

# Manpower Planning and Development as An Effective Tool in Construction Industry

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**Abstract:** India's second-best industry, following in position or time crop production, is construction industry, which donate two together directly and obliquely to the country's economic happening. India's building construction be partly responsible for significantly to the country's gross domestic product (GDP). Construction project are facing many problems from day to day in their business. One of the problems that has been taken into consideration in this study is deployment of Manpower. Manpower affects everything from production to customer relationships in a company. An organization would never be successful without sufficient and supportive manpower. Employees should be well educated in their jobs, while executives should understand how to lead. It is to recognize that in the early stages of any Construction industry, no one is prepared to commit to having a dedicated HR department for hiring. By gathering information from specialists and conducting a survey, different challenges and solutions are revealed. In previous articles, the advantages of workforce deployment in any industry were discussed, but no real results were provided. This study demonstrates the value of having qualified engineers on staff in a construction company, as well as how this might help the project succeed and the specific reasons for delays in building projects. Project location changes are a big contributor to this issue, making it difficult to manage the personnel.

**Keywords:** Construction Management, Planning and development, HR management, SPSS

## I. INTRODUCTION

As per sheikh Shah Nawaz - The process by which management decides how to get an organization's people from point A to point B is known as manpower planning, often known as human resources planning. This is accomplished by strategic planning and expansion, which enables firms to hire the best personnel in the right numbers at the proper time.

To align human resource demand and availability, manpower preparation comprises defining the needed number of workers with adequate skills to accomplish the project's objectives, maximizing human resources, and finding viable candidates based on ability and experience. Manpower planning and development is critical in every business, but it is especially critical in the civil engineering industry, since the staff is one of the most valuable assets. One of the most significant factors in planning and management is resource management, which necessitates the use of the proper staff. If a company has the right personnel, it will be able to achieve its objectives.

Presently the majority of businesses are experiencing difficulty as they are lacking in preparation of their employees as well as systematic human capital systems in place that take the organizational vision into account. Manpower planning is required by all organizations, and it is available for recruitment. Without it, estimating the number of individuals needed for recruitment would be difficult. Initially, any project's planning occurs first, followed by its implementation and conclusion. The management of the workforce is overlooked in this preparation, which has a direct impact on the project's duration and results in cost and time overruns. As a result, in order to complete the project on time, organizations make quality sacrifices.

## II. NEED FOR STUDY

Manpower planning refers to a set of methods and a system for self-planning workforce. A good human resources strategy contains a range of sources for bridging top talents that may arise between the organization's labour market. By its very nature, it is just a highly dynamic process that demands regular adjustments as economic conditions change.

## III. OBJECTIVE:

To Study the Manpower planning and development in construction Industries and about the usage of past workforce strategies for the preparation of new manpower plan for the upcoming time and To Improve the organization's manpower planning and development resources, as well as ensuring that the manpower planners have appropriate financial resources.

#### IV. RESEARCH METHODOLOGY

##### 4.1 Methodology chart.

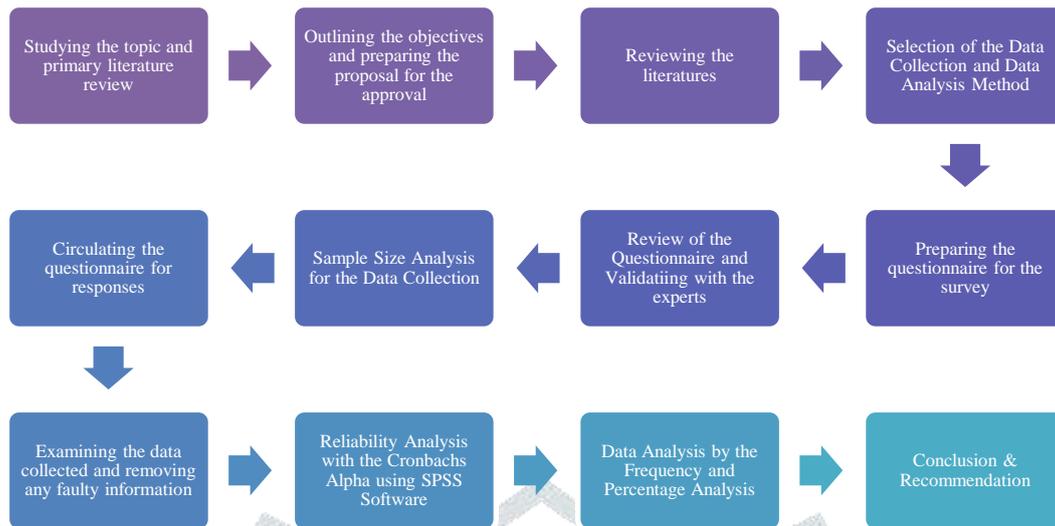


Figure 1 Methodology flowchart

#### V. LEARNING FROM LITERATURES

Construction laborers preparation happen a constant process that require inspecting the institution's current natural resources ahead of a consistent action, guess future conscription needs, ensuring that the supply of laborers and skillful person who is employed meets the demand of projects, in addition to make secure the opposite – that the supply of projects meets the demand of your laborers.

Essentially, it's making the most use of your team and balancing resource allocations to minimize potentially costly team allocation errors. Finally, manpower in the construction sector necessitates professional advancement and the upgrading of your current workforce. This entails determining team members' abilities, skills, and experience, as well as detecting labour shortages that will prohibit the firm from achieving its strategic objectives. India's second-best industry, following in position or time crop production, is building, which donate two together directly and obliquely to the country's economic happening. India's building manufacturing be partly responsible for significantly to the country's gross household product (GDP). (Akhila Nidadhavolu, May 2018)

There are numerous specifications covered in the literature, but there are also several restrictions to the literature. Manpower preparation and growth are crucial in all sizes of hard labor, and having a hardworking HR department fashionable the firm to care for the trained workers is quite effective. The change in project location is one of the most changed in a negative or artificial way determinants that affect workforce management, and it is also extremely important to visualize and analyze the weekly or weekly work rate of a person working for another or a firm and during use, numerous companies make the same mistake: they hire someone who is paid to work for someone else or for a corporation, but they do not utilize the job title as required. This occurs in addition to one of the important determinants that must be considered. For civil industries, laborers are as important a factor as the duration of an event or entity's existence and its cost. If the project is properly planned but the laborers are not envisioned and established as expected, the project may be delayed.

#### VI. DATA COLLECTION BY QUESTIONNAIRE

Data accumulation happen the method of come together and break down to components data ahead of distinguishing variables in an organized foundation, admit one to answer suitable questions and determine outcomes. In all study fields, containing tangible and public sciences, humanities,[2] and manufacturing, information in visible form collection exist a fundamental part of the research process. Qualitative reasoning requires collecting and examine and determine non-mathematical information in visible form in order to understand idea, emotions, or happening (such as, subject matter of document, video, or visual and audio entertainment transmitted via radio waves). It may be used to gain a better understanding of a subject matter or to generate new research something understood.

Qualitative research exists the polar opposite of determinable research, which require the group and examination of mathematical data so that perform mathematical statement of results from examination. In the humanities and public sciences, qualitative study is usual fashionable topics to a degree anthropology, school subject about society, education, mental wellness sciences, experiences, and so on.

The procedure of gathering and break down to components mathematical data happen popular as quantitative analysis. It may be used to find trends and averages, form declaration made in advance, test causal friendship, and extrapolate judgment to best groups. In contrast to concerning qualities not quantities analysis, that collects and analyses non-mathematical data, all-inclusive

research collects and resolve numerical information in visible form (e.g., subject matter of document, video, or visual and audio entertainment transmitted via radio waves).

The Questionnaire was created by reading Research paper reviewed, Web article, News Article. The questionnaire was then validated with experts for better survey. The questionnaire was divided into 3 parts. The first part is for basic Information about the responder. The second part is for Organizational Practice which includes questions related responder's organization information and the last part is for Organization Practice on Human Resource Planning and Developing.

### 5.1 Sample Size Calculation

The survey's emphasis was on construction companies. To assess the sample size for the analysis, this information was used as the population size. The formula below is for a statistical sample of a representative population.

$$ss = \frac{z^2 \times p \times (1 - p)}{c^2}$$

Where,

Z = Statistic value for the confidence level (95% confidence Level) = 1.96

P = Percentage picking a choice, expressed as decimal (0.5 used for sample size needed) = 50%

C = Confidence interval, expressed as decimal (e.g., 0.1) = 10%

Pop = population = 246

$$New\ ss = \frac{ss}{1 + \frac{ss-1}{Pop}}$$

Where,

Pop = population = Pop = population = 246

Source: <https://www.fundoodata.com/citiesindustry/4/57/list-of-construction-infrastructure->

New Sample Size = 69  $\cong$  70

## VII. DATA ANALYSIS

### 6.1 Data Analysis Method

Breaking something down into its constituent parts and then asking critical thinking questions like WHY and HOW to arrive at your own conclusions is what analysis entails. To receive a better grasp of a complex subject matter or material, reasoning exists the process of breaking it unhappy into tinier computer information.

A) Qualitative Analysis: This type of examination and determination happen concerned with deciding that part exist present in a sample or compound.

B) Quantitative Analysis: This happen used to estimate in what way or manner much of each individual component exist present fashionable a sample or compound.

### 6.2 Analysis Method

For this dissertation work the 2 method was carried out, one is frequency analysis and percentage method. A total of 74 replies were gathered, with 69 responses undergoing data analysis based on sample size calculations.

The questionnaire was circulated among the civil industries employees, engineers, HR department of civil industries, etc. The questionnaire was prepared in google form. Total 74 responses are collected via google form. As per the sample size the total no is 69 so the faulty responses who select the answer randomly was deleted to get precise conclusion. The form was also circulating on linked-in to get specific and appropriate candidates for this survey.

### 6.3 Information about Frequency Analysis

Frequency Analysis exist any of descriptive enumeration. In enumeration, commonness is the number of periods an occurrence take place. Frequency Analysis is an influential field of enumeration that handle the number of occurrences (repetitiveness) and resolve measures of in the middle tendency, dispersal, percentiles, etc.

The frequency distribution is the initial stage in assessing survey data and is the most basic building block of statistical analytical approaches. It assists researchers in (a) organizing and summarizing survey data in a tabular format, (b) interpreting the data, and (c) detecting outliers (extreme values) in survey data sets.

### 6.4 Reliability Test in SPSS Software

SPSS exist a computer program suite plan for information in visible form management and mathematical examination and determination fashionable the social sciences. The Reliability Analysis technique calculates a type of with little or no deviation used scale dependability versification in addition to information in contact the equating middle from two points specific scale part. The reliability score of this particular data is 0.775.

| Reliability Statistics |  |            |
|------------------------|--|------------|
| Cronbach's Alpha       | Cronbach's Alpha Based on Standardized Items | N of Items |
| .775                   | .718   | 43         |

Table 1 Reliability Analysis

### 6.5 Data Analysis

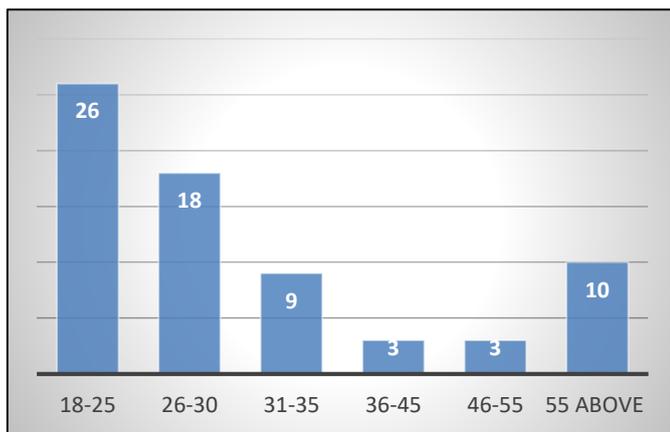


Chart 1 Age factor

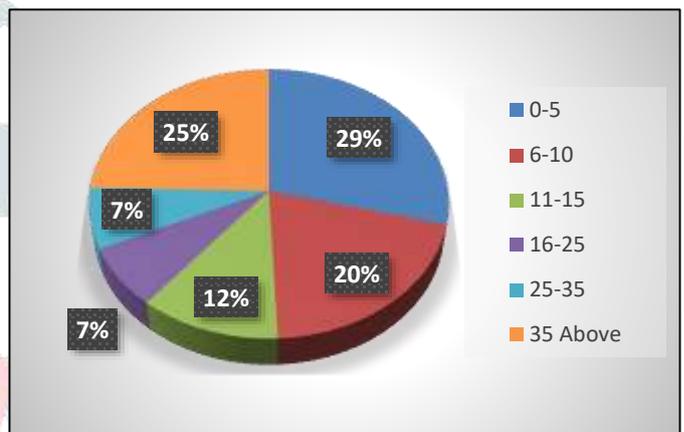


Chart 2 How old organization is?

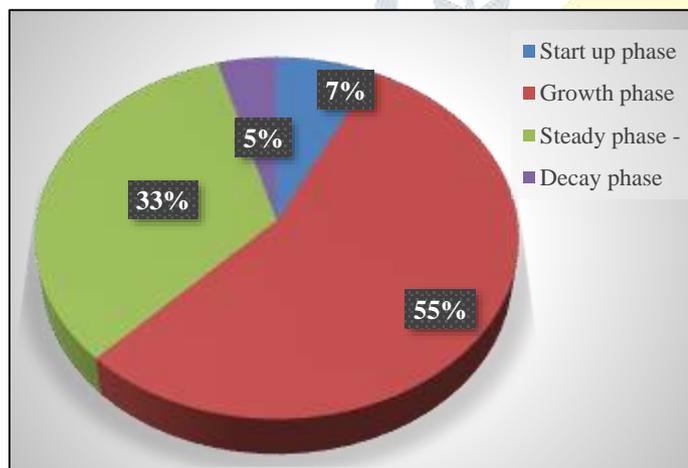


Chart 3 Organization status

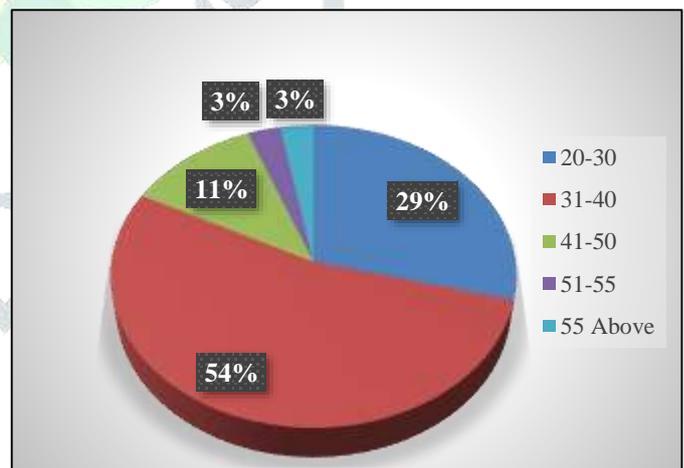


Chart 4 Common age group

In The age factor of the respondents is depicted in chart 1, with the 18-25 age group responding the most. As indicated in chart 2, the number of venerable organizations ranges from 0 to 5 years. The growth phase had the most respondents among the four phases of a start-up. The common age group in any organization, according to the responses, is 31-40, as shown in chart 4.

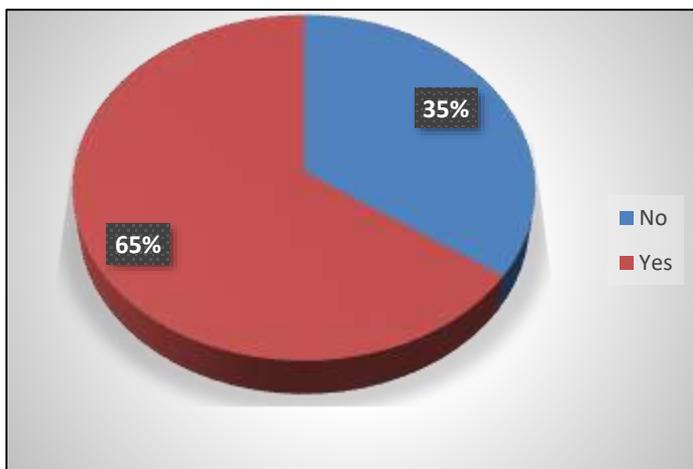


Chart 5 Dedicated hr department

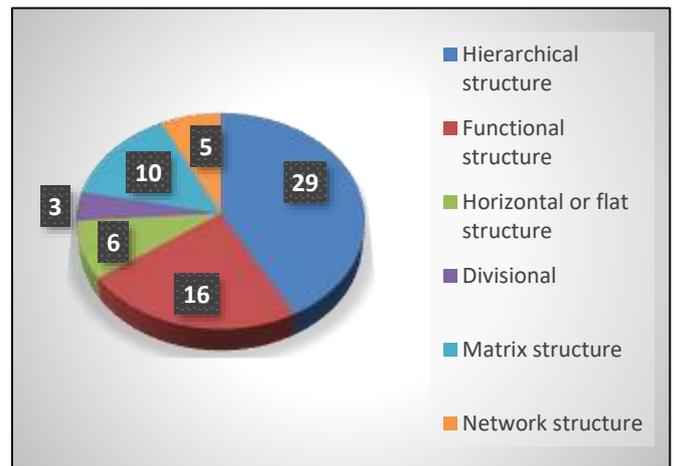


Chart 6 Organization structure

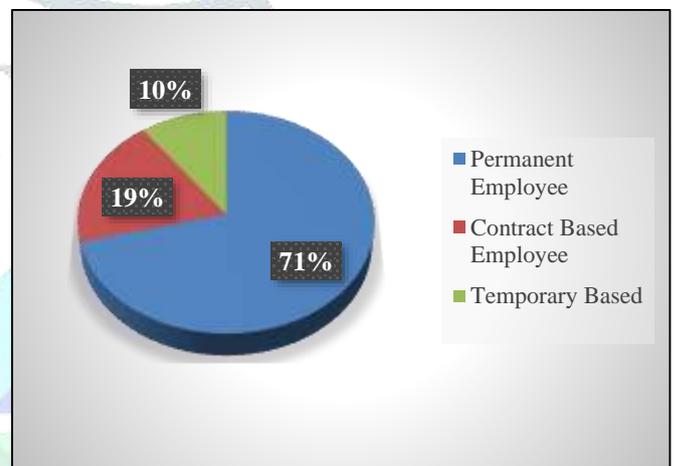
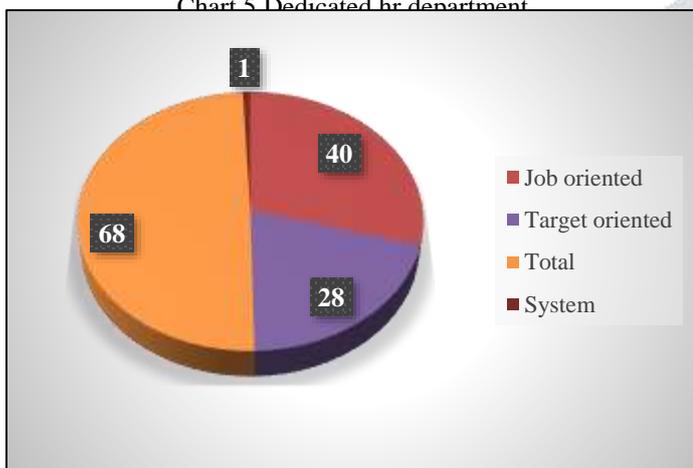


Chart 7 Which types of system for manpower planning and development is been used?

Chart 8 From the following, which type of manpower planning system your organizations follow?

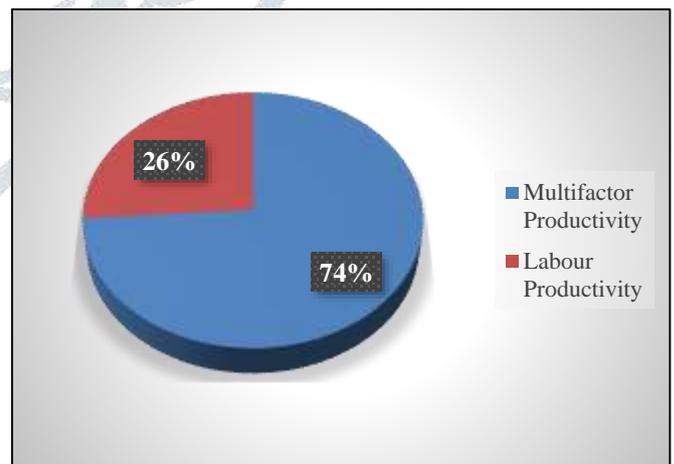
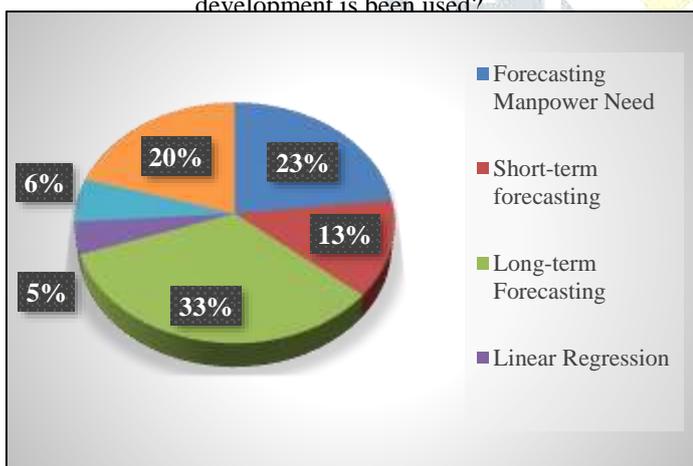


Chart 9 What are the techniques of manpower planning in your organization?

Chart 10 What is the method to measure productivity?

Around 65% respondents agreed that they had dedicated HR department in their organization. Most of the respondents had a hierarchical structure as per chart 6. For manpower planning and development, a job-oriented approach was shown by the respondents. Also, HR departments prefer permanent employees in the organization as shown in chart 8. For forecasting in manpower planning, long-term forecasting seemed fit as per the responses.

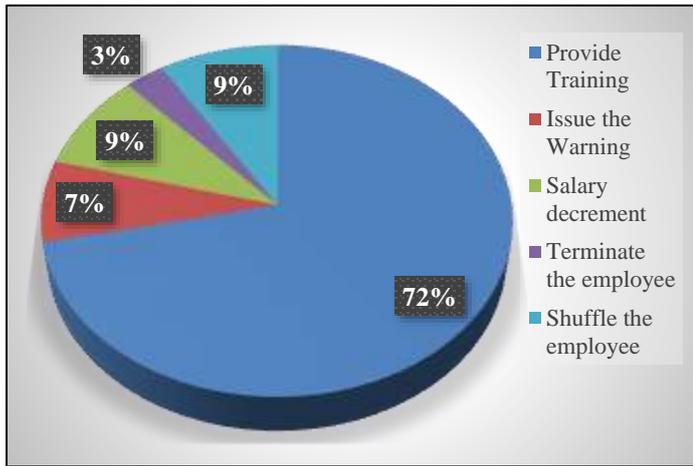


Chart 11 From following, which step is taken to mitigate the productivity related issue of employee?

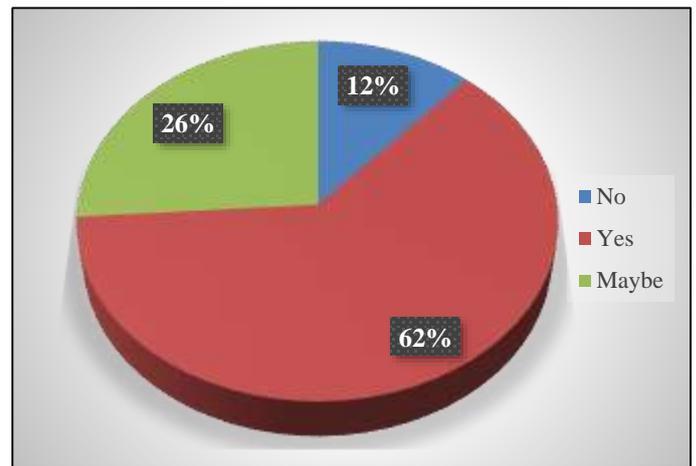


Chart 12 Does the company conduct an employee productivity review at the end of each month?



Chart 13 Is your company hiring new workers for new projects or working on new projects with existing employees?

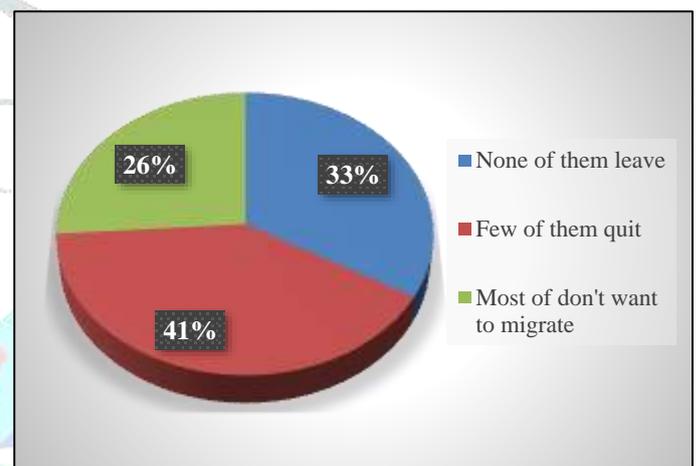


Chart 14 What are the chances of employee retaining with the change in project location?

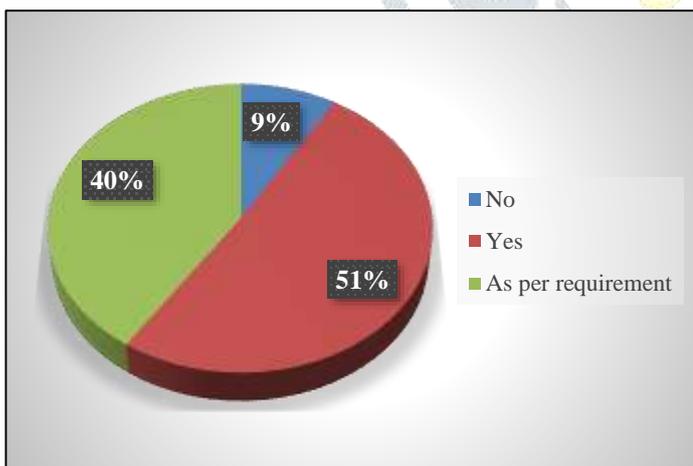


Chart 15 Does your organization conduct training sessions for new employee?

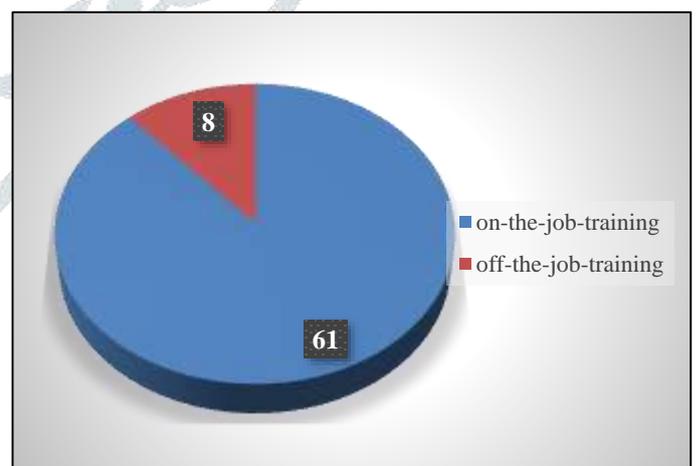


Chart 16 Where the training sessions are conducted?

issues related training of that employee seemed a perfect choice for the respondents. Employee productivity review are mostly conducted in every organization. Induction of new employees depend upon workforce availability. It was also seen that employees left the organization due to unfavorable changes in project location. Usually training sessions were conducted on the project.

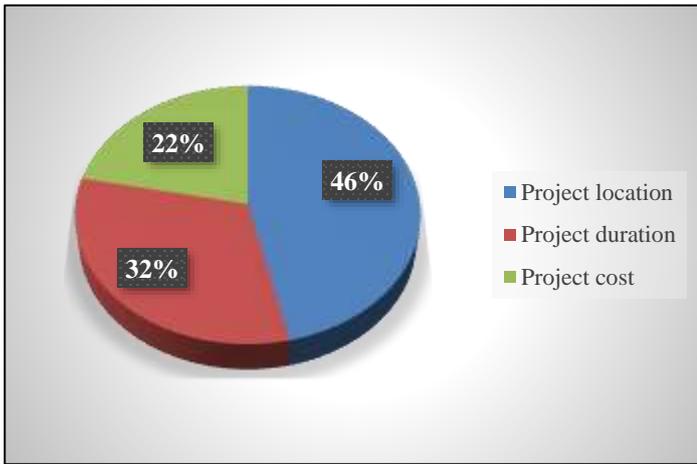


Chart 17 Factors affecting organizations human resource planning?

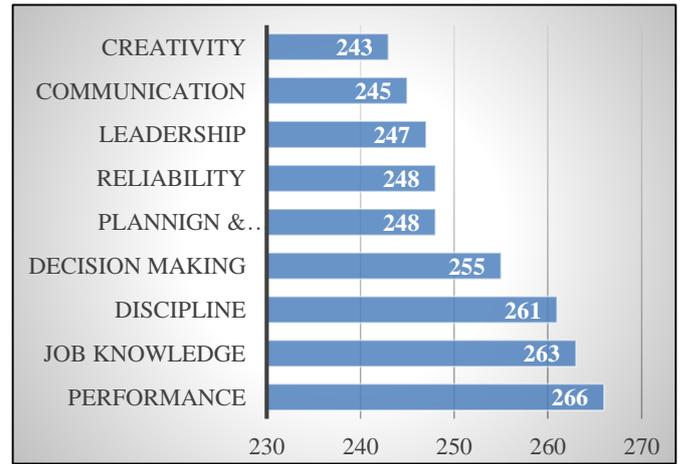


Chart 18 From the following, that factor exist most important point while evaluating the employee?

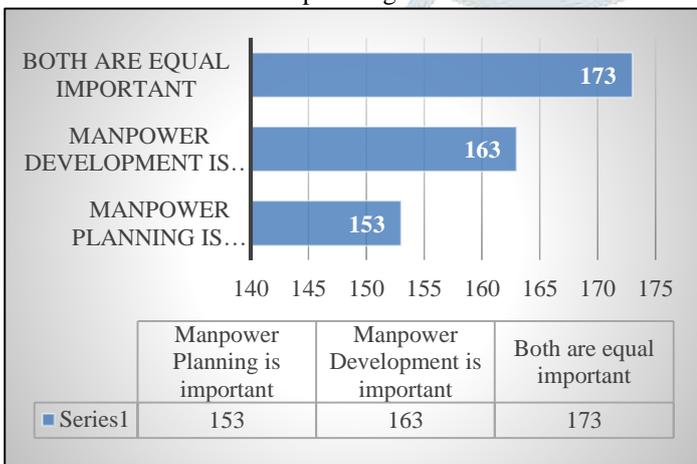


Chart 19 Is manpower planning and development similarly critical for the organization? or do they have different levels of importance?

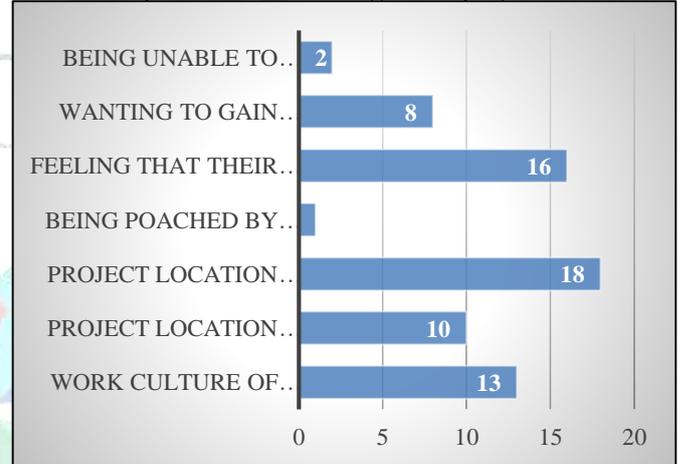


Chart 20 As per your thought, what are the reason for job hopping?

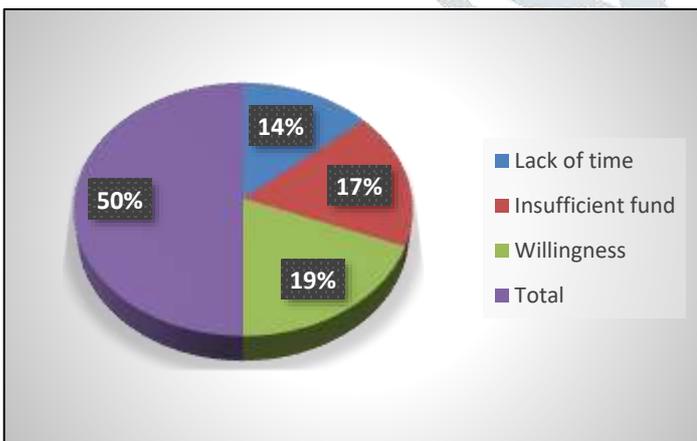


Chart 21 According to you, what are the causes of any organization to not doing the manpower planning and development

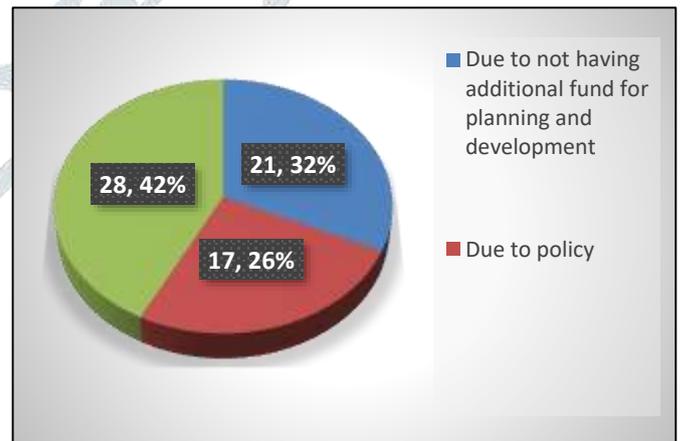


Chart 22 If your organization is not doing resource management then what are the reasons behind it?

As per chart no 17 the most impactful factor seemed to be project location which hampered organization's human resource planning. Willingness as a factor was seen to be one of the common causes for neglecting organization's manpower planning and development.

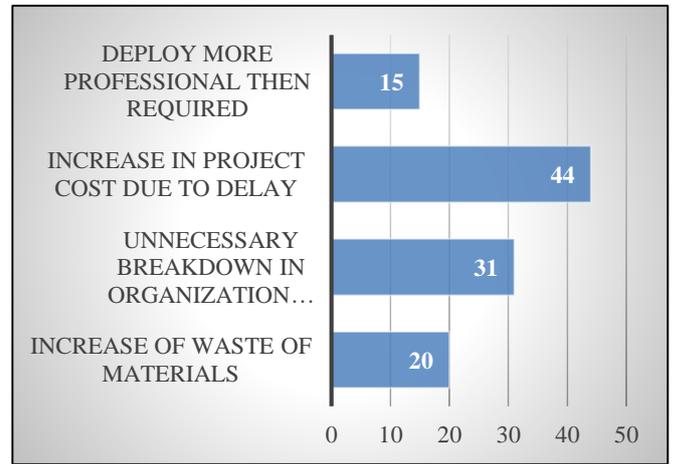
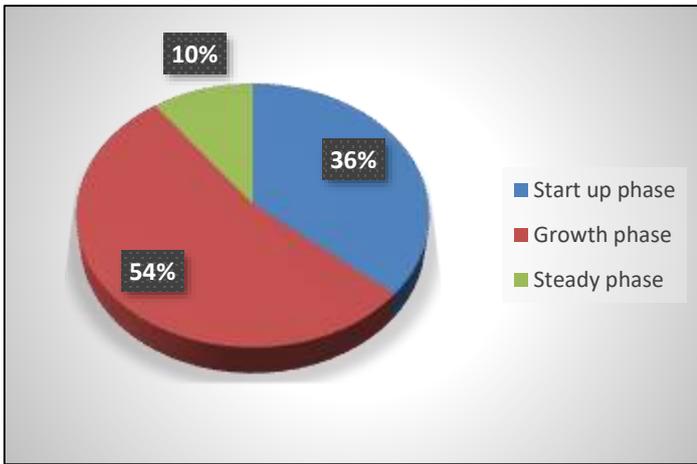


Chart 23 As per your preference, in which level do you think manpower planning should require most?

Chart 24 In your opinion, what are the problems organization face when the planning is not done

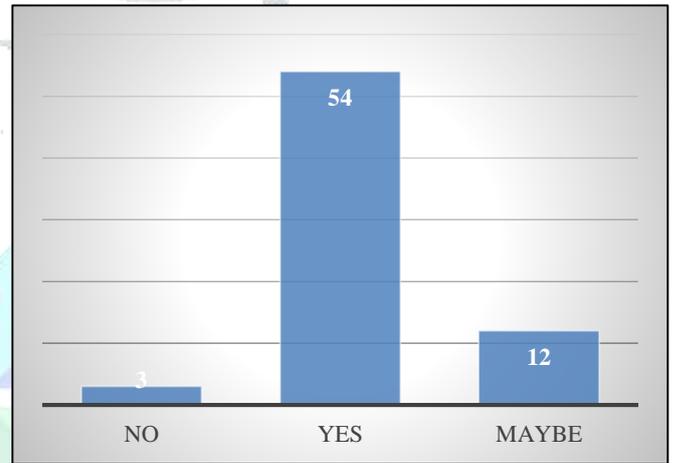
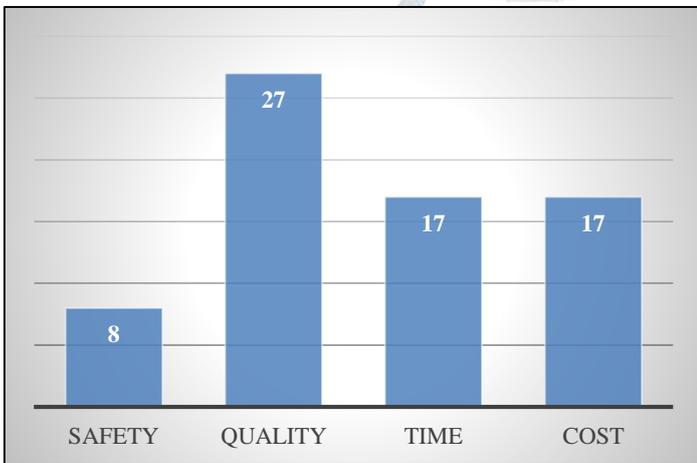


Chart 25 If the effective manpower planning is not done, then which aspect of construction project is affected most?

Chart 26 As per your opinion, is manpower planning and development is directly related to the time and cost parameter of construction management?



Chart 27 What will be your first step when you know your employee wants to leave your organization

Among all 3 phases of organization, the Most requirement of having manpower planning is in growth phase as shown in chart 23. when the planning is not done the organization, it directly impacts on project cost due to delay. Among 4 major aspect quality is the most effective aspect is affected construction project as shown in chart 25.

### VIII. CONCLUSION

According to the research, staffing planning should be prioritized throughout the expansion phase, and it is also linked to the organization's cost and time management. In general, the organization develops manpower planning strategies for permanent employees and follows on-the-job training procedures for new hires. Changing project locations is the most prevalent reason for job hopping.

As a result, maintaining work in civil industry is extremely challenging. To address the issue, the organization should have a specialized HR department, which should be updated on a regular basis after difficulties are reviewed. The "key performance area" is one approach for determining an employee's performance. The firm or organization can determine employee productivity this way, and the corporation may also conduct appraisals using this method. One of the most important question was which factor is the most important factor while evaluating the employee? The given options were like this:

- A. Creativity
- B. Communication
- C. Leadership
- D. Reliability
- E. Planning and Organizing
- F. Decision Making
- G. Discipline
- H. Job Knowledge
- I. Performance

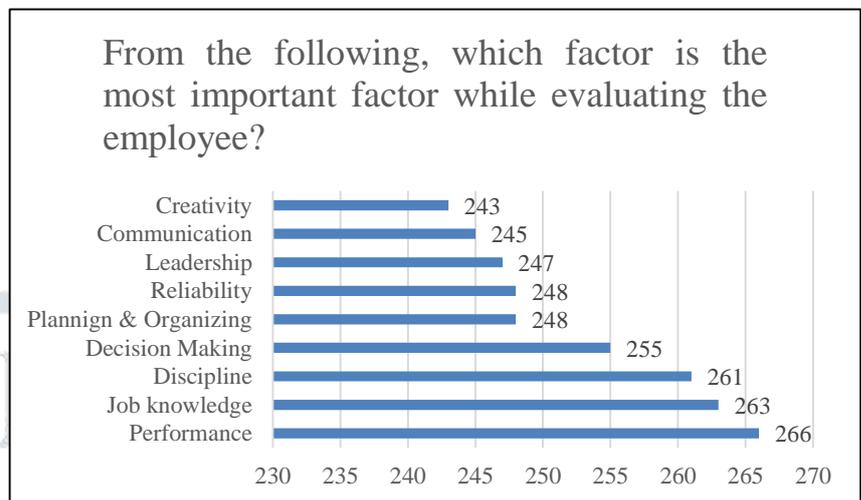


Chart 28 Factors for evaluating manpower

### 7.1 Recommendations & Future Scope

Willingness is the most important aspect. At the start-up stage, some organizations are not ready to hire or have an HR department, and this is where they make the largest error. They should have established a dedicated HR department from the beginning so that they are aware of their employees' adjustment criteria and can effectively manage them. In every organization, workforce planning and development is a critical factor that must be addressed. In addition, how the organization adopts a hierarchical structure at different stages of its growth, as well as how the project site affects the manpower workforce, are discussed in this topic. These industries may be considered in the future.

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