An Approach towards Migration Analysis of Construction Employees

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Abstract –*Construction industry is a complex industry known for its heterogeneous work structure. Due to this work structure it is difficult to meet new challenges and deadlines. Hence, migration rates are heavy in construction industry. Objective of the research work is to find out main reasons behind migration of employees in Indian construction industry. To achieve this objective ten factors responsible for employee migration were identified after going through various journals. Pilot survey was conducted with senior employees of the construction industry to verify these ten reasons for an employee migration. With these reasons a questionnaire was prepared. This questionnaire was distributed to 107 employees working for four major construction companies at the regions of Telangana and Sikkim. Out of 107 samples distributed 100 questionnaire samples were received back. Since data collected was skew in nature, parametric tests were done using SPSS.*

Key Words: Indian construction industry, migration, pilot survey, questionnaire, SPSS, etc.

1. INTRODUCTION

Attrition rate of employees in construction industry results in loss of productivity, profit, time, resources, etc. Since construction industry gives first priority to projects success, people involved in such a success are often neglected. This results in lack of motivation enabling an employee to migrate. Hence to regulate mobility culture in the construction industry certain crucial steps needs to be taken. As per preliminary studies are concerned it was observed that most of the research work was carried out abroad which concludes its expansive study in India. So, basic objective of the research work is to find out main reasons behind migration of employees in the construction industry. Since this research work is a small initiative towards finding out reasons behind migration of employees in Indian construction industry, two states of it were selected i.e. Telangana (Hyderabad) and Sikkim (Chungthang). Totally 10 reasons behind migration of employees were identified after going through references. These reasons were cross verified in a pilot survey. Using these reasons a questionnaire form was generated in two parts. Part A contained personal details (Gender, Designation, Marital status, Monthly earnings and Work experience) to be filled by the employees, Part B contained 10 reasons for migration which were arranged on a five pointed Likert-Scale. A five point Likert scale contains ratings from 1 to 5. Here, 1 means very low, 2

means low, 3 means moderate, 4 means high and 5 means very high. Questionnaires were distributed among 107 employees working at four major construction companies of Telangana and Sikkim. Out of 107, 100 questionnaire forms were received back. Hence, these 100 forms were used for research purpose using SPSS (Statistical Package for Social Sciences). Reasons behind migration of employees in a construction industry are listed below with their codes:

- Overtime work at the organization- RM 1
- Less salary paid by the organization- RM 2
- Stress due to extra work- RM 3
- Innovative thinking is not encouraged- RM 4
- Lack of cooperation from seniors- RM 5
- Lack of healthcare facilities- RM 6
- Promotion is based on experience but not talent- RM 7
- Family relocation issues- RM 8
- Distance from place of stay- RM 9
- No work recognition- RM 10

Here, RM means Reason for Migration. Using these reasons further research is done.

1.1 Data Analysis of Personal Parameters

Personal parameters like Gender, Designation, Marital status, Monthly earnings and Work experience are analysed using Pie charts and descriptive statistics.
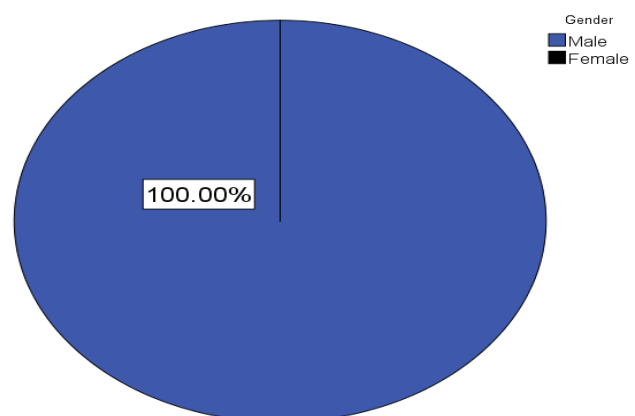

Fig -1: Pie chart of Gender

From figure 1 it is clearly visible that male employees are leading the pie chart over female counterparts. So, out of 100 employees there were zero female employees. This states dominance of male employees in construction industry. After collection of questionnaires, employees were categorized

under following designations: Managers, Senior Engineers, Engineers, Supervisors and Surveyors. As per these designations are concerned, it is clearly visible from figure 2 that out of 100 employees, 59 % of employees are Engineers constituting majority among other designations. It is followed up by Managers and Senior engineers constituting 14%. Surveyors make 7% of 100 employees while the least count is carried by Supervisors with 6%.
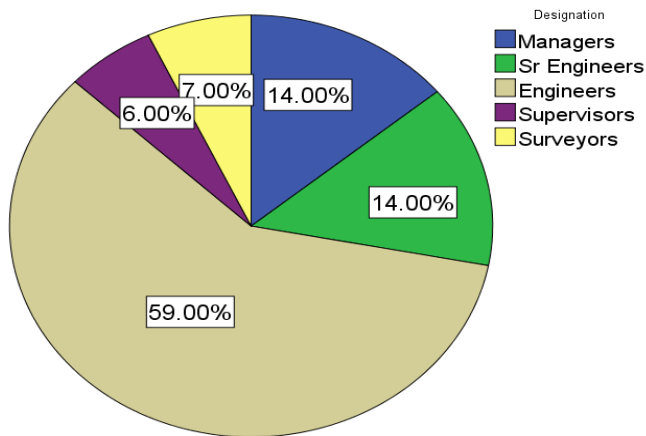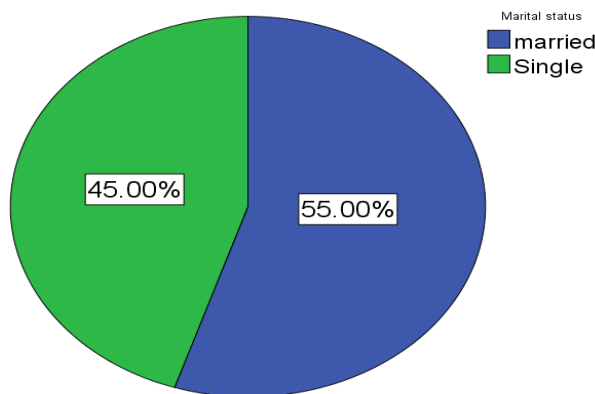

Fig -2: Pie chart of Designation

Fig -3: Pie chart of Marital status

Figure 3 indicates marital status statistics of 100 employees. It is observed that 55 % of employees are married while remaining 45 % of employees are unmarried/single.

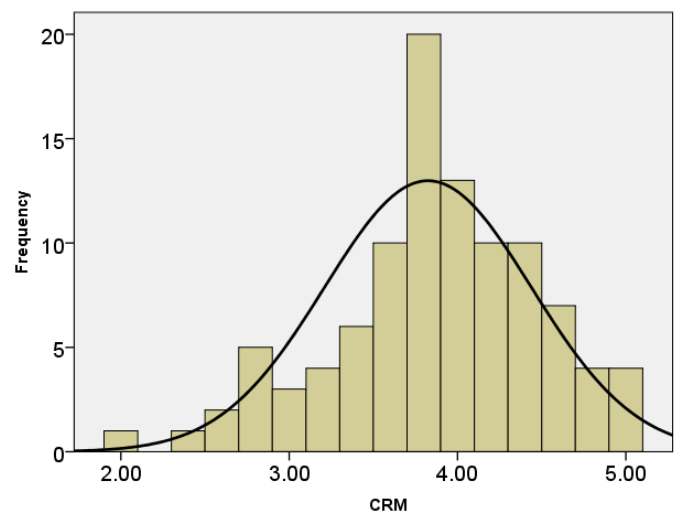**Table- 1:** Descriptive statistics of Salary and Experience

Category	Min.	Max.	Avg.
Salary (Rs/month)	10000	320000	30922
Experience (Yrs)	0.2	32	9.05

Table 1 highlights Salary and Experience details of employees. As per salary is concerned the minimum salary drawn by an employee is 10000 which extends till 320000. Experience of employees vary from 2 months to 32 years averaging around 9 years of industrial experience. Further tests can be carried out only after checking normality of the

data collected. For this purpose K-S normality test is preferred. Before this Analysis, all the responses of 10 reasons for migration is averaged and it is renamed as CRM (Common Reason for Migration). K-S normality concept is based on a null hypothesis that there is no difference between distribution of test variable i.e. CRM and normal distribution. Significance Value given in table 2 is 0.015 which is less than 0.05. It indicates that the null hypothesis assumed is rejected and the data collected is skew in nature despite graph 1 showing normality of the data which is obtained by comparing CRM with frequency of an employee response towards Likert scale ratings.

Table -2: Kolmogorov – Smirnov test

K-S Factor	Sig.
ARM	0.015

Graph -1: Normal distribution curve of ARM

Hence on the basis of K-S test result it is concluded to use parametric tests. Parametric tests are preferred when the data collected is skew in nature. If the data was normally distributed then Non-Parametric tests would have been preferred. Data so obtained was skew in nature because the obtained response from 100 employees were in clash. Since 59 % of employees are engineers with less experience compared to other designations, their opinions on reason for migration diverged.

ANOVA (Analysis of Variance) and Independent sample-t-test are two major parametric tests performed to identify the effect of personal parameters on 10 Reasons for Migration. In order to know main reasons behind an employee migration it is important to look for personal factors behind them. In alliance with parametric tests, a simple descriptive model is used to calculate main reasons for migration via mean calculations. It is to be noticed that simply calculation of mean doesn't fulfill research objectives. Since personal factors are guiding parameters to decide whether an employee is going to migrate or not, it is mandatory to

compare CRM with parametric parameters. Finally, Descriptive model for means and CRM both must be taken into account for research fulfilments.

2. COMPARISON OF PERSONAL PARAMETERS WITH REASONS FOR MIGRATION

From table 3 it is observed that all the 10 reasons are having mean greater than 3 out of 5 on Likert scale. It clarifies the importance of all the factors selected for questionnaire. But out of all these RM 2 (less salary paid by the organization) tops the list with a mean of 4.35. From table 1, on an average an employee bags over 30000 INR/Month which is quite contrary to the mean value obtained. Since it is interesting to notice that out of 100 employees, only 1 employee who is a designated as a Manager of a reputed company working in Sikkim (Chungthang) draws a salary of 320000 INR/Month. Hence it is only due to this salary the average package is exceeding 30000 INR/Month.

RM 3 (Stress due to extra work) follows RM 2 with a mean of 4.10. Out of 10 RM's least mean is for RM 6 (lack of healthcare facilities). This concludes that employees gave least importance to healthcare facilities.

Table -3: Means of Reasons for Migration

Reasons for Migration (RM's)	Mean
RM 1	4.09
RM 2	4.35
RM 3	4.10
RM 4	3.69
RM 5	3.56
RM 6	3.06
RM 7	3.61
RM 8	3.88
RM 9	3.95
RM 10	3.95

For ANOVA and for Independent Sample-t-test Designations, Gender, Marital status of employees are considered as important personal parameters. Since, monthly salary is already a major reason for migration, it is excluded from comparison. Experience in the industry is a numeric expression, so it is not used for parametric analysis.

3. COMPARISON OF DESIGNATION WITH "CRM"

In this analysis firstly designations of all 100 employees are compared with CRM. From table 4 it is observed that between groups of designations mean is maximum of 4.12 for Senior Engineers. It is followed by mean of 3.92 for Managers. Least mean is for Surveyors with 3.45. All these means are obtained after comparing these five designations with CRM. Hence as a result another mean is obtained in concurrent with CRM's mean. From table 4 difference between the means of all the five designations are within a

small margin and it cannot be decided whether this small difference in the mean influence migration of an employee or not. So, to check its importance ANOVA test is used. It is important to know that ANOVA is used only for descriptive statistics data where within a factor all its subgroups are interrelated.

Table -4: Descriptive Statistics for Designation

Designation		CRM
Managers	Mean	3.90
	N	14
Sr.Engineers	Mean	4.12
	N	14
Engineers	Mean	3.80
	N	59
Supervisors	Mean	3.51
	N	6
Surveyors	Mean	3.45
	N	7

Table -5: ANOVA for Designation

ANOVA		F-Value	Sig.
CRM	Between groups	2.01	0.10

From table 5 it is observed that the F-Value corresponding to Designation when compared with CRM if 2.01. Significance value corresponding to F-Value is 0.10. Higher F-Value always highlights lesser Significance value. Here a null hypothesis is assumed that there is no significant difference between means of a factor named Designation. As table 5 indicates value of significance as 0.10 which is greater than 0.05. So, null hypothesis is accepted and it clarifies that there is no significant difference between means of all the designations. This states that as per migration of an employee is concerned, designations of employees are not significant.

4. COMPARISON OF GENDER WITH "CRM"

As per gender is concerned it is surprising to observe that out of 100 employees, all are male employees. Figure 1 clearly defines the dominance of male emlpoyees in the construction industry. To know whether gender is significant in deciding an employee migration, there must be availability of two groups: Male and Female. As there are zero female employees in the study, this analysis cannot be performed. Gender comparison with CRM takes place only in the presence of two groups. So the factor gender can neither be accepted nor rejected as a significant parameter deciding an employee migration but it states complete male dominance in the industry which is very dangerous for a structure of any organization. Gender comes under group statistics category in SPSS for which Independent sample-t-test is preferred for comparison of means.

5. COMPARISON OF MARITAL STATUS WITH "CRM"

In this analysis Marital status is compared with CRM to know its significance on an employee migration from current organization. Table 6 indicates that mean value for married employees as 3.98 exceeding that of those who are unmarried with a mean of 3.63 when compared with CRM. Here it is to be noticed that marital status is an independent variable and CRM is a dependent variable. It is observed from table 6 that the difference between means of married and unmarried employees is 0.35. This value is very small. So, it is not evident to conclude its non-importance on migration of an employee from current organization. Out of 100 employees 55 employees are married as per table 6 and the remaining 45 are single/un-married.

Table -6: Group Statistics for Marital status

Marital Status		CRM
Married	Mean	3.98
	N	55
Single	Mean	3.63
	N	45

Table -7: Independent sample-t-test for Marital status

Dependent Variable	t-Value	Sig. (2-tailed)
CRM	2.91	0.004

Since the difference between the means is 0.35, to clarify the importance of marital status independent sample-t-test is used. Group statistics is always used for comparison of two groups of complete opposite characteristics. From table 7 t-value obtained is 2.91. Significance value corresponding to t-value is 0.004. Higher t-value encourages descending significance values. Initially a null hypothesis is accepted that there is no significant difference between means of married and un-married employees. Since the significance value is less than 0.05, the null hypothesis is rejected. As per null hypothesis concept is concerned there is a significant difference between means of employees those who are married and single. So, it is only marital status from remaining two i.e. gender and designation which is significant in deciding an employee migration.

6. CONCLUSIONS

It was observed from the research work that male employees were completely dominant. For effective functioning of any organization gender centralization must be avoided. There are some activities in the construction industry which can be handled only by women employees. If for these activities male employees are hired then the consequences will be severe. So, it is the duty of HR department to give certain weightage to women while hiring. Since any construction work involves hard labour, it is very

difficult to retain them by paying low. Most of the employees as per the research work wanted to migrate because of their low salaries. Employees were deployed for extra work beyond working hours, as a result they were feeling overstressed. An overstressed person is unfit for any work. So, organizations must make sure that they need to pay well and utilize an employee efficiently within working hours. It was interesting to observe that employees gave least importance to healthcare facilities to be provided or provided by their respective organizations. They didn't even bother about support from their superiors but they gave top most priority to salary and stress due to overwork. Designations of employees were non-significant when they were compared with CRM.

Marital status was found significant in group statistics as a personal character responsible for migration of an employee. It was interesting to observe that married employees wanted to migrate more compared to those who were single. Married employees are bound to spend time with their families and need to look for their basic necessities. If they are paid low and are overstressed then definitely they will migrate from that organization. So an organization must provide a married employee with good salary package, flexible work, rewards, etc.

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