

Recruitment Analysis in Small and Medium Scale Construction Companies

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ABSTRACT

Human resource management practices are widely analysed for the employee concerns and for the company's progress in the advancing state. This project work is done to carry out a study of the Indian construction sector's recruitment process. In particular, emphasis has been made on the small and medium size organisations as there is a lack of good and sound HRM practises, our research will furnish a model which will help enhance the hiring process in companies at the small and medium size levels. This study is purely based on competency approaches in recruitment. Extensive literature review and face to face interactions with company officials at the initial stage helped us realise the important competencies that are relevant to the construction sector, in particular, to the role of site engineer. A questionnaire was created further and was floated out to different companies falling under the specified category (Small and Medium scale). Later SPSS and Microsoft Excel were used to analyse the responses. Based on the results obtained, a competency based model was developed that will ultimately help in enhancing the recruitment process of site engineers in small and medium size construction companies..

Keywords: Competency, Contextual, Recruitment, SPSS.

I. INTRODUCTION

The civil engineering sector in India has always been a major contributor to the country's economy. It contributes by generating employment and creating many investment opportunities in various related sectors like real estate, infrastructure, urban property development, power sector etc. During the period 2014-15, the construction sector alone contributed an approximate INR 6708 billion, a total of 8% of the national GDP.

The industry is categorised into three levels, the top most that is the large size companies, the next level comprises of medium size companies, specializing in niche activities and the final level comprising of small sized companies working as subcontractors for various aspects in the construction field.

The construction sector is a major employment driver, being the second largest employer in the country, next only to agriculture. This is because of the chain of

backward and forward linkages that the sector has with other sectors of the economy. About 250 ancillary industries such as cement, steel, brick, timber and other building materials are dependent on the construction industry. A unit increase in expenditure in this sector has a multiplier effect and the capacity to generate income as high as five times.

There can be many numbers of bases on which companies are classified as large, medium or small. But the popular basis includes the total number of employees and the organizational structure, the annual turnover and the nature and magnitude of projects undertaken.

In this thesis, we will be concentrating particularly on the small and medium size companies. For this purpose we have adopted the Government of India, Micro, Small and Medium Enterprises Act (MSMED Act) of 2006[1]. As per this act, the companies are classified as under :

Enterprises engaged in providing or rendering of services and whose investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006)[1].

TABLE I
CLASSIFICATION OF COMPANIES AS PER MSMED
ACT 2006

Size of enterprise	Investment in plant and machinery
Micro enterprise	Does not exceed 10 lakh
Small enterprise	10 lakh < Investment < 2 crore
Medium enterprise	2 crore < Investment < 5 crore

II. SCOPE AND OBJECTIVE OF THE STUDY

Competency based hiring methods have become a common practise in many sectors, as it provides an approach to the creation of a comprehensive set of standards, against which candidates suitable for the job can be screened and assessed [12].The thesis involves identification of standards to assess the candidate not only by the essential qualifications like technical and professional traits, but also harder-to-measure attributes that are vital for the success of performance on the job. Hence the main objective of the thesis work involves:

- To highlight on the relevance of Competency based hiring model in the Construction Sector.
- To understand and outline the competencies required for the selection of a site engineer.
- To create a selection index, based on the importance of competencies for site engineers.

III. COMPETENCY BASED HRM

According to Dr. Lyle .M. Spencer, a competency is an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation. Underlying characteristic means the competency is a fairly deep and enduring part of a person’s personality and can predict behavior in a wide variety of situations and job tasks. Casually related means that a competency causes or predicts behavior and performance. Criterion referenced means that the competency actually predicts who does something well or poorly, as measured on a specific criterion or standard. There are five types of

Competency Characteristics, namely: Motives, Traits, Self-concept (Attitudes, Values, Self-image), Knowledge and Skills.[15]

A. Categories of Competencies

Competencies can be classified into two categories. They are:

- Threshold Competencies
- Differentiating Competencies

Threshold Competencies: Essential characteristics that everyone in a job needs to qualify him to be minimally effective. (Usual knowledge or basic skills, such as the ability to read)

Differentiating Competencies: These traits distinguish the superior from the average performers.

IV. PROBLEM IDENTIFICATION

In the construction industry, the retention time of employees is very low; and the root of this problem is one that needs careful study and analysis. Main reasons include lack of monetary benefits, lack of proper training and misjudgment during hiring process as well as allocation of job, lack of appreciation from the company etc.

But probably the most important reason behind this maybe the lack of proper recruitment systems by the organizations itself. Hence, competency based models and approaches are becoming more and more popular. As emphasized in the abstract of the literature studied, it is becoming a necessity for organizations nowadays to follow this approach rather than the traditional approach, which are based only on technical capability.

The construction sector, being a labour intensive sector, demands for this type of approach to be adopted and implemented. The lack of wide spread implementation of this assessment approach should be addressed.

Large size companies have standard systems integrated in their HR departments that also include this type of approach. Hence, our focus will be to use these systems as a reference and extend the same as much as possible to the small and medium size companies.

V. RESEARCH METHODOLOGY

Interactions are carried out with various company officials employed at the level of Project Managers, Senior Engineers or even the Managing Directors or Chairmen of the small and medium size companies. Of the competencies listed down, factors are narrowed down to further to fewer competencies relevant to small and medium size companies. Again, this is to be done by interacting with various employees at the above mentioned levels of a construction organisation. The surveys are to be carried out by visiting few companies in person and directly interacting with the officials, if possible. The aim is to visit and collect information from at least fifty companies. For collecting the information, large scale companies in India are identified. The next step in the research involves preparing a questionnaire. This is circulated to the various identified companies via email as well as a hard copy. Response for the companies are collected and analysed through SPSS software and the results are interpreted. After analysing the results a standard is created in the selection process of small and medium scale industries and to be implemented.

VI. QUESTIONNAIRE DETAILS

All necessary and possible information regarding the project are to be collected by visiting the company directly and through online survey. The information includes selection procedures of the candidates. The data are to be collected through meetings, interviews and questionnaire with Human resource manager and owners.

For designing the questionnaire, as mentioned above, pilot surveys, interactions as well as rough drafts of questionnaires were used to zero down on the competencies that were most relevant to small and medium size companies. The following are the three categories of competencies that were chosen as most relevant. Under these three categories, different competencies which are looked for the most in prospective candidates are listed down with their brief definitions.

A. Technical Competencies

Technical competencies concentrate on the technical attributes that qualify a worker to do and think about

organising activities and to achieve deliverables/meet deadlines. For a labour to qualify for a job he/she must have certain technical knowledge about the job. It involves planning, executing, reporting, adapting to changes, estimation of materials etc.

B. Behavioral competencies

Behavioral competencies are vital for an employee as it is necessary for achieving the objective of the project. As an employee working with the team is necessary, and attributes like cooperation, effective communication, initiation, creativity etc are essential.

C. Contextual competencies

Contextual competencies establish a systematic course of action for oneself or others to ensure accomplishment of a specific objective. Determining priorities and allocating time and resources effectively is critical knowledge that a site engineer must possess while constructing. An employee must be able to apply his decision and manage the concept by programmes and the development of competence in programme management.

VII. FACTOR ANALYSIS

Using the SPSS software, factor analysis has been carried out for the different competencies listed down under each of the three categories. The responses to the modified questionnaires that were floated out online were received in the form of a spreadsheet. The analysis for the responses collected has been carried out purely using Microsoft Excel.

Using MS Excel, the relative importance index (RII) has been calculated for each of the competences based on the importance criterion specified. Only the competencies that fell under the category of "important" were chosen and RII calculated for each of them.

RII is calculated by using a simple formula, which is as shown below:

$$RII = \frac{\sum W}{A * N}$$
$$(0 \leq RII \leq 1)$$

Where; W = weightage given to each competency,
A = highest weightage that can be given (in this case 5),
N = total number of data points collected.

TABLE 2. RII AND RANKINGS OF TECHNICAL COMPETENCIES

Ranking	Competencies	RII
1	Project execution	0.8176
2	Estimating materials	0.7617
3	Define resources	0.7411
4	Changes	0.7235
5	Determine systems	0.7000

TABLE 3. RII AND RANKINGS OF BEHAVIORAL COMPETENCIES

Ranking	Competencies	RII
1	Ethics	0.7941
2	Teamwork Commitment	0.7764
3	Efficiency Communication	0.7382
4	Values diversity	0.7264
5	Judgment	0.7147
6	Skills	0.7029
7	Initiative	0.6970
8	Coaching	0.6852
9	Creativity	0.6708

TABLE 4. RII AND RANKINGS OF CONTEXTUAL COMPETENCIES.

Ranking	Competencies	RII
1	Project orientation	0.8029
2	Engineering project management	0.7735
3	Health, security and safety	0.7705
4	Self management	0.7617
5	Environmental management	0.7264
6	Systems and products	0.7205
7	Programme orientation PPP implementation	0.7117
8	Personnel management	0.7058

VIII. RESULTS

The results of the analysis have been discussed elaborately in this section. According to the responses given by the companies to our questionnaire, the results have been tabulated as follows. The indices have been ranked in the descending order of their importance, accurate up to 4 decimal places.

TABLE 5. RII AND RANKINGS OF TECHNICAL COMPETENCIES

Ranking	Competencies	RII
1	Project execution	0.8176
2	Estimating materials	0.7617
3	Define resources	0.7411
4	Changes	0.7235
5	Determine systems	0.7000

The RII calculated using the above mentioned formula revealed that among the technical competencies chosen, project execution is the most important with an index of 0.8176. This goes to show that for the post of a site engineer, the most important competency required is project execution skills.

Correlating this with the publication by Sanghi, S. [13], the indices obtained for the most important technical competencies show that in the global as well as the Indian context, project execution skills are one of the most sought after traits in prospective candidates.

Since responses to our questionnaires were filled out by the respective company officials themselves, this goes to show that there is a mutual acceptance on the importance of project execution skills as a competency in the global as well as Indian scenario.

TABLE 6. RII AND RANKINGS OF BEHAVIOURAL COMPETENCIES.

Ranking	Competencies	RII
1	Ethics	0.7941
2	Teamwork Commitment	0.7764
3	Efficiency Communication	0.7382
4	Values diversity	0.7264
5	Judgement	0.7147
6	Skills	0.7029
7	Initiative	0.6970
8	Coaching	0.6852
9	Creativity	0.6708

Going by the same logic, among the behavioural competencies, ethics has the highest RII of 0.7941. This goes to show that a site engineer in a construction

company needs to exhibit an in-built character that is ethical in nature, following all the possible work ethics like integrity, honesty etc.

Comparing this to the publication by V.Shahhosseinei and M.H.Seht [14], clearly there is a clash of opinions as to which behavioural competency is most important. In the Indian construction industry, going by the responses to our questionnaire, company officials feel that ethics play a very important role in deciding whether a prospective candidate should be hired for the site engineer position or not.

This difference of opinion can be explained by the fact that HRM practises in the Indian construction sector are still in the nascent stage. Not many companies have a well established HRM process in place, let alone the small and medium size organisations.

Thus, the company officials in the small and medium size organisations rely solely on experience and non-informed judgements to come to the decision as to whether a candidate is well suited for a particular post or not. Also, the reason behind choosing ethics as the most important competency for a site engineer lies in the fact that a lot of unethical practices go on in the construction industry in the Indian scenario. In our opinion, since the construction industry is the most labour-intensive industry after agriculture, team work will play a much more important role when compared to ethics.

TABLE 7. RII AND RANKINGS OF CONTEXTUAL COMPETENCIES.

Ranking	Competencies	RII
1	Project orientation	0.8029
2	Engineering project management	0.7735
3	Health, security and safety	0.7705
4	Self management	0.7617
5	Environmental management	0.7264
6	Systems and products	0.7205
7	Programme orientation PPP implementation	0.7117
8	Personnel management	0.7058

Among the contextual competencies listed down, project orientation shows the highest RII of 0.8029. It is clear from this analysis that companies look for this competency in particular in a prospective candidate. The logic for the results obtained in this case is similar to the logic involved with behavioural competencies. Referring to the results furnished by V.Shahhosseinei and M.H.Seht [14], among the contextual competencies health, security and safety are the most important. The responses given to our questionnaire don't agree with these results. This can be explained by the fact that in the Indian construction scenario, more often than not, achieving results and meeting deadlines is more important than establishing a sound health safety environment policy. Strictly speaking, a project should be given a green signal for its execution only when all the safety standards are in place and are verified by the appointed safety officer.

This can be explained again by the absence of a sound HRM based selection policy in small and medium size organisations. When a sound HRM policy is actually established and followed, these important competencies can be looked for in a prospective candidate during the hiring process itself, helping in screening out the candidates who do not exhibit these competencies.

IX. CONCLUSION

This project is likely to emphasize the importance of a sound HRM policy especially in a labour intensive industry like the construction industry. As mentioned before, the construction industry being the second highest contributor to the GDP of our country needs to follow HRM policies, especially during the hiring of fresh employees.

1. The primary opinion is that good and sound HRM policies are essential to a construction organisation.
2. Interpretation of the results will help to understand the factors of selection, through which a quality system can be drawn for the process of selection.
3. The model and indices that furnished in this report will help the officials in the small and medium size companies to enhance their hiring process by not relying on erratic and non-informed judgments.

4. Thus by implementing a quality system in selection process potential human resource can be managed in a progressive way.

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