Management system is to be designed ensuring that the key determinants are positively addressed and the key success factors are monitored on regular basis during planning or execution.

The specific objectives of this Research with focus area being Durgapur Industrial Area are as follows :-

- What are the main reasons for unsuccessful Project delivery in Durgapur industrial area out of 47 factor ?
- Quantification of each factors and rank them as per importance for Durgapur Industrial Area.
- To compare and contrast critically environmental, Economic, Social, Project Team, Infrastructure / Resource, Regulatory and technical/technological factors.

III. WHAT IS PROJECT MANAGEMENT ?

Project management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing.

The project manager is the person responsible for accomplishing the project objectives. Managing a project as per Books by Gopalakrishna and Rao (6) (7) includes as detailed:

- Identifying requirements
 - Establishing clear and achievable objectives

- Balancing the competing demands for quality, scope, time and cost
- Adapting the specifications, plans, and approach to the different concerns and expectations of the various stakeholders

IV. WHAT IS SUCCESSFUL PROJECT IMPLEMENTATION?

In addition to defining the concept of organizational projects, it is important, before attempting any discussion of the steps leading to a successful project, to describe what a "successful project" is. Project implementation success has been defined in many ways to include a large variety of criteria.

A project is generally considered to be successfully according implemented Dennis P Slevin (5) if it:-

- Comes in on-schedule (time criterion).
- Comes in on-budget (monetary criterion).
- Achieves basically all the goals originally set for it (effectiveness criterion).
- Is accepted and used by the clients for whom the project is intended (client satisfaction criterion).

By its basic definition, a project comprises a defined time frame for completion, a limited budget, and a specified set of performance characteristics. Further, the project is usually targeted for use by some client, either internal or external to the organization and its project team. It seems reasonable, therefore, that any assessment of project implementation success should include these four measures.

V. FACTORS AFFECTING PROJECT IMPLEMENTATION :

As referred in the Research Paper by Dennis P Slevin (5) the Factors that affect the Project implementation are - **Project Mission, Top Management Support, Project Scheduled Plan, Client Consultation, Personnel, Technical Tasks, Client Acceptance, Monitoring and Feedback, Communication, Troubleshooting.**

However above factors are quite broad and is difficult to diagnose which is the main reason for any Project failure. So the present research work tries to break down the factors to specific well defined points which maintain exclusivity and minimum overlap. This will help us to check affects objectively and most accurate way possible.

VI. INSIGHT TO RESEARCH WORK :

The research adopted a field survey approach for data collection and interviewing the Project managers or Project related officials in Projects surrounding Durgapur city. The researcher visited various Project site/organisations : a) Matix Fertilisers and Chemicals Ltd b) Essar Oil Ltd c) Damodar Valley Corporation d) Videocon Industries e) Sail etc. Total respondent considered for the research were 18 in numbers.

For the analysis of the data collected study also adopted deterministic approach by way of response weighting, maximum likelihood extraction and varimax rotation of iterations, Kaiser Normalisation and regression analysis to analyse and rank the critical issues. The Objective Evaluation Questionnaire (OEQ) is the principal Instrument used for primary data collection. The Objective Evaluation Questionnaire (OEQ) is designed after interaction with several Project managers of the area and organising brainstorming session to list views that affect this project. From all the listed points, 47 factors were selected and were used to develop the Objective Evaluation Questionnaire (OEQ). The process of administration is the personal interview contact , which allows one on one approach in asking and answering the questions.

VII. STATISTICAL ANALYSIS SOFTWARE :-

The Research uses PSPP (8) which is a tool for statistical analysis of sampled data. It reads the data, analyzes the data according to commands provided, and writes the results to a listing file, to the standard output or to a window of the graphical display. The language accepted by PSPP is similar to those accepted by SPSS statistical products.

TABLE 1 : The 47 Factors forming the Objective Evaluation Questionnaire are -

SL NO	FACTORS FOR SUCCESSFUL PROJECT IMPLEMENTATION (Bengal Industrial Area)	CODE
1	Commitment of contractor/Supplier/Vendors to approved Plans /Project Spec.	X1
2	Skills, training and development undertaking by project staff/workers .	X2
3	Commitment of stakeholders for Successful completion, Stakeholders Analysis	X3
4	Existence of use of scientific Project Management tools and techniques.	X4
5	Accuracy of project cost estimates.	X5
6	Government outlook and Policy towards Industry.	X6
7	Client commitment to project financing requirements.	X7
8	External Environmental factors (Political / Social).	X8
9	Regulatory requirements, standards and laws.	X9
10	Accuracy of designs and specifications.	X10

11	SHE (Safety/Health/Environment) standards and SHE policy Adherence.	X11
12	Accuracy of time estimates for project schedule.	X12
13	Infrastructure support Like Roads , Power , Port , Rail etc.	X13
14	Economic Unstability.	X14
15	Able Leadership in Project Implementation.	X15
16	Weather condition/Climate of the Project Area.	X16
17	Collective responsibility among project stakeholders.	X17
18	Internal Communication.	X18
19	External Communication with right Public relations.	X19
20	Resources Linkages.	X20
21	Full proof security of the Project Site.	X21
22	Interference of NGO and media.	X22
23	Coordination among Project team.	X23
24	Experience of Project team to work in similar environment.	X24
25	Avaibility of Power and Power infrastructure near vicinity	X25
26	Standard of living of the nearby area.	X26
27	Literacy level of surrounding area.	X27
28	Proximity of customers near project site.	X28
29	Promoter background and origin.	X29
30	Land cost level in the project region.	X30
31	Ground water or surface water avaibility.	X31
32	Wind force and direction.	X32
33	Nearness of Airport.	X33
34	Nearness of Seaport.	X34
35	Ethnic / regional composition of Project team.	X35
36	Global recession and economic slump.	X36
37	Land Fertility levels in the project region.	X37
38	Technology tie up partner competency.	X38
39	Government stake in Private / Private stake in government.	X39
40	Customisation level in Project planning.	X40
41	Customisation level in Project design.	X41
42	Financial strength of participating Banks in Bankers consortium.	X42
43	Positive ROI & IRR of the Project.	X43
44	Crime rate of nearby villages as per Police station record and Law & Order.	X44
45	Fragmented land ownership.	X45
46	Corruption Level in the region.	X46
47	Exisiting Pollution level in the Project region.	X47

The Objective Evaluation Questionnaire is based on Likert's 7 point scale of ranking. For each factor the respondent selects one out of seven option as per Likert's seven points which are : 1) Strongly Disagree. 2) Disagree. 3) Somewhat disagree. 4) Neither Disagree/ agree 5) Somewhat agree 6) Agree 7) Strongly agree. Effects of the critical success of a factor on level of project delivery is analysed on the level

success attained by the sampled Projects in the focus area. On analysing, the data collected , weighted scores of the respondent to each of the success factors were generated. For the purpose of research , Factor Analysis were used to assess the significance of 47 factors affecting project success. Factor analysis is a method of quantitative multivariate analysis with the goal of representing the interrelationship among a set of

continuously measured variables by a number of linearly independent reference variables called factors.

Factor analysis therefore seeks to collapse the numerous operating variables into fewer dimensions of interrelated attributes called principal components. The Eigen value determines the principal components, which are orthogonally varimax, rotated to obtain more evenly distributed variables among the components.

The mathematical procedure of factor analysis assumes that an $n \times n$ matrix A has eigen value η if there exist a non zero vector x , called an eigen vector associated with η , for which:
 $Ax = \eta X$ (A)

From the above model, it follows that the matrix $A - \eta * I$ is singular and therefore

$$\text{Det} (A - \eta I) = 0 \text{ (B)}$$

This is a polynomial equation in η of degree n from which it follows that A has at most n eigen value. The polynomial $\text{Det} (A - \eta I)$ is called the characteristic polynomial of A . Some roots of this characteristic may be repeated and we consider the algebraic multiplicity of the eigen value in the same as the multiplicity of roots of polynomial. In event of multiplicity of an eigen value and greater than the dimension of the vector space spanned by its associated eigen value then the matrix is said to be defective.

Objective Evaluation Questionnaire :-

The objective evaluation Questionnaires which was filled by each respondent is the method through which the primary data was collected.

DATA ANALYSIS :-

a) Correlation Matrix :-

The correlation matrix is one of the important representation to examine the data. It is the starting point for the study of principal components and factor analysis. The benefit of the correlation matrix is that it is simple, and it shows at a glance how variables correlate with each other.

In our case the data collected from respondent were put to correlation Matrix to understand how the 47 Factors are distinct from each other and what is its impact on successful completion of Projects in Durgapur and nearby Industrial Area. The correlation matrix is the foundation for analysis of various problems as referred by Rummel (9).

In its own right, however, the correlation matrix contains much useful knowledge.

- Each coefficient measures the degree and direction (sign) of the correlation between the row and column variables.
- Each correlation squared defines the proportion of covariation between these variables.
- Each correlation is the cosine of the angle between the variables as vectors of mean and deviation data.

The correlation matrix was directly computed from the original data sheet. The correlation matrix based on the primary data collected was prepared which was 47×47 matrix. The diagonal of the 47×47 correlation matrix contains unit value.

b) Extraction Method – Principal Component Analysis.

The factor analysis for the present research used the software PSPP (8) through which commonalities of factors are identified. Extraction Method utilised is Principal Component Analysis. The estimation of the possible intensity of the success factors to project process is done using communality extraction as shown in the following table.

TABLE 2 : COMMUNALITY MATRIX

Communalities	Initial	Extraction	Communalities	Initial	Extraction
#Var0001#	1.00	.92#	#Var0025#	1.00	.82#
#Var0002#	1.00	.96#	#Var0026#	1.00	.94#
#Var0003#	1.00	.97#	#Var0027#	1.00	.87#
#Var0004#	1.00	.90#	#Var0028#	1.00	.98#
#Var0005#	1.00	.88#	#Var0029#	1.00	.84#
#Var0006#	1.00	.91#	#Var0030#	1.00	.87#
#Var0007#	1.00	.97#	#Var0031#	1.00	.88#
#Var0008#	1.00	.91#	#Var0032#	1.00	.90#
#Var0009#	1.00	.99#	#Var0033#	1.00	.98#
#Var0010#	1.00	.88#	#Var0034#	1.00	.97#
#Var0011#	1.00	.98#	#Var0035#	1.00	.98#
#Var0012#	1.00	.93#	#Var0036#	1.00	.84#
#Var0013#	1.00	.98#	#Var0037#	1.00	.97#
#Var0014#	1.00	.94#	#Var0038#	1.00	.92#
#Var0015#	1.00	.76#	#Var0039#	1.00	.91#
#Var0016#	1.00	.95#	#Var0040#	1.00	.96#
#Var0017#	1.00	.97#	#Var0041#	1.00	.87#
#Var0018#	1.00	.99#	#Var0042#	1.00	.74#
#Var0019#	1.00	.80#	#Var0043#	1.00	.91#
#Var0020#	1.00	.92#	#Var0044#	1.00	.93#
#Var0021#	1.00	.96#	#Var0045#	1.00	.94#
#Var0022#	1.00	.67#	#Var0046#	1.00	.87#

#Var0023# 1.00 .88#	#Var0047# 1.00 .85#
#Var0024# 1.00 .79#	#-----#-----#-----#

likelihood extraction of the Factor analysis tool of PSPP software.

c) Variance in Level Application of the Success Factors to Projects

TABLE 3 : TOTAL VARIANCE AND CUMULATIVE WEIGHTED SCORE

The cumulative weighted score is generated across the phases of the construction process based on the maximum

TABLE 3 : TOTAL VARIANCE AND CUMULATIVE WEIGHTED SCORE

Component	Initial Eigen values			Extraction Sums of Squared Loading			Rotation Sums of Square Loading			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
#1	#16.64	35.40	35.40	#16.64	35.40	35.40	# 5.65	12.03	12.03	.
#2	# 5.67	12.06	47.46	# 5.67	12.06	47.46	# 4.15	8.83	20.85	.
#3	# 4.43	9.42	56.89	# 4.43	9.42	56.89	# 3.58	7.62	28.48	.
#4	# 3.31	7.05	63.93	# 3.31	7.05	63.93	# 2.87	6.11	34.59	.
#5	# 3.04	6.46	70.39	# 3.04	6.46	70.39	# 3.42	7.28	41.87	.
#6	# 2.26	4.81	75.21	# 2.26	4.81	75.21	# 2.99	6.37	48.24	.
#7	# 2.02	4.30	79.50	# 2.02	4.30	79.50	# 9.82	20.88	69.12	.
#8	# 1.97	4.19	83.69	# 1.97	4.19	83.69	# 3.09	6.57	75.69	.
#9	# 1.84	3.90	87.60	# 1.84	3.90	87.60	# 4.91	10.46	86.14	.
#10	# 1.31	2.78	90.38	# 1.31	2.78	90.38	# .57	1.21	87.35	.
#11	# 1.21	2.58	92.96	# 1.21	2.58	92.96	# .95	2.02	89.37	.
#12	# 1.09	2.33	95.29	# 1.09	2.33	95.29	# .55	1.17	90.54	.
#13	# .83	1.77	97.05	#			#			.
#14	# .59	1.25	98.30	#			#			#14
#15	1.06	99.35	#	#			#			# .50
#16	# .30	.65	100.00	#			#			
#17	# .00	.00	100.00	#			#			
#18	# .00	.00	100.00	#			#			
#19	# .00	.00	100.00	#			#			
#20	# .00	.00	100.00	#			#			
#21	# .00	.00	100.00	#			#			
#22	# .00	.00	100.00	#			#			
#23	# .00	.00	100.00	#			#			
#24	# .00	.00	100.00	#			#			
#25	# .00	.00	100.00	#			#			
#26	# .00	.00	100.00	#			#			
#27	# .00	.00	100.00	#			#			
#28	# .00	.00	100.00	#			#			
#29	# .00	.00	100.00	#			#			
#30	# .00	.00	100.00	#			#			
#31	# .00	.00	100.00	#			#			
#32	# .00	.00	100.00	#			#			
#33	# .00	.00	100.00	#			#			
#34	# .00	.00	100.00	#			#			
#35	# .00	.00	100.00	#			#			
#36	# .00	.00	100.00	#			#			
#37	# .00	.00	100.00	#			#			
#38	# .00	.00	100.00	#			#			
#39	# .00	.00	100.00	#			#			
#40	# .00	.00	100.00	#			#			
#41	# .00	.00	100.00	#			#			
#42	# .00	.00	100.00	#			#			
#43	# .00	.00	100.00	#			#			

#44	#	.00	.00	100.00	#			#		
#45	#	.00	.00	100.00	#			#		
#46	#	.00	.00	100.00	#			#		
#47	#	.00	.00	100.00	#			#		

TABLE 4 : COMPONENT MATRIX

#	#	Component Matrix												#
#	#	1	2	3	4	5	6	7	8	9	10	11	12	#
#Var0001#	.79	.26	.14	-.02	-.03	-.04	.41	.09	.02	.07	-.04	-.16	#	
#Var0002#	.64	.14	-.02	-.27	-.45	.03	.07	-.22	-.33	.01	.23	.18	#	
#Var0003#	.72	.18	-.37	-.41	.08	.23	.12	.19	-.06	.05	.04	-.01	#	
#Var0004#	.28	-.63	-.06	-.21	.31	.26	-.13	-.41	-.07	-.06	.13	-.07	#	
#Var0005#	.01	-.50	.41	-.03	.14	.08	.45	-.42	.00	.13	.07	.21	#	
#Var0006#	-.14	.07	-.68	-.13	-.50	.21	.30	-.02	-.01	.06	-.04	.12	#	
#Var0007#	.81	.29	-.30	-.06	-.01	.08	.02	.09	-.17	-.16	-.23	-.10	#	
#Var0008#	.41	.02	-.16	-.67	-.07	.04	.15	-.15	.43	.07	-.14	-.04	#	
#Var0009#	.80	-.05	-.40	-.05	.31	.20	-.03	.01	-.14	.17	-.04	.11	#	
#Var0010#	.82	.17	.08	-.06	-.03	-.03	.05	.36	.11	-.04	.16	-.03	#	
#Var0011#	.81	-.01	-.18	.33	.06	.20	-.17	.29	-.14	.03	.03	.04	#	
#Var0012#	.43	-.35	-.66	.04	.25	-.08	.18	-.11	-.21	.05	-.13	-.10	#	
#Var0013#	-.15	-.25	-.34	-.11	-.70	.45	-.08	-.06	.17	-.09	.00	-.14	#	
#Var0014#	.48	-.30	.41	.11	-.37	.23	-.41	-.02	-.07	.13	.07	-.24	#	
#Var0015#	.58	-.05	-.45	-.22	.08	.09	.02	-.38	.02	-.09	-.02	-.04	#	
#Var0016#	.76	.14	.22	-.01	.04	-.01	-.21	.01	-.45	-.14	-.06	.19	#	
#Var0017#	.76	.37	.15	-.15	-.33	.19	-.03	.17	.10	.10	-.02	-.14	#	
#Var0018#	.76	.21	.23	.28	-.25	.11	-.13	-.14	.26	-.10	-.14	.18	#	
#Var0019#	.11	.60	.15	.25	.22	-.31	.10	-.27	-.15	-.07	.07	-.28	#	
#Var0020#	.79	.17	-.08	-.28	-.21	-.22	-.08	-.20	-.22	.01	-.05	.01	#	
#Var0021#	.81	.25	-.20	-.29	-.13	.07	-.09	.03	.14	-.02	.24	.09	#	
#Var0022#	.57	-.10	.38	-.08	.14	.00	.13	-.34	-.08	.07	-.09	-.11	#	
#Var0023#	.75	.41	.02	-.01	.05	-.01	.27	.07	.04	.05	.25	-.01	#	
#Var0024#	.81	.14	.21	-.09	-.05	.14	-.06	.17	-.04	-.07	-.01	-.06	#	
#Var0025#	.67	-.27	.40	-.09	-.14	.20	-.05	-.16	-.18	.03	-.04	.10	#	
#Var0026#	.74	.12	.38	.39	-.06	.18	-.05	-.13	-.08	.14	-.09	.02	#	
#Var0027#	.72	.21	-.14	.09	.08	-.08	-.31	-.36	-.15	-.04	-.12	-.08	#	
#Var0028#	.78	.11	-.06	.37	-.11	-.19	-.05	-.09	.38	-.01	.02	.08	#	
#Var0029#	.35	-.42	-.19	.23	.12	-.05	.20	.29	-.56	.02	.01	.02	#	
#Var0030#	-.16	-.54	-.38	.53	-.09	.13	-.18	-.15	.00	.05	.08	-.21	#	
#Var0031#	.58	-.10	-.40	.40	-.14	-.05	-.07	-.35	.23	-.04	.04	.05	#	
#Var0032#	.63	.54	.17	.31	.12	-.06	.20	.00	-.01	-.07	.08	.02	#	
#Var0033#	.13	-.92	.04	.15	-.07	.07	.14	.20	.06	-.04	-.12	.09	#	
#Var0034#	.15	-.58	-.50	-.16	-.16	-.47	-.19	.15	-.06	.12	.12	-.05	#	
#Var0035#	.70	-.14	.39	.16	-.12	-.37	.29	-.10	.15	-.08	.13	-.08	#	
#Var0036#	.17	-.46	-.13	-.49	.39	.09	-.37	-.03	.12	-.11	.10	.01	#	
#Var0037#	.65	-.11	-.48	.30	-.07	-.38	-.05	.19	.03	-.07	-.06	.13	#	
#Var0038#	.48	-.09	-.27	.08	.56	.06	.11	-.09	.50	.03	.01	-.05	#	
#Var0039#	.61	-.16	.28	-.35	.29	.22	.28	.27	.08	-.07	-.09	-.11	#	
#Var0040#	.82	.17	-.38	.16	.27	-.13	.07	.00	.06	.04	.00	.04	#	
#Var0041#	.82	.21	.11	.02	.01	-.26	-.22	.00	-.04	.14	.01	-.05	#	
#Var0042#	.35	.04	.33	-.15	.47	.09	-.42	.05	.23	.02	.00	.13	#	
#Var0043#	.05	-.24	.15	-.57	.06	-.64	-.24	.13	.03	.08	-.08	.03	#	
#Var0044#	.62	-.31	.28	.20	-.34	-.12	-.01	.15	.41	.05	-.11	.08	#	
#Var0045#	.21	-.52	.10	-.34	-.45	-.51	.09	-.08	.01	-.08	-.05	-.09	#	
#Var0046#	.32	-.69	.39	-.24	-.08	.10	.07	-.04	-.25	-.06	-.03	-.02	#	
#Var0047#	.53	-.56	.08	.12	.11	.18	.01	.40	.09	-.03	.05	-.10	#	

The above calculations has been greatly guided by J K Pinto & R J Rummel (10) & (11) and Slevin (12).

VIII. DISCUSSION :-

The above result shows that 47 factor can be grouped into 12 decision matrix (components) for successful project management. However 9 principal components are extracted for effectiveness.

- In the 2nd component X 19 loads maximally.
- In the 3rd component X 43 & X 46 loads maximally.
- In the 4th component X 30 loads maximally.
- In the 5th component X 36, X 38 and X 42 loads maximally.
- In the 6th component X 13 loads maximally.
- In the 7th component X 5 and X 6 loads maximally.
- In the 8th component X 33 and X 34 loads maximally and
- In the 9th component X 8 loads maximally.

Remaining factors are loaded in 1st component.

From the component analysis following critical information about the project implemented in Durgapur and nearby industrial area can be determined :-

- a) Customisation of Project planning (X 40) is more importance having .82 loading than Existence or use of scientific Project management tools and techniques (X 4) having loading of .28.
- b) Customisation level in Project planning (X 40) and Customisation in Project Design (X 41) have equal loading and so are equally important for the project success.
- c) The corruption level in the region (X 46) having loading of .39 to component 3 having another factor Positive ROI & IRR of the Project (X 43) with loading .15. The above means the respondent's belief that corruption level in the region has more effect than the IRR & ROI of the Project. This may due to several scams plaguing our industrial project in last few months.
- d) Nearness of Airport (X 33) and Nearness of Seaport (X 34) are of similar nature and so loaded in component 8 wherein Airport plays a more crucial role for project success.

The above findings are based on project professional's understanding and experience of the region.

IX. CONCLUSION :-

So based on the above research it was identified that most important factor for successful project implementation in the Durgapur and nearby Industrial Area is Customisation level of

the Project in the Project Planning and in the Project design. The key determinants based on the result derived from Component Matrix will easily guide Project Managers to give right weightage and channelize the resource according to priority established for the region. The researcher will further strive to determine the Effect of Critical Success factors on Project Delivery and also try to test the hypothesis using analysis of variance.

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