

NEED FOR COMPETENCY MAPPING OF PROJECT MANAGERS IN INDIAN CONSTRUCTION SECTOR

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ABSTRACT

The current globalization and complexity of construction work, forces construction industry professionals to evaluate and adopt. The purpose of this study is to determine the skill requirements and competencies expected of project managers. This paper discusses the importance of finding out competencies of project managers in Indian construction sector and importance of mapping those competencies based on a desired level of performance. This paper defines different methods of mapping the competencies and also suggests the required skill set to perform project managers' job and competencies associated with it. The skills and competencies recommended are useful to any organization for providing trainings to existing project managers so as to improve their performance in their weak areas. Gap closure, thus achieved is useful for a person in not only improving his performance but further making him capable so as to accept higher responsibilities in the organization and contribute towards the attainment of the company's strategic objectives.

Keywords: Competency mapping, Project Manager, Skill set.

I INTRODUCTION

India is the second largest growing economy/ developing country in the world. As per the GDP of last few years, construction sector is playing vital role in Indian economy. Construction sector has been contributing to around 8% of India's GDP. There are almost 250 ancillary industries which depend upon construction sector, therefore minor increase in investments in this sector leads to multiplier effect in generating income up to five times more than earlier. It is the second largest employer in India next to agriculture.

Secondly due to diversity in India, construction sector also faces changes in work to some extent like type of houses, roads, dams, etc according to the requirements of people, type of land, locally available materials and most importantly environmental condition.

Large amount of work, huge investments in construction sector by government as well as private companies and diversity in work environment, all together emphasize great responsibilities to the person working at the higher level of management in construction industry.

Amongst the top management the project managers have responsibility of actual execution of project. They are involved in construction from pre design phase of work till completion of project. This initial involvement increases responsibilities on project managers. Now days, complexity of work and huge cost involvement increases the requirement of good management skills and technical knowledge of those who are involved in every phase of construction work. Traditionally the project managers are those who have experience of minimum 10-15 yrs of work in similar projects irrespective of technical educational background. But as per the current scenario and project complexity the person without technical background and experience of managing projects would not manage the project effectively. Due to the complexity of construction projects it is required to improve the knowledge and skill levels of existing project managers.

Growth of any construction company mainly depends on performance of project managers who manage the projects for the company. Hence it is required to find out the skill and competencies required for the project managers as per their job roles and responsibilities, which can further be useful to find out the gaps in required competencies based on the actual level of competencies. On bridging the gaps by appropriate training programs, the quality of work performance will be improved. Hence skills and competencies are useful to select appropriate persons for the post.

II LITERATURE REVIEW

David Arditi^[1] states that, women are as competent as men for holding project management positions in construction companies. The result of study suggested that, women scored significantly higher in three competencies: sensitivity, customer focus, authority and presence. In order to increase the number of women in the industry, one should improve the industry image, its working conditions, and working hours, rather than women's managerial abilities.

Ahadzie^[2] suggested that, the best predictors of the Project Managers' performances are: job knowledge in site layout techniques, dedication, job knowledge in technology, time management, and ability to solve conflicts, and approachability and voluntary acumen. The various statistical tests employed confirm the goodness of fit and validity of the model. The significance of the findings viz. Project Managers performance improvement in the management of the company has also been highlighted. The model has considerable potential for immediate implementation within the housing industry

Dr. Wira^[3]. Concluded that, to meet today's professional demand and to ensure their continued relevance in the industry, project managers must continually improve themselves, in both construction specific and non-construction competencies demanded of them in order to fulfill the requirements for the project.

Anderson^[4] proposes a process to address the impact of changing owner-contractor work relationships on capital projects. The process seeks to fulfill owners' need for a decision process to determine the most appropriate use,

strategically, of their resources in work relationships with contractors to successfully develop and execute capital projects. As the work process was developed and implemented in a practical situation, a clear set of benefits become apparent.

Yepes^[5] proposes a tool for analyzing and comparing graduate programs related to management and administration in the construction sector. Further research is recommended to enhance the proposed methodology and seek the best way to cover current needs of professionals and employers in the construction industry

Alroomi^[6] has addressed a growing concern about the loss of knowledge, skills, and experience of cost estimators. The study has found that most critical competencies are soft skills or knowledge, which is difficult to transfer.

III NEED FOR DEFINING AND MAPPING COMPETENCIES OF PROJECT MANAGERS IN INDIAN CONSTRUCTION SECTOR- FEW OTHER POINTS

- Diversity in Indian environment leads to change in requirements and types of construction work significantly. For example construction method applied in North region of India may not be applicable in south region.
- There is no such a standards defined for the performance evaluation of project managers though they play a very important role in execution and managing the projects.
- Globalization and complexity of construction projects requires improving the knowledge and skill levels of existing project managers.
- Selecting of new project managers should be as per the current requirements based on some defined scientific method which further can be helpful to access actual performance.
- Competency mapping contributes in enhancing the existing level of competencies which further leads to overall growth of company.
- Performance of project manager is directly proportional to the success or failure of project. As he is managing the project on behalf of company a little ignorance towards his work may lead the company the great loss in terms of money and reputation.
- A competent project manager can lead his team players towards vision and mission of company

IV COMPETENCY AND COMPETENCY MAPPING

Competency has been defined in number of ways by different researchers. There are various definitions with little difference in them. Competencies can be defined as areas of knowledge, skills and attributes, personal behavior of an individual that distinguish him from ordinary performer to excellent performers.^[7] The common elements most frequently mentioned are knowledge, skills, abilities, aptitudes, personal suitability, behavior, experience and impact on performance at work.

There are five types of competency characteristics.

- Knowledge- Information a person has in specific areas.
- Skill- The ability to perform physical or mental task
- Motives- The things a person consistently thinks about or wants and which causes action. Motives ‘drive, direct or select’ behavior towards certain actions or goals and away from others.
- Traits- Physical characteristics and consistent responses to situations or information.
- Self-concept -A person’s attitudes, values and self-image

Competency mapping is a very important tool which helps organization to identify and analyze competencies that are needed to perform job effectively. Every organization which would like to increase of productivity, quality, growth, stability, performance and finally the profit margin should pay attention to enhance competencies of employees by using competency mapping technique.

V VARIOUS METHODS OF MAPPING COMPETENCIES

1. Job Competence Assessment Method- This is developed using interviews and observations of outstanding and average performers to determine the competencies that differentiate between them in critical incidents.
2. Modified Job Competence Assessment Method- This also identifies such behavioral differences, but to reduce costs, interviewees provide a written account of critical incidents.
3. Generic Model Overlay Method- Organizations purchase an off-the-shelf generic competency model for a specific role or function.
4. Customized Generic Model Method- Organizations use a tentative list of competencies that are identified internally to aid in their selection of generic competencies.
5. Flexible Job Competency Model Method- This seeks to identify the competencies that will be required to perform effectively under different conditions in the future.
6. Systems Method- This demands reflecting on not only what exemplary performers do now, or what they do overall, but also behaviors that may be important in the future.
7. Accelerated Competency Systems Method- This places the focus on the competencies that specifically support the production of output, such as an organization’s products, services or information.^[7]

To perform the job effectively and efficiently by fulfilling all the expectations and responsibilities of company, a project manager requires various skills and competencies. Skill is the ability to do something excellent arising from talent, practice and training while competency is the capability to apply a set of related knowledge, skills, and abilities required to successfully perform tasks in a defined work practices.

A table below describes the skills and corresponding competencies to perform the project manager’s job effectively. The required skills have been found out from the roles and responsibilities of project manager and the major competencies referred here are taken from Lominger’s competency framework^[8] (67 defined competencies).

Table 1- Required skills and competencies associated

Sr. No.	Required skills	Suggested Competencies
1	Written communication	Written Communications, Informing
2	Oral communication	Command Skills, Informing
3	Presentation	Presentation Skills
4	Listening	Listening
5	Flexibility	Dealing With Ambiguity, Approachability
6	Leadership	Directing Others
7	Motivation	Motivating Others, Directing Others,
8	Team Player	Directing Others, Interpersonal Savvy, Motivating Others, Building Effective Teams, Command Skills
9	Negotiation	Negotiating, Conflict Management
10	Mediator	Boss Relationships, Managing Diversity
11	Stress management	Composure , Patience
12	Time management	Time Management
13	Decision making	Timely Decision Making
14	Understanding others	Peer Relationships, Understanding Others
15	Influencing others	Motivating Others
16	Creativity	Creativity
17	Adaptability	Learning on the Fly , Self-Development
18	Integrity	Ethics and Values, Integrity and Trust, Managing Vision and Purpose
19	Planning	Planning, Managing and Measuring Work
20	Analytical thinking	Decision Quality
21	Sensitivity	Approachability, Compassion
22	Goal setting	Perseverance, Drive For Results
23	Application of knowledge	Functional/Technical Skills
24	Understanding of work	Functional/Technical Skills
25	Risk analysis	Problem Solving, Perspective
26	Delegation of Authority	Delegation, Hiring and Staffing
27	Persistence	Ethics and Values
28	Judgment	Decision Quality
29	Cultural perception	Ethics and Values
30	Follow up	Managing and Measuring Work
31	Initiative	Action Oriented, Innovation Management

32	Flexibility	Dealing With Paradox
33	Quick Learner	Learning on the Fly
34	Courage	Managerial Courage

VI COMPETENCY MAPPING AS HUMAN RESOURCE TOOL- A CASE STUDY

The construction company represents a reputed, major contracting firm operating in not only Indian domestic market but also has a significant global presence.

Business area include

- Real Estate
- Infrastructure
- Complex industrial projects

As company policy all the senior staffs as well as the project managers are evaluated for their performance based on a 360 degree feedback mechanism every year. Each individual is thoroughly assessed for the generic (5 nos) as well as the functional competencies (15 nos) needed (Strategic competencies are evaluated only for selected percentage amongst the top level managerial staff).

40 managers and senior level staff as mentioned below were evaluated for their competencies (Experience of minimum 10 years to more than 25 years)

Sr. No.	Designation of employee	Number of employees participated
01	Manager (Projects)	04
02	Project managers	04
03	Deputy Project managers	08
04	Senior Engineers	04
05	Junior engineers	20
Total Number of employees participated		40

Except for Manager (projects) and the project managers, all the other human resources as mentioned above were categorized in two separate roles i.e. planning and execution

Generic competencies assessed include -

1. Presentation skills
2. Oral and Written communication skills
3. Understanding and implementing effectively from drawings
4. Management of time
5. E-awareness

Functional competencies were categorized in-

- a. Behavioral subheads
- b. Project management subheads

Behavioral subheads include following competencies-

1. Managerial skills
2. Leadership
3. Customer focus
4. Negotiation skills
5. Influencing skills

Project management subhead include-

1. Structural knowledge background
2. Estimation and quantity surveying
3. Contracts management
4. ISO standards management
5. Safety management
6. Cost management
7. Managerial skills
 - a. Assertive communication
 - b. Teamwork
8. Application of project management software
9. Application of design and estimation software
10. Application of ERP software

Each competency is benchmarked by the company on a 5 point scale based on 3 levels of attainment

1. Excellent – scale in 5 to 4.1
2. Good - scale in 4 to 3.1
3. Average – scale in 3 to 2.5

A score less than 2.5 are considered to be an indication of non existence of any required competency. For every competency the benchmarked meaning, at each level of expected performance is drafted and re-drafted based on conducting competency assessment workshop on a regular basis, directed by Human resource manager. These results are available as a confidential document but to be used within the company for their employees. Re-drafting is necessary to take care of dynamic fluctuating business environment scenario

Before evaluating the human resource for his performance the required level of competency for a particular role is informed. For example, project manager must get score of min 3.5 with respect to assertive communication and must get score of 4.5 with respect to influencing skills. Senior site engineer must get score of 3.5 for structural knowledge background and must get score of 4.5 for safety management, so on so forth. Actual level of performance is measured, based on average score through a 360 degree feedback mechanism including the following

1. Rating from the different superiors
2. Rating from the different peers
3. Rating from the different sub ordinates
4. Rating from other stakeholders involved

Based on this; the gaps in each competency are determined

$$\text{Competency Gap} = \text{Expected Level} - \text{Actual level}$$

Though the above criterion gives an objective assessment, subjectivity never the less exists and hence a gap of 0.5 on a scale of 5 is generally neglected. A gap higher then this value is required to be closed by the human resource. A time frame varying from minimum six months, to maximum two years is considered reasonable for the gap closure, under normal circumstances. In case of accelerated level of performance which is sometimes demanded, particularly for the projects being executed on a fast track, the time frame given is reduced.

The gaps are closed by the company policy based on adopting permutation combination of the following methods-

1. Self initiative and self learning drive,
2. Deputation for executive development programs (EDP) organized at National and International levels,
3. Competency training during in house programs organized by company itself,
4. On job/ on site trainings.

During the 360 degree appraisal conducted consequently, following considerations are made by the company officials-

- A. For those persons who do not show significant improvements even after the Human Resource Developmental Program, a role change exercise is attempted based on the individuals other strengths.
- B. For those persons who shows significant improvements, as well as for those who exhibit negative gaps, their potential for higher posts is further considered. In such cases, for the higher posts, the benchmark performance expected for particular competencies may increase, that is gap may reopen subsequently.

Out of the 40 human resources mapped for their actual competencies it was found that, 30 managerial staff had competency gaps ranging in between 0.5 to 2, during initial assessment. Project executed by these competent people

demonstrated an average time growth (25%), cost growth (10%) and significant construction disputes. (The time-cost effect, of which is not considered in the above study, since it is beyond the present scope)

VII CONCLUSION

The findings presented highlight the importance of conducting competency assessment in a scientific manner, through the experienced and expert staff may exist with the organizations.

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