CHAPTER 1

INTRODUCTION

1.1 GENERAL

The construction sector is responsible for building houses, apartments, factories, offices and schools. It is also responsible for the construction of roads, bridges, ports, railroads, sewers, tunnels etc. In addition, the construction industry maintains, repairs and makes improvements on all those structures. The industry's significance lies not only in the fact that it provides buildings and infrastructure on which virtually every other sector depends, but also in the fact that it is such a sizeable sector in its own right. The construction industry is Europe’s largest industrial employer, accounting for about seven percent of the total employment, and the EU, US and Japan together employ more than forty million people (Competition In The Construction Industry, OECD, 2008). Among all the OECD (Organisation for Economic Co-operation and Development) countries, the construction industry accounts for an average of 6.47 percent of the GDP. In India, the construction industry is the second largest industry next to agriculture.

The Indian construction industry accounts for nearly sixty five percent of the total investments in infrastructure. Investment in construction accounts for nearly eleven percent of India’s GDP (Gross Domestic Product). www.construindia.com/.
In the next few years, the Indian construction industry will show a rapid growth. Employment in heavy and civil engineering construction is projected to increase, due to the enhancement of highway, bridge and road construction. 16,747.67 billion rupees are likely to be invested in the infrastructure sector over the next five to ten years (www.marketresearchindia.in/Real_Estate_&_Construction_Market_Research_in_India.pdf).

Figure 1.1 shows the growth of investment during the years 2005 to 2015. The demand for residential construction is expected to have a continuous growth. There will be a demand for over 24.30 million new dwellings for self-living in urban India alone, by 2015. 1,118.06 billion rupees investment will be required over the next five years in urban housing (The Indo-Italian Chamber Report 2008).

Figure 1.1 Growth of the Indian construction industry

The construction industry is one of the first industries to be affected by the economic downturn, and one of the last to recover. In the event of an upturn in business, construction is likely to be one of the last investments committed to, as there is a need to assure a relatively certain period of
economic stability and growth ahead. The reasons put forward for the construction industry’s poor public image include:

- the site-based, and hence, inherent work patterns, which result in job insecurity or require many construction workers
- poor onsite working conditions
- industry’s association with manual, blue collar operations rather than more highly regarded white collar positions
- the male dominated and discriminatory macho culture, that is commonly portrayed as the way the industry operates.

1.2 HUMAN RESOURCE IN THE CONSTRUCTION INDUSTRY

The construction industry is the largest employing sector in India. There are three categories of manpower involved in this industry, consisting of the artisan level, supervisory level and managerial level. It has been observed that the investment of every ten billion rupees on construction project generates the employment of 22,000 unskilled man-days, 23,000 skilled or semiskilled man-days and 9,000 managerial and technical man-days approximately.

The construction industry will face a daunting task in future, in terms of recruiting and retaining skilled manpower, as it requires five million people per annum. If the construction industry has to grow at the present rate, it requires to add about fifteen percent of engineering professionals every year to the existing employees already engaged in the industry. With the growing workload and complexity of projects, the constituents of the industry are very conscious of the need to employ trained personnel.
As the economy heats up and there is a demand for candidates with requisite skills and knowledge, a number of employees have started to look outside their company for growth. The 14th Engineering congress on human capital development in January 2002 observed that, “In times to come, India will not have sufficient quantity and quality of civil engineers even to undertake basic infrastructure work”. Urgent steps are to be initiated to reverse this trend of severe shortage of technical manpower.

The execution of a construction project involves a combination of clients, designers, constructors and suppliers. Such multi-disciplinary characteristics pose challenges to the management who secure appropriate engineers / managers for projects at different levels. Even after the careful recruitment of field engineers, it becomes very difficult to retain them for various reasons.

The training and education of these construction managers and project management strategies have traditionally focused on the issues of structuring and planning of the operations, with relatively little attention being paid to the retention of human resources.

Since project success is always measured in monetary terms, people related issues are given a second priority to the core procurement challenges of meeting time, cost and quality targets. But shortage of trained personnel has hit the Indian construction industry hard, leading to high attrition rates (Construction World2008).

1.3 MIGRATION AND TURNOVER IN CONSTRUCTION INDUSTRY

Migration is the reduction in the number of employees, either through resignation, retirement or death. Migration is the percentage of people
leaving the organization; the number of people who left, relative to the total number of people who have worked for the organization under consideration. Turnover is referred to as the number of workers hired by an establishment to replace those who have left. A number of studies have found that managing turnover is a challenge for organizations, as different organizations use different approaches to retain employees.

There are several reasons why people quit from one organization to join another, or why people leave an organization. Existing literature highlights the following as reasons for employee turnover in organizations: hiring practices, managerial style, lack of recognition, lack of competitive compensation system, and toxic workplace environments. Others include lack of interesting work, lack of job security, lack of promotion and inadequate training and development opportunities, amongst others. Even though the organisation takes care of reasons mentioned above, engineers still leave on their own decision from the organisation. Some of the reasons that prompted the engineers not satisfied, to leave the present organization to a new one are listed below.

1. Dissatisfaction with the
   i. quality of the company
   ii. promotion opportunities
   iii. environment and location of the company
   iv. training facilities
   v. relocation costs
   vi. aspirations
vii. salaries and career packages.

2. Other personal problems

1.4 COST OF MIGRATION

Migration incurs a significant amount of cost to the organization. The costs of migration may include opportunity costs, costs required for reselection and retraining, and decreased level of morale of the remaining workers. These costs would become even more serious when an organization loses valuable employees and the replacement becomes more difficult. Therefore, a better understanding of migration in relation to PIED (Perceived Investment in Employee’s Development) and work attitudes would be helpful to the organizations. Migration has been recognized as the final cognitive variable having an immediate causal effect on the turnover (Bedeian et al 1991).

The cost of replacing an employee varies, but there is no second opinion on the fact that it is expensive. Some estimates put the total as high as 200 percent of the employee’s annual salary and benefits. This includes expenses, such as advertising, recruiter’s salaries and reimbursements for candidates’ expenses. The organization incurs various “start-up” costs to hire someone new, such as administrative expenses and training costs.

For instance, for an organization with 20,000 employees and an annual voluntary turnover rate of eight per cent, the cost of turnover is approximately $56 million (assuming an average salary of $35,000). Reducing the voluntary turnover rate by 40 per cent would yield an annual savings of $22.4 million, but reductions in the turnover at higher levels of engagement would yield a savings of over $30 million annually, a difference of more than $7.5 million.
Turnover affects the relationships with customers and the morale of the employees who stay in the company. The real cost of preventable migration is the effect it has on the business.

1.5 EMPLOYEE RETENTION

Employee retention refers to various policies and practices, which lead the employees to stick to an organization for a longer period of time. The retention of skilled employees can have a large impact on the profitability of an organization. When an organization develops a strategy to retain knowledgeable and skilled employees, it can help to reduce the costs of replacing the employees. The employee retention strategies refer to the plan, or set of decision-making behaviour put in place by organizations, to retain their competent workforce for their performance (Gberevbie 2008).

McConnell (1999) opines that effective training and skill development programmes have a measurable impact in reducing the turnover. According to McConnel, ‘PIED’ would reduce these employees intent to migrate for several reasons. First, employees often engage in social comparison processes (Adams 1965), that may compare their situation with that of their peers in other organizations. Such comparisons increase the value of the concerned organization, thus influencing their attachment towards the same organization. Second, a low intent to leave the organization has been viewed as the means, by which employees can repay their employer for the obligations created by caring (such as helping employees update their skills and develop new skills to avoid obsolescence) for the employees (Wayne et al 1997).

Researchers have found that employees are more likely to remain and work for the successful achievement of the organizational goals, when an appropriate employee retention strategy is adopted and implemented by the
organizations (Amadasu 2003, Taplin et al 2003, Gberevbie 2008). The retention levels can be increased through mentoring (Whitaker 2000). The loyal attitude of the employees can be seen from their focus, on the development opportunities, job quality and their personal caring and compensation (Drizin and Schneider 2004).

Four basic factors which play an important role in increasing employee retention are salary and remuneration, providing recognition, benefits, and opportunities for the prospective career growth of the individual employee (Franklin 1997). The answer to the problem of employee retention is simple: hire wisely, train well and, what is more important, recognize the efficiency of the employee and let him know it. It clearly shows that the employee retention strategies, such as job satisfaction arise from appropriate rewards (Gomez-Mejia and Balkin 1992, Heneman and Judge 2003), performance pay (Griffeth et al 2000), employee training and career development (Okoh 1998), creation of social community in the working place which enhances social ties such as encouraging employee marriages and siblings’ employment (Ayagi 2001), job security (Chartered Institute of Personnel and Development (CIPD), 2006), high level of wage rates and organization’s image (Taplin et al 2003), participative decision-making, and information sharing (Jike 2003, Riordan et al 2005). All the above factors serve as catalysts in retaining employees for organizational performance.

The present study was carried out to assess the problem of engineers’ migration, and the necessity for retention in the civil engineering industry. The details regarding the present study are described in seven chapters, as follows:

Chapter one deals with an introduction about construction managers and their migration, the need for research, scope and objectives of the research, in the construction industry.
A detailed review of the literature on the migration and retention of the professionals, is given in chapter two.

Chapter three deals with the explanation of the study, details of the questionnaires administered and interviews conducted, the data collected through questionnaires and the overall frame work of the research.

Chapter four includes the methodology formation for this research study, using various statistical methods like descriptive statistics, minimum, maximum, mean and standard deviations, F-tests and t-tests etc.

Chapter five elaborately deals with the discrimination of influencing factor and establishing the equation for estimating migration / retention indices by discriminant analysis.

Chapter six establishes the detailed analysis for developing utility equation for estimating probability of migration / retention of engineers in the construction industry by multinomial logistic regression.

Chapter seven explains the findings and conclusions.

1.6 NEED FOR THE STUDY

According to a survey made in India, the attrition rate of employees in the construction sector is about twenty to twenty five percent (Construction World, 2008). Employee attrition results in loss of productivity, profit, time, resources etc. The employees working for a longer period of time in the same company will be more familiar with the company’s policies and guidelines, and thus can adjust better. It has been observed that the individual serving an organization for a longer span would be more loyal towards the management and the organization. Thus, retention of employees is important for the firm’s performance. If the company is not able to retain the employees, it will not be
able to capitalize on the human assets developed within the organization. Organizations are more concerned about the migration of their employees because, it causes an inconvenience to the existing employees who are pressurized to work more. From the employer’s point of view, once an organization loses its human capital, it has to bear the hiring cost, and other organizational costs (Lockwood 1999). It is therefore imperative for the management to reduce to the minimum, the frequency at which employees quit the organisation.

The recruitment procedure in the Indian construction industry is not so encouraging; construction companies must improve their methods of retaining their managers and engineering supervisors. A culture of mobility has emerged in the industry which has led to a workforce of corporate mercenaries that coldly drift from job to job. Training investments to retain employees may be fruitful, by making the professionals more productive. In the US it is estimated that, after 10 years of employee service, an employer would have invested a minimum of US $600,000 in terms of salary, benefits, recruitment and training costs for an employed engineer (Maskell - Pretz 1997). In the UK, there are concerns that staff turnover may increase even further as staff shortages intensify which spoils the peaceful working environment. In the survey conducted in UK, 42% of the construction professionals said that they were actively looking for new positions (Ford 1997). Thus, the migration of the project managers/ engineers is an important factor to be considered and handled carefully, for the successful completion of the construction projects with the expected economic growth.

The construction industry is a fine example of the project environment, with a high level of complexity due to the heterogeneity of the working force. Most of the activities are small jobs done by a human workforce outsourced by many vendors. So the knowledge lies with the
engineers at the site to lead the company’s projects successfully. It takes an effort by the anchoring company, which is the primary contact point to maintain the right kind of relationship with quality vendors, who can fulfil their promises on time, at the right cost, and with the prescribed quality. They will become coaches to reliable vendors to serve them on an ongoing basis. These engineers will have to be retained; otherwise, the knowledge gained in different projects is lost by the company by losing these engineers.

From the review of earlier studies, it is understood that most of the Indian construction companies do not follow any effective retention strategy, which clearly defines the need for this study. It is also found that most of the available retention studies are carried out in other developed countries; therefore, in the present study it is proposed to carry out research to identify the factors that influence the migration of the employees in the prevailing work environment in the Indian construction companies. Subsequently, the study suggests the retention measure for the engineers.

1.7 OBJECTIVES OF THE STUDY

The objective of the research study is to collect the multiple perspectives of the issues, leading to the migration and retention of the civil engineers in the construction industry. To achieve this objective, the following tasks are to be performed:

- To identify the factors which contribute to the migration of engineers in the construction industry.
- To study the influence of the individual parameters that lead to the migration of engineers, using the discriminant analysis.
- To establish the equation for estimating migration / retention indices by discriminant analysis.
- To develop the utility equation for estimating the probability of migration / retention of engineers in the construction industry by multinomial logistic regression.

- To provide suggestions for employees’ retention, based on the responses obtained from various construction organizations.

1.8 **SCOPE OF THE STUDY**

The following are the scope and limitation of this study.

- In this study, the respondents have been classified into four categories of engineers design and drawing engineers, planning engineers, site engineers, and site managers.

- The study was conducted in constructions sectors in the metropolitan city of Chennai in the state of Tamilnadu, India. The scope of the study is restricted to the study of engineers in the metropolitan city of Chennai in the state of Tamilnadu, India. As such, the findings may change if the study were to be applied to a different area.

- The study is limited to exploring the factors that affect engineers’ migration/retention within the context of India and organizational culture in the Indian construction sector.

- Forty factors were identified and presented to the construction professionals in the form of a questionnaire.

- Responses were grouped and analyzed, using SPSS (statistical package for social science), viz., the ANOVA, t-test, correlation, discriminant and logistic regression.
1.9 SUMMARY

Engineers’ migration has a significant impact on the growth of an organization. First, the organization loses the knowledge and experience that the departing engineer possesses. Second, the organization must expend time, money and resources to recruit and select replacements in lieu. Third, the organization must expend the time, money and resources to train those replacements. Developing retention strategies for retaining professional engineers has the potential of providing large cost savings to an organization associated with employee turnover. Employees’ retention is the key element for the success of any organization. The overall performance of an organization can be increased by following an efficient retention strategy. It also reduces the various impacts caused due to employees’ migration. In the present study the reasons for migration, and the various retention strategies to be followed, are studied in detail.