CHAPTER 2
METHODOLOGY
2.1 NEED FOR THE STUDY

In the light of the above introduction, it is very clear that the Indian IT industry is facing severe competition from MNC’s. The competition among Indian software companies is also very much challenging. To meet these challenges, the performance of human resource management is considered as a key successful factor (KSF). With the escalation of standards in quality, the IT companies are forced to change their management perspective including their vision, mission and the goals. Because of the impulsive shift in the paradigm, today the Indian IT industry is competing in the realm of survival of the fittest. Companies that are able to adapt to the recurrently changing needs of their clients with the kaizen philosophy (continuous improvement) are only surviving in the competition and others are forced to quit the industry. ‘Mega Trends in Asia’ 1995, which is written by John Naissbit, predicted a 50% growth rate for the next 50 years. Lot of growth expectations is predicted in the field of information technology, as applications are due in many business sectors. Nevertheless, the present scenario of IT industry is unable to align its strategic human resource practices to business strategies. It is proving the incapacity of the HR managers in managing their human resource on long-term basis. Many of strategic HR practices are to be redefined and aligned to corporate strategic thinking. Therefore the intricacies of strategic HR Systems, processes, strategies are to be understood clearly, redefined regularly and implemented according to the frequently changing needs.
2.2 SCOPE OF THE STUDY

The study is focused mainly in the southern part of India, because the software industry is concentrated more in this region. Hyderabad and Bangalore cities are selected for the study, as they are major cities for software solutions in southern part of India. The study is focused on only the certified companies. Because, the study of uncertified companies or the unorganized sector, may not project the true picture of the industry. So, only CMM levels certified companies are selected for the research. One company from each level is chosen and the research is conducted. The study is focused on Strategic Human Resource Management areas.

Following are some of the key performance areas in that leads the strategic Human Resource Management of IT industry. So the scope of the study is confined to the following areas only.

- Internal career opportunities (employee retention strategies).
- Training systems and appraisal measures
- Profit sharing and employee ownership
- Job design and redesign
- Attitude assessment
- General information sharing
- Dispute resolution process

2.3 OBJECTIVES OF THE STUDY

1) To study the HR systems, processes, and strategies of IT companies in India.

2) To find out, how the HR strategies are aligned with the following strategic issues of IT industry in India

- Organizational culture
- Business strategies of the company
- Overall organizational performance
3) To analyze how the human resource strategies are contributing to the success of overall success of the company
4) To find out the satisfaction level and the attitudes of the employees against various strategic HR practices of the companies.
5) To find the present and the future position of India in the global competition to assess the employment opportunities.
6) To analyze the present picture of HR practices in Indian IT industry
7) To present the pace and the direction of industry development.
8) To identify the possible future strategic changes in Human Resource Practices of Indian IT industry

2.4 PERIOD OF THE STUDY

Period of the study for this research program is between 1999 and 2004. First two years period is spent for the identification of the problem and secondary data collection. Remaining three years time is worked out on collection of primary data, case development, cross-case analysis and presentation of employee opinions. But the original period that the research covers is from the inception of all five companies that are under study, as this research is based on case analysis and considers the data from the inception of the companies.

2.5 METHODOLOGY

CROSS-CASE ANALYSIS

As this study is conducted on CMM Levels certified companies and is multi-company research work, the 'cross case analysis' method is found more suitable to find the facts. (Five CMM level companies are taken for the study). In the first stage cases are developed, with the help of data from interview
guide and secondary data schedule of various companies. Later the cases are analyzed through 'cross case analysis' by developing 'cross case matrices'. Finally the employee opinions are taken to arrive at conclusions and suggestions.

2.6 SAMPLING

For the purpose of the study stratified convenient sampling technique is followed. Total IT companies are segregated into CMM level 1 through CMM level 5. The segregation is based on the satisfaction of specific Key performance areas (KPA's) listed in the capability maturity model. From each CMM level group, conveniently one company is chosen. So the total sample of companies is five.

For employee opinion, 20 respondents are chosen from each company, so the total number of employee respondents is 100.

IT COMPANIES GRADING PROCEDURE

The certification process for IT companies in India for awarding grades is based on the Capability maturity model (CMM). The quality of process is the main testing area for awarding various CMM level certifications. The other certification is ISO 9001 apart from Trillium, SPICE, and BOOTSTRAP. But the CMM and ISO 9001 are the most widely used models. ISO 9001 is a general standard for providing services. ISO 9001 has 20 clauses that an organization has to satisfy to qualify as ISO 9001 certified. This model is general and considers the working of the entire organization not just the software projects. The CMM for IT companies is a framework that focuses for software development. It was developed, by observing the best practices in software organizations. Hence, it reflects the collective process experience and expectations of many companies. This model can be used to both evaluate the software process of an organization and plan process improvement.

The base for sample selection of IT companies in this research is CMM Level certifications. From each CMM level, one company is selected for the study.

**MATURITY LEVELS IN CMM MODEL**

The objective of CMM model is to differentiate mature process from immature. The path to higher maturity includes some well-defined plateaus that are viewed as maturity levels by the CMM. Each maturity level specifies certain characteristics for processes. This path includes five maturity levels.

- **CMM maturity level 1:** in level 1, an organization executes a project in a manner that the team and project manager sees fit.
- **CMM maturity level 2:** (the repeatable level) it applies to an organization in which project management techniques are well established.
- **CMM maturity level 3:** (defined level) at this level the software processes for the organization have been precisely defined and regularly followed. The organization may learn from different projects and subsequently improve the processes to benefit future projects.
- **CMM maturity level 4:** (managed level) at this level quantitative understanding of the process capability makes it possible to quantitatively predict and control the process performance on a project.
- **CMM maturity level 5:** (optimizing level) in this level the process improves continuously, with level 4 providing the mechanism to quantitatively evaluate the effectiveness of process enhancement.

Each maturity level, except level 1, is characterized by some key process area's (KPA's), which specifies the areas on which the organization should focus to elevate its processes to that maturity level, they are as follows:

**Key process areas (KPA's) at various CMM levels**

**CMM level 2**

- Requirement management
- Software project planning
- Software project tracking and oversight
- Software subcontract management
CMM level 3
- Organization process focus
- Organization process definition
- Training program
- Integrated software management

CMM level 4
- Quantitative process management
- Software quality management

CMM level 5
- Defect prevention
- Technology change management
- Process change management

2.7 DATA COLLECTION

For case construction, cross-case analysis and employee opinion, data is collected from primary and secondary sources.

The primary data is collected by the following two approaches

1. Interviewing the strategist through interview guide.
   A separate open-ended interview guide is prepared to collect the data about key strategic practices of the companies. Manual recording of interview is done and later it is used for case preparation and analysis.

2. Collection of data from employees through opinion schedules
   A primary data schedule is prepared to draw together the opinions of employees of the companies. From each company the data is collected from 20 respondents, which is based on convenient sampling.

The secondary data is collected through three approaches

1. A separate secondary data schedule is administered to gather company related data from all five companies
2. Secondary data is also collected by referring journals, magazines, newspapers and text books
3. Internet is also used to collect secondary data from various web sites

2.7 STATISTICAL TOOLS USED FOR THE ANALYSIS
To analyze the data the following statistical tools are used
- The percentages, averages, ratios are used wherever necessary.
- Matrices are used for the cross case analysis
- Correlations are also used according to the need
- Tables, histograms, bar diagrams, pie diagrams are used to represent the data
- Scaling techniques are used to analyze the opinions of managers as well as employees

2.8 REVIEW OF LITERATURE

The concept of strategic human resource management has no long history as it is recently evolved and trying to establish itself. But in literature, there are some evidences on how this concept evolved. This concept stems from works of two popular American business schools. They are Michigan and the Harvard business schools. The pioneers in the field, the Michigan group, authored a book by name "Strategic Human Resource Management" (Fombrun et. Al., 1984) focusing on strategic management. The Michigan group developed the notion of strategic HRM, which entailed the interconnections of business strategies, organizational structures, and HRM. HRM Concepts were best designed to support the implementation of corporate strategies. The critical management task is to align the formal structure and the HR systems so that they drive the strategic objective of the organization.

The next contribution is from Harvard business school, they authored the book by name "Human resource management: A general managers perspective" (Beer et. Al., 1985) focusing on human relations. This approach explains the responsibility and capacity of the managers to make decisions about the relationship between the organization and its employees such as to maximize the organizational outcomes for key stakeholders. This approach focuses on managers responsibly to manage key HRM policies.

- Employee participation
- Human resource flow
- Reward systems and
- Work systems

First approach is (Michigan group) focuses on four key personnel systems

- Selection methodologies
- Appraisal methods
- Reward systems and
- Human resource developments

After these two works, Beaumont (1992) has offered a very useful work of the relationship between business strategy and human resource strategy. In his work "The US human resource management" he analyzed the focus on various conceptualizations of the relationship between types of corporate strategies and types of human resource strategies.

The work of Schuler and Jackson (1987) in "linking competitive strategies with human resource management practices" argues that three discrete business strategies -Innovation, Quality enhancement, Cost reduction are associated with the key concepts of HRM.

The work of Alice Snell on integration of HR hiring system to strategic importance commented that hiring management system cannot work in isolation, it integrates with the other strategic areas. This paper was published in 2004 January on Internet.

Mr. Yues Lermusiaux president and founder of I Logos research published a paper by name 'Is IT from mars and staffing from Venus'. In this paper he highlighted the HR contribution to the success of human capital management. This paper was published on Internet in 2003.

Dr. T.V. Rao in his article on performance management stressed the importance of performance management system in the retention of qualitative human resource for the future requirement.

Mr. Chales Wang in his article 'ten steps to the improved relations in organizations' focused on HR management role in strategic relations management.

Micheal A. Sheppeck and Jack Militello In their article on Strategic HR Configuration and Organizational Performance found that over a period of time form stable operating configurations that influence their actions in the market place. These configurations are shaped by interactions among variables in four areas: operating environment, business strategy, HRM practices, and senior managers values and behaviors regarding employees.

Brian E. Becker and Mark A. Huselid\(^9\) in their article "Strategic Human Resource Management in Five Leading Firms" synthesized the findings as the foundation of value added HR function is a business strategy that depends on people as the sources of competitive advantage, a value added HR function requires the understanding of the human capital implications of business problems and access to modify HR systems to solve all the problems.

Chris Rowley and John Benson\(^{10}\) in their research work "Convergence and Divergence In Asian Human Resource Management" concluded that there is increasing interest in broader issues, subsidiary concerns, and theoretical development in Human Resource Management implementation. They also found that International HRM needs to take account of Lower level issues and practices because this is where policies and practices are implemented and mediated.

Yeung A.K. and Berman B.\(^{11}\) in their article "Adding Value Through HR." focused on all the strategies that can increase the value of the HR function in the organization.

Arthus J.B.\(^{12}\) In his article "the link between business strategy and industrial relations system" found that the management of industrial relations in the organizations should be aligned to the business strategies to gain the customer satisfaction and the competitive advantage.

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Blackburn and Rosen B. in their research concluded that the organizations could achieve total quality only after aligning the HR strategies to the strategic matters of the organization. They concluded that the implementation of total quality human resource management could aid management to get the total quality business management.

Of late, so many authors have written books on Strategic Human Resource Management like Christopher Mabey and Graeme Salman, Charles R. Greer, Gratton, Hailey, Stiles and Truss, Fred K. Foulkes, George S. Odiorne and Jossey.

Christopher Mabey and Salaman focused on the areas like managing change, assumptions of change styles of change management, various training and development strategies, strategies of performance management, industrial and work place relations, alignment of H.R. Strategy with the culture and the organizational performance is discussed more. Description and progress of learning organizations is provided. In the end brief analysis of international Human Resource Management in the light of strategic management is also given.

15. Charles R. Greer Strategy and Human Resources – A general manager perspective, pritice hall,
18. George S. Odiorne, Jossey , - Strategic Management of HR. Bass Inc.
Charles R. Greer in his book "strategy and human resources" explained about perceptions of human resources, human resource environment including human resource legal environment, formulation of Human Resource Strategy. In his further presentation he explained the concepts of human resource planning, strategy implementation and Human resource evaluations.

Gratton, Hailey, Stiles and Truss in their book "strategic human resource management" explained the concepts of soft and hard models of human resource management, performance management in fast changing environment, Rhetoric and reality of new careers, how to manage culture, contextual diversities of strategic HRM various HRM policies and management practices, people processes as a source of competitive advantage.

Fred K. Foulkes wrote a book by name "strategic human resource management" where he explained the concepts of Human Resources in relationship to top management goals, companies strategies and the organizational culture, HR function and strategic importance to both human resources and line managers. And in the end he provided the new directions of human resource management.

George S. Odiorne and Jossey in their book "strategic management of human resource" provided new strategies for managing human resource. He provided the strategic ways of managing both high performers and the low performers.
LIMITATIONS OF THE STUDY

1. As the companies are chosen only that are having CMM level certification, the findings cannot be generalized to all the Indian IT companies as many software companies are working in the unorganized sector.

2. To maintain some sort of confidentiality HR managers did not furnish the full details of their human resource strategies.

3. Because of less awareness on strategic HR practices, many employees (software engineers) faced difficulty in answering the questions.

4. The employees did not furnish the genuine data by hesitating at commenting on their company strategies.

5. Because data is collected through sampling, there may be deviation in generalizing the opinions of software engineers.

6. The companies that are selected for the study are only from Bangalore and Hyderabad cities.

7. Though the secondary data schedule for collecting the company related data is developed, the HR executives refused to answer because it consumes lot of time. They directed the researcher to refer their websites. This limited the type and the depth of data required.