

# STUDY AND EVALUATION OF FACTOR INFLUENCING HUMAN RESOURCE DEVELOPMENT IN INDIAN CONSTRUCTION INDUSTRY

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**Abstract - This Project deals with identification of factors affecting HRM and developing a framework for assessing the factors affecting HRM. This work is aimed at identifying the drivers and barriers of Human resource development in Construction firms of Western Maharashtra in India. Data used was obtained through questionnaire survey and structured interviews. The survey showed that increase in performance and productivity is the highest drivers of HRD with 90% response. The next most important drivers are market forces/economy and technology with 86% response each. Aging work force was considered the weakest driver of HRD 53% response. The research showed that low profit margin and high construction costs are the greatest barriers to HRD with 88% and 87% response respectively. The next barrier to HRD is the use of adhoc staff with 75% response while the least barrier to HRD is the varied methods of learning in the industry. The research proves that most construction firms do not engage in HRD as they are faced with low profit margins and unskilled labour. With good government policies, loans with low repayment interest rates could be provided for these firms to improve on HRD.**

**Index Terms:** human resource development, drivers, and barriers.

## 1. INTRODUCTION

For any nation to achieve its full potentials, it needs to fully develop its human resource capital. India is by no means exempt from this statement and in particular the construction sector which has performed below its full potential in the last three decades. In 1990, the country experienced a relatively steady growth rate of 7.30% and the building and construction sector contributed 1.80% of the overall GDP. This means that although the construction industry is a vital industry it is yet to attain its place of relevance in the national economy. The industry can thus increase its efficiency and generate a sustainable economic environment as it employs more than 15% of the entire work force of the nation. Foreign construction firms dominate major projects in developing countries as a result of deficiencies in the capacity of local construction firms. These have limited contracting capacity and are predominantly small and medium sized businesses. This makes their participation in major construction works minimal. In order to improve their rate of participation in major construction works, it is therefore necessary to review the human resource development of the local construction firms.

### Background Indian Construction Industry

Indian Construction Industry, one of the fastest growing Construction Industry Internationally and the second largest employer in India. The Construction industry of India is an important indicator of the development as it creates investment opportunities across various related sectors. The construction industry has contributed an estimated ₹ 3,84,282 core to the national GDP in 2010-11 (a share of around 8%). The industry is fragmented, with a handful of major companies involved in the construction activities across all segments; medium sized companies specializing in niche activities; and small and medium contractors who work on the subcontractor basis and carry out the work in the field. The sector is labour-intensive and, including indirect jobs, provides employment to more than 35 million people. The research therefore aims at identifying the factors influencing human resource development in Indian construction industry.

The specific objectives of the study are:

1. Identify the critical elements of human resource development(HRD) within Indian construction firms
2. Identify the drivers and barriers of human resource development in the Indian construction industry
3. Evaluate the impact of human resource development within the Indian construction industry.

## 2. METHODOLOGY

The method of data collection is through structured questionnaire survey and examination of existing records on human resource development activities within the local construction firms. There will be some important questionnaires were distributed in all type of construction firms and required data collect.[Annexure 1]

### Methodology used during the Project

1. Finding how many industries admitted in HRD, from them How many Existent from HRD and in Active HRD in today.
2. Identified the HRD factors commonly considered in the construction field, through an extensive literature survey.
3. Identify the drivers and barriers of human resource development in the construction industry
4. After identification of these " HRD factors" and important "Drivers and barriers ",a questionnaire-based survey conducted to draw the views of experienced professionals on these success factors, which includes questions

5. RII (Relative importance index) is used in order to decide the ranking of the HRD factors.
6. After the ranking of all factors, their ranks under consultant and contractor are compared and Spearman rank correlation coefficient (RII) between is to be find out to determine correlation between them.
7. The questions based on those HRD factors and Drivers and Barriers were asked in order to obtain the second and third objective of the project.
8. The simple analysis is done in order to get the results.
9. To establish a relatively comprehensive and systematically system, with experts and practicing professionals in the construction industry.
10. The hypotheses will be examined to explore the relationship between HRD factors for various criteria for highly successful projects

Data analysis by Relative Important Index (RII)

$$\text{Relative importance index RII} = \frac{\sum wOR}{A * N} \quad \text{RII} = \frac{5(n5)+4(n4)+3(n3)+2(n2)+n1}{n3+n4+n5}$$

Where w is the weight given to each attribute by the respondents and ranges from 1 to 5, A is the highest weight (i.e., 5 in my case), and N is the total number of respondents. And other case where n1, n2, n3, n4, and n5 = the number of respondents who selected: 1-for not important; 2-for low important; 3-for moderately important; 4-for important; and 5- for very important respectively.

The method of data collection was through structured questionnaire survey and examination of existing records on human resource development activities within the local construction firms. Fifty (50) questionnaires were distributed in all and 37 were returned

### 3. RESULTS AND DISCUSSION

Table 1: Distribution according to construction firms

Firm Type	No of Respondent	% Response
Contractor	15	41
Consultant	09	24
Developer	13	35
Total	37	100

Table 1 shows the percentage of respondents.

Table 2: Existence of Human Resource Department

	No of Respondent	% Response
Yes	11	29
No	26	71
Total	37	100

Table 2 shows the respondents who have a human resource department. 71% of respondents do not have an HR department which implies a limited work force in terms of career development.

Table 3: Firms that engage in active Human Resource Development

	No of Respondent	% Response
Yes	30	81
No	7	19
Total	37	100

Table.3 shows the respondents who are actively engaged in HRD. 81% of the respondents claim to be involved in HRD but in reality they insist on the work force already acquiring the needed skills at the time of employment. This shifts the responsibility for staff development from the firm to the individual employees.

Table 4: Factors that influence HRD in individual firms

HRD Element	1	2	3	4	5	Rank sum	Relative Index	% Ranking	Ranking Order
Level of Education	0	4	6	5	15	112	0.80	80	1 <sup>st</sup>
Organisational Development	0	3	7	16	4	111	0.74	74	2 <sup>nd</sup>
Training and Development	3	5	7	10	5	99	0.66	66	3 <sup>rd</sup>
Career Development	2	8	10	6	4	92	0.61	61	4 <sup>th</sup>
Staff Development	4	6	8	10	2	90	0.60	60	5 <sup>th</sup>
Learning Organisation	7	6	10	7	0	65	0.51	51	6 <sup>th</sup>

Table 4 shows Toss determine the most important factor of HRD, the respondents were asked to rank the factors based on their level of importance .Level of education attained was ranked the most important factor with a relative index of 80%.Organisational Development is ranked second with an index of 74 %, Training and development was ranked third with an index of 66% while learning organisation ranked least with 51%.

Table 5: Group of Employees Considered in HRD

Employees	LC	C	MC	Rank sum	Relative index	%Ranking	Ranking order
Professionals	2	5	23	81	0.90	90.00	1 <sup>st</sup>
Management Staff	0	11	19	79	0.87	87.00	2 <sup>nd</sup>
Skilled Labour	3	18	9	66	0.73	73.00	3 <sup>rd</sup>
Semi-Skilled Labour	14	12	4	50	0.56	56.00	4 <sup>th</sup>
Unskilled Labour	22	6	2	40	0.44	44.00	5 <sup>th</sup>

[MC-Most Considered, C-Considered, LC-Less Considered., as rating between 1-3 ]

Table 5 shows that the group of employees mostly considered for HRD are the professionals with a relative index of 90%. The next highly considered group is the managerial staff with an index of 87% while the least considered group was the unskilled labour with an index of 44%

Table 6.Important Drivers of HRD in the Indian Construction Industry

Drivers	1	2	3	4	5	Rank sum	Relative Index	% Ranking	Ranking Order
Increased performance and productivity	0	0	2	11	17	135	0.90	90.00	1 <sup>st</sup>
Team Development	0	0	4	18	8	124	0.83	83.00	2 <sup>nd</sup>
New Technologies	0	4	3	13	10	119	0.79	79.00	3 <sup>rd</sup>
Globalization	0	5	12	10	3	101	0.67	67.00	4 <sup>th</sup>
Market Forces	2	3	13	10	2	97	0.65	65.00	5 <sup>th</sup>
Aging Work force	3	7	8	9	3	92	0.61	61.00	6 <sup>th</sup>
Cultural Diversity	9	12	5	4	0	64	0.43	43.00	7 <sup>th</sup>

Table 6 shows that the need to increase productivity and performance is the most important driver of HRD with a relative index of 90%. Team development ranked next with an index of 83% while the least important driver of HRD was cultural diversity with an index of 43%. This confirms that the main motive for engaging in any form of business is profit. Thus those most qualified are often employed to reduce the need for training to the barest minimum.

Table 7: Barriers of HRD in the Indian Construction Industry

Barriers	1	2	3	4	5	Rank sum	Relative Index	% Rank	Rankin g order
High Cost of personnel training	4	6	5	6	16	135	0.73	73.00	1 <sup>nd</sup>
Small profit margins	2	5	9	11	10	132	0.71	71.00	2 <sup>st</sup>
Variation in type and size of project	5	10	7	6	9	115	0.62	62.00	3 <sup>th</sup>
Time constraint	7	6	9	10	5	111	0.60	60.00	4 <sup>th</sup>

Complex nature of the industry	7	4	15	7	4	108	0.58	58.00	5 <sup>th</sup>
Temporary contract staff being employed	6	9	8	11	3	107	0.57	58.00	6 <sup>th</sup>
Various types of construction trades	9	5	11	9	3	103	0.56	56.00	7 <sup>th</sup>

Table 7 shows that **High Cost of personnel training is the greatest barrier to HRD with a relative index of 73%. The small profit margins ranked second with an index of 71% while the wide range of construction trade options ranked least with an index of 56%. The small profit margins experienced by most of the firms make it difficult to set aside any capital for staff training in most cases.**

Table 8: Impact of HRD on individual firms

Impact	1	2	3	4	5	Rank sum	Relative Index	% Ranking	Ranking order
Increased Productivity	0	0	4	7	19	135	0.90	90.00	1st
Technical Competence	0	0	5	9	16	131	0.87	87.00	2nd
Team performance	0	0	9	12	9	126	0.84	86.00	3th
Organizational Performance	0	0	8	10	12	124	0.83	83.00	4rd
Employee performance	0	0	7	13	10	110	0.82	82.00	5th
Project Efficiency	0	0	7	14	9	122	0.81	81.00	6 <sup>th</sup>
Increased Motivation	0	5	8	12	5	107	0.71	71.00	7th
Management Efficiency	0	6	9	10	5	104	0.70	70.00	8th

Table 8 shows that the presence of HRD increases productivity and Technical competence with a relative index of 90% and 87% respectively while the least important effect of HRD was management efficiency with an index of 70%. This confirms that the productivity and performance of any organisation are vital for any form of repeat business. Above table shows that any construction firms can be growing up and also increased their productivity by using help of HRD.

#### 4. CONCLUSION

The study shows that human resource development is not regularly practiced in most construction firms in India. Majority of the firms are small and medium sized with more semi-skilled and unskilled work force than skilled work force. Education attainment (i.e. the level of education attained) was found to be the most influential factor that affects HRD. The study thus recommends strongly the need for policies on continuous development programme is to be put in place by the government.

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