Chapter-V

Summary, Findings and Suggestions

Happiness does not come from doing easy work but from the afterglow of satisfaction that comes after the achievement of a difficult task that demanded our best.

– Theodore Isaac Rubin

This chapter presents the main findings of the study. In the first part the objectives and hypothesis are discussed. The findings, suggestions, future research and limitations of the study are presented in next paragraphs. The findings of the study are presented systematically for each objective.

This thesis contributes to the field of research in the area of “HRIS in IT organisations in India”. The major findings of the study are presented in following paragraphs.

5.1 Summary

5.1.1 This research has been carried out with the following objectives :-

i. To study the administrative and analytical use of HRIS.

ii. To identify the modules of HRIS which are most prevalently used

iii. To identify the HR areas in which HRIS is most effective

iv. To identify how HRIS can help the organisations in achieving their objectives.

v. To study the satisfaction level of the users with the use of HRIS

vi. To compare the effectiveness of HRIS in IT industry being used by different MNCs, Indian MNCs and Indian companies

vii. To study and compare the effectiveness of web-based HRIS and traditional HRIS.

viii. To study the effectiveness of different type of HRIS software packages

ix. To study the effectiveness of HRIS in terms of employee and employer benefits.

x. To identify the problem areas and difficulties in the usage of HRIS by employees and employers.
xi. To suggest suitable measures for improving the utility of HRIS in IT organisations in India to gain competitive advantage.

### 5.1.2 Hypothesis formulated

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_{01}$</td>
<td>HRIS is not being used for reporting and analysis of employee information</td>
</tr>
<tr>
<td>$H_{02}$</td>
<td>HRIS is not being used for employee benefits analysis</td>
</tr>
<tr>
<td>$H_{03}$</td>
<td>HRIS is not being used for applicant tracking system</td>
</tr>
<tr>
<td>$H_{04}$</td>
<td>HRIS is not being used for recruitment and selection of new staff</td>
</tr>
<tr>
<td>$H_{05}$</td>
<td>HRIS is not being used for reporting and monitoring attrition</td>
</tr>
<tr>
<td>$H_{06}$</td>
<td>All modules of HRIS are not being used by the IT companies</td>
</tr>
<tr>
<td>$H_{07}$</td>
<td>HRIS is not effective in all the areas of HR</td>
</tr>
<tr>
<td>$H_{08}$</td>
<td>HRIS is not being used for meeting organisational objectives</td>
</tr>
<tr>
<td>$H_{09}$</td>
<td>HRIS is not being used for providing data for strategic decision making</td>
</tr>
<tr>
<td>$H_{10}$</td>
<td>HRIS is not being used for talent management</td>
</tr>
<tr>
<td>$H_{11}$</td>
<td>HRIS is not a cost saver to IT organisations</td>
</tr>
<tr>
<td>$H_{12}$</td>
<td>HRIS is not a time saver to IT organisation</td>
</tr>
<tr>
<td>$H_{13}$</td>
<td>Users are not satisfied with the working of HRIS</td>
</tr>
<tr>
<td>$H_{14}$</td>
<td>There is no difference in effectiveness of HRIS in IT-MNCs and Indian IT-MNCs</td>
</tr>
<tr>
<td>$H_{15}$</td>
<td>Web-based HRIS is not effective as compared to traditional HRIS.</td>
</tr>
<tr>
<td>$H_{16}$</td>
<td>There is no difference in effectiveness of different type of HRIS software packages</td>
</tr>
</tbody>
</table>
5.1.3 Research Problem

People are the most important organisational asset. An organisation’s people define its character, affect its capacity to perform and represent the knowledge-base of the organisation. One of the major problems faced by many companies in today’s fast paced market is how to grasp and retain workforce that is of the best caliber. In the highly competitive business environment, the best talent quickly gets swept up by employers eager to strengthen the quality and efficacy of their employees.

Employees touch every aspect of the business as they are the most valuable asset in the enterprise. It's time to automate HR operations and human capital management system to support all the employee interactions. From recruitment to retirement, from stable economies to rapidly changing environments, one need to track, manage and analyse employee programs, policies and cost. With HRIS in place the company can effectively and economically streamline human resource processes across organisations entire operation, saving money and increasing employee morale. Using HRIS software, one can have total control over the entire human resource management cycle. From human capital management to employee performance and talent management systems to planning and scheduling software, the enterprise will have full insight into every aspect of employee management.

Introducing new technology into the workplace presents both opportunities and challenges. Human Resource Information System (HRIS) has the potential to transform HR into a more efficient and strategic function by allowing HR to move beyond simple administrative tasks to strategic applications (Palframan, 2002). However, while HRIS are the norm rather than the exception in national organisations, HR has not transformed. Globalization is forcing HR to expand its horizons, perspectives and use of technology. This has lead to the introduction of global HRIS in a number of multinational organisations and different HRIS opportunities and challenges have emerged. But the question is Will HR transformation finally follow?

A well defined problem based on the previous research and review of the existing literature provides a direction and is an essential for a systematic research and
investigation. The present study is being undertaken by the researcher and the title is “HRIS in IT organisations in India”.

5.1.4 Selection of Information Technology (IT) Industry

The topic chosen by the researcher for this research was influenced both by his educational background and professional career. The researcher has been reading books, magazines, journals relating to computers right from the beginning of his career 27 years back. The knowledge he gained from his experience has influenced this research. He was of the view that the various types of HRIS software package are developed by IT companies and he was keen to know whether IT companies themselves have taken advantage of their own product or not. With this aim in mind the researcher started his journey of doing research on this topic.

This research is very relevant in today’s growing world of globalisation and in the age of high technology and penetration of Internet and social networking. The main aim of this research is to know the effectiveness of HRIS in IT organisations in India and further to get the information on the use of HRIS by employees and employer in their day to day functioning.

The IT companies are witnessing a rapid growth and offers lucrative job opportunities making IT a premium career option for the youth. In fact it is one of the fastest growing sector of Indian industry. India is emerging as a Global IT superpower. The success can be attributed to factor advantage of high quality of software human resources. It is expected that the Indian IT Industry will generate a total employment of around four million people. One of the problems that IT companies in India are facing is that of outflow of IT professionals.

The problems faced by IT industry are :-

✓ High employee turnover
✓ Unrealistic employee expectations
✓ Stress generated by the targets and deadline bound assignments
✓ Massive layoffs of employees
✓ Growing shortfall of trained and experienced IT manpower.
Indian IT companies are using various HR initiatives to attract and retain the talent. IT industry play’s a significant role in the national economy in general and the new economy in particular and since this industry is particularly people critical, there is a need to study the employee dimension of this industry due to global competition and the experienced IT professionals are continuously leaving the companies for more lucrative offers. The IT companies in India are operating in an environment of constant threat of losing their experienced personnel on account of relatively low salaries paid to them. This is the reason for taking IT industry for this research.

5.1.5 Questionnaire for Research study

The researcher prepared a questionnaire taking into account the research objectives. The initial Questionnaire questions were developed based upon the literature review and the interviews with practical people to get the most important issues. The researcher opted to use the close-ended questionnaire by restricting the answer set according to the likert scale. The questionnaire was preceded by an explanatory letter to give participants an idea about the purpose and objectives of the questionnaire.

The researcher tested the validity and the reliability of the questionnaire in order to ensure that the instrument and its questions achieve the objectives of the study. The face validity was checked by the consensuses of a group of professionals and experts, who agreed that the questionnaire appeared logically reflecting what it was supposed to measure correctly. The researcher considered all the comments and recommendations made by the experts and professionals.

The reliability test was done for each set of questions and Cronbach alpha was used to test the internal reliability of the measurement instrument. The recommended measure of internal consistency is provided by coefficient alpha. The lower acceptable value of alpha is .70 as given by Nunnally(1978). As shown in Table 3.1 the Cronbach Alphas ranged from .85 to .98 which is quite higher than minimum prescribed, thus establishing the reliability of the survey questionnaire. It is obvious that all values of alpha are high. This indicates that for each measurement of a variable, the items are highly correlated and hence highly consistent.
5.1.6 Method of data collection

The primary data was collected from the major IT companies in India on a pre-tested questionnaire. The questionnaires were sent to companies through email, by post and through personnel visit. A structured questionnaire was designed, pre-tested, modified, and used to capture data on a cross-section of HRIS users in IT industry in India. The questionnaire was pilot-tested by practicing HRIS consultants and by HR and MIS managers. Based on the feedback from the pilot-test, the questionnaire was modified and a final questionnaire was developed and administered to respondents of IT industry.

The secondary data was collected from the annual reports of the companies available on the Internet, libraries, Websites, NASSCOM reports, Computer Magazines, Survey Reports etc. The data analysed is of company policies, budget, attrition rate, number of employees, turnover etc.

5.1.7 Research Methodology

Study Population, Sampling Technique and Sample Size

To be able to examine the research problem and the questions raised in that respect and in order to fulfill the objectives of this study, the researcher had chosen to conduct this research in the top IT companies in India. The study population comprises of 15 IT companies selected from the top 25 IT companies as per the list released by D&B Research 2007 (Appendix-I).

For the purpose of the study simple random sampling technique was adopted and the sample was selected randomly. In statistical terms a random sample is a set of items that have been drawn from a population in such a way that each time an item was selected, every item in the population had an equal opportunity to appear in the sample. In random sampling, each item or element of the population has an equal chance of being chosen at each draw. A sample is random if the method for obtaining the sample meets the criterion of randomness (each element having an equal chance at each draw).

The sample size consisted of 35 employees each from 15 top IT companies. The unit of analysis was the senior managers, managers, executives, HR Managers and HR Executives.
5.1.8 Sampling for Pilot study & Final Study

A pilot study was conducted to test the questionnaire to know the validity and reliability of the asked questions. This had helped the researcher to eliminate the variables and questions which were not understandable and answered by the respondents. It was pre-tested on 20 respondents each from 5 IT companies. During this pilot study the researcher had gathered information from respondents and based on the responses, the questionnaire was modified to incorporate the changes which the researcher felt were necessary and then a final questionnaire was prepared for final study.

The final questionnaire was distributed to 35 employees (each) in 15 IT companies at different locations all over India. Total 525 questionnaires were distributed out of which 445 were received back. The questionnaires were scrutinized manually to see the correctness of data and to see whether the respondents had filled the choices accurately. During scrutiny it was found that 15 questionnaires were in-correct and thus 15 questionnaires were rejected. The response rate was 82%.

5.1.9 Data Collection and Processing

The primary data was collected from the major IT companies in India on a pre-tested questionnaire. The questionnaires were sent to companies through email, by post and through personnel visit. A structured questionnaire was designed, pre-tested, modified, and used to capture data on a cross-section of HRIS users in IT industry in India. The questionnaire was pilot-tested by practicing HRIS consultants and by HR and MIS managers. Based on the feedback from the pilot-test, the questionnaire was modified and a final questionnaire was developed and administered to respondents of IT industry.

The secondary data was collected from the annual reports of the companies available on the Internet, libraries, Websites, NASSCOM reports, Computer Magazines, Survey Reports etc., The data analysed is of company policies, budget, attrition rate, number of employees, turnover etc.

The data was entered directly into the SPSS software package and then checklist was generated. The data was checked manually and the errors were removed to make it
error-free. The data file was updated and final data file was put to statistical test for data analysis. For generating the checklist and making the data error-free computer software package MS-Excel, FoxPro and Crystal Reports were used.

5.1.10 Statistical Tools used for Analysis of Data

It is people and computers who collect data and process it to give it a meaning. The collected data was processed to make it meaning full and to generate information from the data, various statistical tools were used to generate results which are easily understandable. The collected data was put to plan statistical analysis using SPSS (Statistical Package for Social Sciences) package. The tools employed to test the drafted hypothesis for analysis were Descriptive statistics (mean, median, mode; standard deviation, variance), Analysis of Variance (ANOVA), Regression Analysis, one-sample t-test, paired sample t-test, student independent t-test.

5.2 Findings of the Research Study

The researcher achieved all the objectives of the study and for this various hypothesis were formulated which were tested based on the primary data collected from respondents as per the sampling design.

5.2.1. Objective 1

To study the administrative and analytical use of HRIS.

The detailed literature review revealed that the administrative and analytical use of HRIS comes under the headings reporting and analysis of employee information, employee benefits administration, applicant tracking system, recruitment and selection, monitoring attrition. Accordingly the researcher formulated and statistically tested the following hypothesis.

- $H_01$: HRIS is not being used for reporting and analysis of employee information
- $H_02$: HRIS is not being used for employee benefits analysis
- $H_03$: HRIS is not being used for applicant tracking system
- $H_04$: HRIS is not being used for recruitment and selection of new
- $H_05$: HRIS is not being used for reporting and monitoring attrition
On the basis of the data collected and analysed this study found that with respect to the use of HRIS for administrative and analytical use, the results were found to be statistically significant. Statistically significant number of companies were found to be using HRIS for Reporting and Analysis of Employee information, Employee Benefit Analysis, Applicant Tracking System, Recruitment & Selection and Reporting & Monitoring Attrition.

From the test results it was found that alternative hypothesis was supported by the results. This indicates that HRIS is being used for administrative and analytical purposes. The highest mean value is for the dimension on Applicant tracking system followed by module on reporting and analysis of employee information and recruitment and selection module. Employee benefits analysis is having a least score of mean as perceived by the respondents. Statistically when tested using one-sample t-test, it is found that HRIS is being used for all these five modules as the value of p < 0.05 for all these modules. The results of the survey support the alternate hypothesis.

1. These modules of HRIS were further supported by different type of questions/statements which were answered by the respondents. The results show that the respondents have given maximum score to performance appraisal analysis followed by promotion analysis and turnover analysis. The results indicates that the alternate hypothesis was accepted (Table 4.14 & 4.15).

2. The test results for second hypothesis indicated that the alternate hypothesis was accepted and the inference drawn is that HRIS is being used for employee benefit analysis. Table 4.17 shows that the maximum value of mean is for the question on generating report on employee total cost to company followed by question on integration with payroll and accounting systems and the least score is for the question on designing of compensation and benefits structure.

3. The results shows that the alternate hypothesis was accepted as indicated by one sample t-test. The inference drawn is that HRIS is being used for applicant tracking system. In the module on ATS, it was found that the maximum value of mean is for the statement on, to have a formal applicant tracking system as seen from the Table 4.20. This shows that the respondents agree with the statement that their company is having a formal applicant tracking system. This is followed by the statements
facilitates cross checking and cross references of applicants and helping in locating qualified internal candidates.

4. The module of recruitments and selection shows that the statement “helps the organisations for recruitment and selection to get both quality and quantity of participants” get the highest score from the respondents as maximum value of mean for this statement as perceived by the respondents and as described in Table 4.23. In this the alternate hypothesis was accepted and the inference drawn is that HRIS is being used for Recruitment and Selection by IT companies.

5. The fifth module tested under the objective 1 is related to reporting and monitoring attrition and mean values are mentioned in Table 4.26. In this case the alternate hypothesis was accepted as per the one-sample t-test. The inference drawn is that HRIS is being used for Reporting and Analysis of Employee information. The maximum value of mean is for this statement followed by empowers employees for doing job related transactions easily and to know their performance with ESS. The least value of mean is for the statement to facilitate managers in providing the most efficient tools in retaining employee who is likely to quit.

5.2.2 Objective 2

To identify the modules of HRIS which are most prevalently used

For this objective one hypothesis “H_0:6 All modules of HRIS are not being used by the IT companies” has been formulated for this research study.

To test this hypothesis frequency table has been generated and is presented below at Table 4.28. This tables gives the percentage of respondents who have given the response as per the likert scale. Strongly agree is 5, agree is 4, neutral is 3, disagree is 2 and strongly disagree is 1. For the purpose of calculation we have taken the responses of strongly agree and agree as Yes and other three as No. The percentage has been calculated. It may be seen in this table in col. 8 that the highest percentage is for Employee Information Management (99.53%) followed by leave management (99.30%), payroll information management (99.07%) and absence monitoring. The minimum value of yes is 47.21% for succession planning. Similarly Table 4.29 and Table 4.30 shows the one-sample statistic for the HRIS modules. The maximum mean value is for the module
Employee Information Management is 4.90 followed by Payroll Information System with mean value of 4.88, MSS module, ESS Module and Leave management. The minimum value of mean is for Succession planning (3.39). The value of mean of all the modules is more than the mean value of the likert scale i.e. the value of 3.0. Moreover the overall mean of the all modules is 4.17 which more than the value of agree(4) and this value lies between 4 and 5 that is agree and strongly agree.

Therefore, there is strong evidence that shows that all modules of HRIS are being used in the IT companies, though their usage percentage differs from module to module. Succession planning is getting less importance as compared to other modules. Statistically it has been proved in Chapter-4 that all modules are being used in the companies.

5.2.3 Objective 3

To identify the HR areas in which HRIS is most effective

The hypothesis formulated for this objective is “H₀₇ : HRIS is not effective in all the area’s of HR”. To test this hypothesis, Regression was used.

The dependent variable is the average score of overall satisfaction as per Block D of the questionnaire. The nine modules of HRIS were been taken as independent variables. The table 4.33 shows that the maximum value of β (beta) is .273 for module Strategic Decision making followed by value .262 for Recruitment and Selection and .230 for Employee Benefit Analysis Average. The minimum value of β (beta) is .130 for Cost Saving followed by .147 for Reporting and Analysis of Employee information. This shows that the most important use of HRIS is for Strategic Decision making followed by Recruitment & Selection, as these are having maximum value of β (beta). From this table it may be seen that the value of significance (col.6) is 0.000 for all the modules except for Cost saving for which the value is 0.001. The inference drawn is that all the modules are significant, though few modules are most important as per the β value.

5.2.4 Objective 4

To identify how HRIS can help the organisations in achieving its objectives.

To support this objective the researcher had formulated five hypothesis.

H₀₈ : HRIS is not being used for meeting organisational objectives
H_09 : HRIS is not being used for providing data for strategic decision making
H_010 : HRIS is not being used for talent management
H_011 : HRIS is not a cost saver to IT organisations
H_012 : HRIS is not a time saver to IT organisation

For each hypothesis different type of questions/statements were formulated. The data was collected from the respondents which was analysed using SPSS software package. The data was tested using one-sample t-test. From the results, it was found that the statements had a significant value as the value of p < 0.05 for all the statements. This indicates that the HRIS is being used for meeting organisational objectives, being used for providing data for strategic decision making, being used for talent management, cost saver to IT organisations, time saver to IT organisation.

1) To improve business performance and develop organisational culture that foster innovation and flexibility, there is need to have a better HR strategy linked to organisation goals. HR needs to be aligned with HR goals. The respondents were asked to respond to the statements like HRIS is used to provide quick and quality information for decision making, to improve strategic decision making, to reduce the cost and time on recruitment and selection, to improve employee satisfaction, to provide Employee Self Service, to provide Manager Self Service, to improve talent management strategy, to improve productivity of employees, to monitor and control attrition, to improve organisational effectiveness by improving organisational performance and productivity, to reduce paperwork, to increase stakeholder value, for benefits management and analysis, for the analysis of employee information, for better and efficient applicant tracking system, for succession planning, for workforce deployment, for statutory and Government reporting under law, for Knowledge Management, for Leadership Management. The results of the paired sample t-test reveals that the HRIS is being used for achieving the organisational objectives. The results of paired sample t-test, reveals that value of p<0.05 and the inference drawn is that all the objectives are significant and are equally effective. The Table 4.34 shows that highest value of mean of 4.91 is for the objective “To provide quick and quality information for decision making” followed by “To provide Employee Self Service”, “To provide Manager Self Service”, “For the analysis of employee information”, “For
workforce deployment”, “To improve employee satisfaction”. The lowest value of mean is for the objectives “To Increase stakeholder value” followed by “For succession planning”.

2) There is a strong evidence to support that HRIS is being used for strategic decision making. The respondents were asked to reply to the statements on a likert scale of 1-5, with 5 as strongly agree and 1 as strongly disagree. The statements asked are that HRIS helps in providing data for HR Planning, Employee Relationship Management, Employee Foreign Travel, Employee Communications, Talent Management, Recruitment and selection, Human Resource Development and workplace learning, Reward and Recognition, Aligning HR programs with corporate goals, Knowledge Management, Compensation management, Employee benefits, Business processes reengineering, Career management, Leadership management, Succession Planning and Commitment management. The results of one sample t-test shows that the value of p<0.05 and the inference drawn is that all the statements are significant and thus alternate hypothesis H1 is supported by results of this t-test. Moreover the highest value of mean of 4.84 and 4.73 is for HR planning and Employee relationship management as seen from Table 4.38. The lowest value of mean is for Commitment management followed by succession planning.

3) The information was collected on the following statements related to talent management. The respondents were asked to reply to the statements like has a formal talent management policy, helps in identifying High Performers (HIPER'S), helps in identifying High Potential Employees (HIPO’s), helps HR department to identify Fast Track, Average Track, Slow Track and Deadwood Employees, has the facility for Recognition and Reward Management, enables the Company to Hire and Retain Top Performers by better Performance Management, generates information that helps our organisation decide when training and skill development are necessary, helps in synergising organization's talent pool with its business objectives, helps in empowering employees with clearly identified performance targets, improved feedback and rewards processes, and, in motivating top talent, enables managers and employees to Link strategic enterprise objectives to employee performance results and goals, helps in having better internal talent mobility, helps in maintaining record
of employee foreign travel. The results of one sample t-test as shown in table 4.42 reveals that the value of p<0.05 and the inference drawn is that all the statements of talent management are significant and the inference drawn is that HRIS is being used for talent management. Table 4.41 shows that the maximum value of mean of 4.73 is for the statement that HRIS “helps in having better internal talent mobility”, followed by “helps in maintaining record of employee foreign travel”, “has a formal talent management policy”, helps in identifying High Potential Employees (HIPO's)”, “helps in identifying High Performers (HIPER'S)”. The minimum value of mean is for statement “helps HR department to identify Fast Track, Average Track, Slow Track and Deadwood Employees”.

4) The HRIS helps in reducing cost in various types of activities of HR and this has been proved by using one-sample t-test on the data collected for statements under the module cost which supported the alternate hypothesis H1. The statements are “our HRIS helps in reducing learning costs by automating and streamlining learning processes”, “with HRIS the company can offer better services with less effort and at reduced cost”, “our HRIS helps in reducing HR costs by automating employee information”, “our HRIS has decreased cost per hire”, “our HRIS has decreased training and development expenses”, “our HRIS has decreased recruiting expenses”, “our HRIS has decreased data input expense” and “our HRIS has decreased the overall HR staff's salary expense”. The Table 4.44 shows that the maximum mean of 4.62 is for “our HRIS helps in reducing learning costs by automating and streamlining learning processes”, followed by the value of 4.58 for statement “with HRIS the company can offer better services with less effort and at reduced cost”. Table 4.45 shows that the value of p<0.05 and the inference drawn is that all the statements are significant and therefore the HRIS helps is cost saving. In this case the alternate hypothesis was supported by the data or we can say that Null hypothesis is rejected and alternate hypothesis is accepted.

5) The HRIS is time saver to the organisations for various types of activities of HR and this has been proved by using one-sample t-test on the data collected for statements under the module time saving which supported the alternate hypothesis H1. The statements are I believe that our HRIS has reduced “the time spent on recruitment and
selection process”, “the time spent on training and development”, “the time spent on making staff decisions”, “the time spent on communicating information within our institution”, “the time spent on inputting various types of data”, “the time spent on processing paperwork”. The Table 4.47 shows that the maximum value of mean of 4.60 is for the statements on the time spent on processing paperwork followed by the time spent on inputting various types of data, the time spent on communicating information within our institution, the time spent on recruitment and selection process, the time spent on training and development. The minimum value of mean of 4.00 is for the statement on the time spent on making staff decisions. The table 4.48 shows the results of one sample t-test and the value of p<0.05 and the inference drawn is that all the statements are significant; therefore HRIS is time saver to the organisations.

5.2.5 Objective 5
To study the satisfaction level on the use of HRIS
For this objective the researcher formulated one hypothesis for testing which is “H013 : Users are not satisfied with the working of HRIS”.
1) The response was taken on a 5 point likert scale and the values defined are “Very Satisfied = 5, Satisfied=4, Neutral=3, Unsatisfied=2, Very unsatisfied=1. To test this hypothesis statistically, One Sample T-Test was used and the results are given in Table 4.49 and Table 4.50.
2) It may be seen from table 4.49 that the maximum value of mean of 4.77 and 4.71 is for the statement “Employee Self Service” and “Manager Self Service” and the least value of mean is for Managing Succession planning. The Table 4.50 shows that all the statements are significant as the value of p<0.05.
3) To test this hypothesis, linear regression was applied by taking overall satisfaction with HRIS as dependent variable and nine modules of HRIS as dependent variable. The best fit regression model explains 82.7% of variance in the satisfaction of the respondents with the use of HRIS as seen from Table 4.54.
4) This shows that seven of the nine modules of HRIS being used by the respondents are the predictors variables of the satisfaction of the respondents. The two
modules that Reporting and Monitoring Attrition and Applicant Tracking System are not the predictors of the satisfaction level of the respondents of HRIS.

5) Table 4.53 shows the value of pearson correlations. The maximum value of correlation is for the module Reporting and Analysis of Employee information Average which indicates that overall satisfaction is highly correlated with the module Reporting and Analysis of Employee information followed by Recruitment and Selection.

6) Table 4.54 shows the model summary and the model 7 gives the value of R, Rsquare and adjusted R as .911, .829 and .827 that shows the best fit. The seven predictors for this model are Reporting and Analysis of Employee information average, Strategic Decision making Average, Recruitment and Selection Average, Time Saving Average, Employee Benefit Analysis Average, Talent Management Average and Cost Saving Average.

7) The researcher collected data on satisfaction level of the respondents on various activities of HRIS, which are presented in the Table 4.50. This table indicates that the highest mean of 4.77 is for Employee Self Service followed by Manager Self Service. The lowest value of mean of 3.59 is for Succession planning. The average score is 4.34 which is the range of which lies between the scale of “satisfied” and “very satisfied”. The inference drawn is that users are satisfied with the use of HRIS.

5.2.6 Objective 6

To compare the effectiveness of HRIS in IT industry in MNC’s and Indian MNC.s.

1) For this objectives one hypothesis was formulated which is $H_0$ : There is no difference in effectiveness of HRIS in MNC’s, Indian MNCs companies. Table 4.56 shows that value of independent student t-test. In this the value of $p<0.05$ for all the modules of HRIS. The inference drawn is that all modules are significant in terms of effectiveness.
2) The null hypothesis is rejected and alternate hypothesis is supported by the results. This shows that there is difference in effectiveness of HRIS in MNC’s and Indian MNC’s.

3) The table 4.58 shows the means value s of all the modules. The overall mean of all the modules for MNCs is 4.46 and for Indian MNCs is 4.21. This shows that there is a difference in effectiveness in both as in MNCs the mean value is higher than Indian MNCs. HRIS is more effective in MNCs.

4) In MNCs the maximum of mean value of 4.61 is for the module Applicant Tracking System followed by 4.59 for Time Saving and 4.58 for Talent Management. The least value of mean of 3.95 is for the module Employee Benefit Analysis.

5) Similarly for Indian MNC the maximum mean value of 4.37 is for the module Talent management followed by 4.31 for Applicant Tracking System followed by 4.23 for Strategic Decision making. The least value of mean of 3.78 is for the module Employee Benefit Analysis.

6) Therefore, there is a strong evidence which supports the alternate hypothesis and inference drawn is that the effectiveness of HRIS differs in MNC’s and Indian MNC’s. It is more effective in MNC’s.

7) The hypothesis has been tested using one sample t-test also with the test value of 4, as it is the value of “Agree”. The value for “Strongly agree: is 5. To test the effectiveness the value need to be taken as 4.

8) The Table 4.60 gives the average means of the means of the modules separately for MNC’s and Indian MNC’s. The average means of MNCs and Indian MNC’s is 4.41 and 4.13 respectively. The inference drawn is that both differs in terms of its effectiveness as replied by the respondents. In table 4.3.6.8 it may be seen that the value of p<0.05 for all the modules except for the module on Employee benefit Analysis. This shows that all modules are significant except one which is insignificant.

9) Whereas in Indian MNC’s the value of p<0.05 except of the module on “reporting and Monitoring Attrition. The result shows that the value are different for all the modules for MNC’s and Indian MNC’s.
10) The inference drawn is that there is difference in the effectiveness of the HRIS in MNC’s and Indian MNC’s.

### 5.2.7 Objective 7

To study and compare the effectiveness of web-based HRIS and traditional HRIS. This objective was supported by one hypothesis i.e. $H_{015}$: Web-based HRIS is not effective as compared to traditional HRIS. This is further supported by one question i.e. “is your HRIS web-based?”. The answer was taken as Yes or No. From the response, it is found that all respondents have given the Yes answer to this question.

1) The table 4.63 clearly indicates that all companies are using web-based HRIS or we can say that all HRIS software packages are web-based. This is due to the penetration of the internet and its extensive use by employees, which is now a days part of every business and every activity. Social networking is coming in a big way and people prefer to use social networking websites for their day to day activities. This is very common among young students.

2) Moreover due to business operations going global, all the companies prefer to have the HRIS which are web-based enabling the employees if different countries to have access to the data on their performance and other work related activities.

3) There is a strong evidence to support the alternate hypothesis and the inference drawn is that Web-based HRIS is more effective than traditional HRIS as no company is having the traditional HRIS now a days.

### 5.2.8 Objective 8

To study the effectiveness of different type of HRIS software packages.

1) This objective was supported by one hypothesis i.e. $H_{016}$: There is no difference in effectiveness of different type of HRIS software packages.

2) To test this hypothesis the researcher used one way Anova test and one sample t-test applied separately on each type of software package by taking the mean of all the modules separately for each package.
3) The hypothesis was tested using one sample t-test with the test value of 4, as it is the value of “Agree”. The value for “Strongly agree” is 5. To test the effectiveness the value need to be taken as 4.

4) Table 4.68 shows that the average of means of all the software packages differs considerably. The average mean for MS-HRMS, SAP, PeopleSoft, OracleHRMS and HRMS is 4.55, 4.39, 4.17, 4.15 and 4.13 respectively.

5) Table 4.69 shows that within the software package, the value of mean differs for each module.

6) The inference drawn is that all the software packages are different in terms of effectiveness.

5.2.9 Objective 9

To study the effectiveness of HRIS in terms of employee and employer benefits.

1) The review of literature revealed that there are many benefits of implementing HRIS in an organisation for employer and employees.

2) The main benefits for employers are Efficiency, Better planning, Better decision making, Cost saving, Time saving, budget controlling, Applicant tracking system, Recruitment and Selection, Transparency in dealings, Clear line of vision, Process driven - People independent, One Employee Database, Database updated in real time with every decision/action taken by employees specially helpful for multiple location Organisation, Freedom from paper work, Human error free, Complete data security from internal and external intruders, Employee Satisfaction, Total control over employee movement and Talent Management, Monitor and control Attrition, Government reporting, Increase stakeholder value, leadership management, Knowledge management etc.

3) The main benefits for employee in the use of HRIS are , Employee Self Service, Boosts performance - Saves time, Empowers employees to take informed decision, 24/7 availability globally, performance monitoring, Boosts employee morale etc.

4) All these benefits were been tested and proved by the statistical tests as explained in previous pages. HRIS is being used by the companies for Strategic decision making, Talent Management, Reporting and Monitoring Attrition, Employee Benefit Analysis,
Reporting and Analysis of Employee Information, Applicant Tracking System, Recruitment and Selection, Cost Saving and Time Saving.

5) From the hypothesis tested and proved, there is a strong evidence in support of various types of benefits for employer and employee. Therefore, the objective stands achieved.

6) The inference drawn is that the HRIS is effective in terms of employer and employee benefits.

5.2.10 Objective 10

To identify the problem areas and difficulties in the usage of HRIS by employees and employers.

The data collected from the respondents revealed that HRIS is being used effectively by the companies and employees are also using it for the day to day updates from the company. Some respondents had mentioned in the response sheet about their suggestions, which has been summarized below:

1. HRIS need to be more centralised
2. Training need to be given for the use of HRIS

No major problem was reported by any respondent during the study. Since HRIS is the product of IT industry and IT employees knows everything about the usage of HRIS software, therefore, no problems are being faced by the users. Therefore, the said objective stand achieved in view of this.

5.2.11 Objective 11

To suggest suitable measures for improving the utility of HRIS in IT organisations in India to gain competitive advantage.

From the present study there was strong evidence that HRIS is being used in all organisations for the benefits of employees and employer is also taking advantages from the system. The organisations should have a good retention strategy for having a competitive advantage. To gain corporate leadership and competitive advantage, the main fields are:

1. Hiring and retaining talent
2. To have future leaders in pipeline
3. To reduce attrition
4. To improve social networking at work place
5. To have a good retention strategy

To help retain staff for competitive advantage, the organisations should know what type of skills are required; should hire the right person; must know the demographics; must provide a productive environment to people; develop and provide proper benefits and should review the performance from time to time.

Employees need to be involved in all type of activities of the organisation and HRIS should be extensively used for employee benefit analysis and succession planning. The organisation need to align all the HR activities with company objectives.

To gains competitive advantage, the statements have been identified based on the existing literature. These statements have been put to statistical test to know if the results are significant.

The Table 4.72 gives the values of one-sample t-test. The results shows that the value of p=0.00 except for two statements on “HRIS helps in identifying key positions and maintain talent pipeline for succession planning” and “the time spent on making staff decisions” with p value of .385 and .897 which is > 0.05. The inference drawn is that these are insignificant and the IT companies need to use HRIS for these two purposes also.

The Table 4.73 below gives the statements asked from the respondents related to overall satisfaction with the use of HRIS. The overall mean of all is 4.40 and the mean value of each statements individually is also in the range of 4-5 which is the range “Agree-Strongly Agree”. The inference drawn is that users are satisfied with the working of the HRIS, which further indicates that organisations are having competitive advantage over other companies thus a step towards corporate leadership.

The inference drawn is that the HRIS is being used to gain corporate leadership and competitive advantage.

The mean value is less than 4.00 for only two statements that are “helps the organisation for addressing motivation problem by increasing employee commitment and empowerment” and “helps in having a retention strategy by alerting Managers in
advance about who is likely to quit”, which indicates that these of low priorities to the organisations.

More suggestions are given under the head “Suggestions” in the following pages.

5.3 Validity, Reliability and Generalisibility of the results

It is important to know how valid and reliable the empirical results are. This will allow general conclusions to be drawn. It may be mentioned here that the results of this study are valid because the data primary was collected purposely for this study and the sample universe was randomly selected based on random table. Some respondents of the questionnaire survey were also HR specialists who command respect in the field of study. Furthermore, the questionnaire was tested and the refined version was sent to respondents. The e-mail and postal technique used, reduced the possibility of influencing the respondents since there was no personal contact between the researcher and respondents. This makes the results reliable especially where people with authority filled the questionnaire. The larger the sample size, with a higher response rate the better it is to generalize the results.

5.4 Suggestions

HRIS is an umbrella term covering the integration of HRM and IT, aimed at creating value for targeted employees and managers. The two areas of importance for any organisation are 1) aligning the workforce with organisational objectives and 2) enabling the organisation to recruit key talent and retain the existing talent. Many authors on HRIS are of the view that use of a Human Resource Information System (HRIS) must lead to important and valuable results and outcomes for the organisation. Decreased costs, improved employee communication and decrease in time spent on mundane activities should create an atmosphere wherein the Human Resources (HR) department would play a more strategic role in the organisation. This study is an initial attempt to determine whether HRIS has reached these potential benefits. Based on responses from a sample of employees in IT organisations, it has been found that HRIS is being used to almost in its full potential. HRIS makes the HR department more efficient and to provide better information for decision-making.
Based on the results the following suggestions are being made for an IT organisation to gain corporate leadership and competitive advantage.

1) The results show that the HRIS is less used for succession planning and it is suggested that HRIS should be used for Succession Planning as there is vast scope for this activity in the organisation for the benefit of employees and middle management. This help in employee engagement and improved productivity.

2) It is suggested that the employees need to be given more specific training in the efficient use of various facilities provided in the HRIS. More Manager Self Service and Employee Self service need to be encouraged among the relevant workforce.

3) HRIS should be used in getting feedback from employees and by analysing the feedback, the same can be used to address motivation problem by increasing employee commitment and empowerment.

4) Hiring and retaining a talent is the hot topic and top priorities among the top IT companies now days. The results of the study reveal that the companies are not having integrated Talent management system. The IT companies should have an integrated talent management strategy, which is more economically viable and lower the cost burden that enables most effective workforce planning, compensation benefits management, recruitment and selection, training and development.

5) Business Intelligence (e.g. warehouse, middleware, workforce analytics and workforce planning) is the new buzzword in the business community. The HRIS should be used for Business Intelligence which at present is not being used.

6) The present HRIS is an independent entity in the organisations and have no link with social networking websites. With the increase demand and importance of social networking websites like LinkedIn, FaceBook, Twitter etc., the organisations need to have a link of HRIS with the social networking websites, web 2.0 technologies to increase collaboration with the workforce and increase employee engagement with remote and Gen.Y employees.

7) It is suggested that HRIS modules for Organisation Charting, Alerts Module, Learning, Development and Assessment, Health and Safety Record, Grievance
Handling, Career Planning, Government Reporting and Compliance Information Systems, Career Coaching and Succession Planning should be used more extensively by IT companies. The results show that these modules of HRIS are of less used by the IT companies. There is a strong evidence as the mean value of these modules is less than 4 (value for agree, Table 4.1 in Chapter-4).

8) HRIS should be used for statutory and Government reporting under law and for succession planning. The result indicates that the mean value for the objectives on Government Reporting and Succession planning is less than 4 (Table 4.2 Chap-4).

9) It is suggested that HRIS should be utilised by IT companies for providing data for Business processes reengineering, Career management, Leadership management, Succession Planning and Commitment management. The IT companies must implement HRIS in such a way that the management gets the required data on these functions which are part of the HRIS. The result shows that the mean value for five statements (Table 4.3 in Chapter-4) is below the value of 4 & 5 which is for “Agree” and “Strongly Agree”.

10) It is suggested that HRIS should be used by the management and HR department “to identify Fast Track, Average Track, Slow Track and Deadwood Employees” which will help the organisation in streamlining the existing workforce. There is a reason which is statistically supported (Table 4.4 in Capter-4) as the calculated mean value of one statement “helps HR department to identify Fast Track, Average Track, Slow Track and Deadwood Employees” is 3.82, which is less than the value of 4 of “Agree”.

11) The results show that HRIS is less utilised for activities like improving employee satisfaction by delivering HR services more quickly and accurately for addressing motivation problem by increasing employee commitment and empowerment, having a retention strategy by alerting managers in advance, who are likely to quit and facilitating managers in providing the most efficient tools in retaining employee who is likely to quit. The mean value for these activities is less than 4 (Agree). Therefore it is suggested that HRIS need to be extensively used by IT companies for attrition related subjects like improving employee satisfaction by delivering HR services more quickly and accurately; and for addressing
motivation problem by increasing employee commitment and empowerment. The Managers need to build a retention strategy so that they know in advance about who are likely to quit and use the most efficient tools of HRIS in retaining employee who is likely to quit.

12) The results reveal that HRIS is less used for the activities like; analysing which benefits are more popular among employees; improving employee satisfaction by better administration and analysis of benefits; having a performance based incentive system; using HRIS for the designing compensation & benefits structure. The table 4.6 (in chapter-4) shows that out of eight statements, the mean value of five statements is less than 4 (agree). Therefore, it is suggested that IT companies must use the facilities of HRIS like; analysing which benefits are more popular among employees; improving employee satisfaction by better administration and analysis of benefits; having a performance based incentive system; using HRIS for the designing compensation & benefits structure.

13) HRIS should be used for Employee Grievances Analysis and Manpower Structure Analysis as the result (Table 4.7 of Chapter-4) show that the mean value for two HR Analytics/metrics named Employee Grievances Analysis and Manpower Structure Analysis is 3.90 and 3.78 respectively and this value is less than the value of 4 (agree).

14) It is suggested that HRIS need to be used for more and more activities by HR department so that the company is able to decrease the overall HR staff’s salary expense. The table 4.10 (in Chapter-4) shows that the mean value for the statement on decrease of overall HR staff’s salary expense is less than 4(agree).

15) It is further suggested that IT organisations should adopt business intelligence applications to provide the best data about the workforce and its impact on the business and to guide any decisions for redeploying or smart-sizing of the workforce. Talent management and business intelligence applications enable performance excellence.

16) The IT companies should adopt more and more manager self service and an HR-oriented help desk and move to shared services to lower administrative staff costs.
17) Talent Management is the fastest growing segment of the Human Capital Management market. It is suggested that the IT companies should adopt best practices for talent management and talent analytics which at present is not being used.

18) The IT companies should adopt competency management and career development as it affects the employees, particularly during down times.

19) The cost of HRIS software is quite high, therefore it is suggested that companies should prefer to adopt SaaS HRMS (Software as a Service HRMS) as it helps in having a low cost solution for HR activities.

20) The companies should adopt BI/analytics (warehouse, middleware, workforce analytics, and workforce planning) and roll out to managers for their direct use as quickly as possible. This will improve the productivity of the managers.

21) The companies should adopt Mobile HR applications and Social HR applications as at present HRIS is not having any link with the mobile and social networking websites.

22) The IT companies should adopt top-down communications in a transparent manner to show strategic clarity across all changes using portal, email, newsletter, and more recently the internal social network.

23) HRIS need to be made a true on-line system in a real sense which means that data updation should be prompt and immediate. The delay in any type of HR activities related to ESS or MSS, effect the performance of the employees and employer.

5.5 Conclusions

➢ The overall findings confirm all the research expectations and provided additional insights into why organisations choose to invest in a HRIS. The justification to adopt a HRIS system was partially based on economic factors adopted by these organisations.

➢ The ability of a HRIS to reduce overall costs in the organization was deemed to be more critical in the adoption decision than the ability of the HRIS to reduce costs in the HR function only.
HRIS, a valuable human resource planning tool that would certainly improve the effectiveness and efficiency of an organization and job performance. HRIS seems to play an important role for HRM because HRIS functions improve HRM in terms of administrative purposes and analytical purposes.

HRIS users pointed out high degrees of satisfaction with activities supported by HRIS which emphasises the high relevance of HRIS in the growth of business, particularly in IT industry.

These findings demonstrated the IT companies that implemented HRIS, used them extensively in support of strategic decision making, regardless of company size.

It was found that most IT companies use HRIS exclusively in support of strategic HR tasks. Furthermore, there were differences in the relative use of HRIS in advanced tasks or in strategic decision making between different IT companies in some of the tasks like Attrition, Applicant Tracking System, Talent Management, recruitment and selection. For employee benefit analysis the usage of HRIS is almost same that is least important. In each of these, the degree of usage was relatively greater for companies that have large number of employees. Quick response is extremely important for employees as rapid access to data makes it possible to finish tasks much more quickly.

This research focused on the role of HRIS in assisting employers and employees to perform their role more professionally. It looked at the impact of HRIS on HR department’s role - both traditional and new emerging roles.

Many global IT service providers experience staff turnover to such a degree that it significantly impact their business. In order to control such attrition, global IT service providers use Human Resources Information Systems (HRIS).

HRISs contribute positively to staff retention for global IT service providers in emerging markets. Especially important in minimizing turnover is the support they can provide for the allocation of employees to international engagements, including scheduling and training.
HRIS functionality nowadays includes corporate communication, recruitment, selection, training, employee opinion survey, compensation, payroll services and employee verification as well as general information.

5.6 Study Limitations

Some limitations of this research need to be recognised. The limitations that confronted the researcher while conducting this study can be summarised as follows:

There is some personal bias: Some of the information in this study reflects the judgment of individuals who provided the information and may have bias favoring the success of their companies. HRIS is the product of the IT companies and there may be some favoritism with the IT professionals to give higher score. There can be less quantity of data. The reason behind this is that most companies consider data related to human resources confidential or do not want the same to be publicized.

The new concepts of HRIS may not be understandable and common with some respondents and the response may have been affected. Some IT companies were conservative in providing information in view of the latest concept of talent management and global competition. The nature of HRIS effect creates other limitations. Part of HRIS effects are tangible and hence, could be measured, while the other parts are intangible and difficult to measure, however the statistical method of using participants scores to ensure the study questions has been used to deal with this problems. In this research study only the IT industry has been covered, therefore the results cannot be generalized for other industries and the results of this study might not be used for drawing general conclusions. The other limitations are time and financial constraints to cover more companies. However, this might form a base for further research.

5.7 Recommendations and Suggestions for Further Research

❖ This study was limited to IT industry only. This can be extended to other industries also to know the use and effectiveness of HRIS. One major implications emerging from this study is the challenge of finding ways of valuing contributions of IT industry to the web-based HRIS making it more centralized and making it global HRIS.
Administering this questionnaire to a wider spectrum of different industry representatives would provide the quantitative verification needed to substantiate and generalise these results. Future research efforts might involve conducting a survey with a larger group of decision makers. Further research could be conducted to test the prevalence of any given factors in the adoption decision.

Future research would also ideally include interviews with software vendors. The perspective from this community would likely confirm the input from user organizations and additionally provide some hard data to verify why their systems are adopted. An interview questionnaire has been developed as a preliminary guide for consideration in future research.

Whilst this study had confirmed existing studies into HRIS, it provides a platform for future work in this area, which should concentrate on these issues.

5.8 Road Ahead

It is time to say “goodbye” to the golden age of transactional HRIS and software – payroll and benefits (Sommer, 2006) and “hello” to the new age of strategic HRIS and software – performance management, succession planning, competency based compensation and workforce analytics (Greengard, 2005). As HR aims to transform to a more efficient and strategic function, it must learn how to leverage technology and use it as a competitive advantage. If strategy is the real driver behind technology, HR Managers actively pursuing a global strategy will be able to guide the organisation, the system and the vendors to create new solutions. HR Executives who are accountable for the success of the global businesses must support the global HRIS effort. With all of these efforts, HR may finally be able to transform.

The Indian information technology sector continues to be one of the sunshine sectors of the Indian economy showing rapid growth and promise. According to a report prepared by McKinsey for NASSCOM called ‘Perspective 2020: Transform Business, Transform India’ released in May 2009, the exports component of the Indian industry is expected to reach US$ 175 billion in revenue by 2020. The domestic component will contribute US$ 50 billion in revenue by 2020. Together, the export and domestic markets are likely to bring in US$ 225 billion in revenue, as new opportunities emerge in areas
such as public sector and healthcare and as geographies including Brazil, Russia, China and Japan opt for greater outsourcing.

The post recession enterprises need to be lean to compete in the new economy. Exploiting information has become a critical driver for world class performance especially in light of the huge rate at which information volume are increasing. Information and Communication Technology help HR Managers in actively managing the data for smatter decisions.

To be effective and competitive today and ready to take advantage of the post-recession economy, organisations must leverage their business information. The traditional approach of applying tactical fixes to processes and organisational structures, often implementing additional IT solutions has only delivered limited benefits in the past and there is no reason to believe that it will be any more successful now and in the future. Effective and integrated Business Information Management program is vital to achieve the priorities of today’s organisation i.e. improving performance, reducing cost and increasing business agility. The intelligent enterprise is the organisation of the future.

The digital universe is growing exponentially as companies and individuals are contributing equally to its growth. As per the report “The World in 2025” released by European Union’s Seventh Framework Programme for Research, China and India will be global powers in R&D, accounting for around 20% of the world’s research investment.

**** end of chapter 5 ****