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Major Project Report

On

Human Resource Information System

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CERTIFICATE FROM THE INSTITUTE

This is to certify that the Project Report titled "Human Resource Information System", is a bonafide research work carried out by Ms. Priyansha Rastogi of MBA 2012-14 batch and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 in partial fulfillment of the requirement for the award of the Degree of Masters of Business Administration.

Signature of Guide

Signature of Head (DSM)

Place: New Delhi

Seal of Head

Date: May 6, 2014

DECLARATION

I, Priyansha Rastogi, student of MBA 2012-14 batch of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 declare that the Project Report on "Human Resource Information System" submitted in partial fulfillment of Degree of Masters of Business Administration is the original work conducted by me.

The information and data given in the report is authentic to the best of my knowledge.

This Report is not being submitted to any other University for award of any other Degree, Diploma and Fellowship

Priyansha Rastogi

Place: New Delhi
Date: May 06, 2014

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Priyansha Rastogi

EXECUTIVE SUMMARY

This report basically aims at finding the Impact of Human Resources Information System (HRIS) which refers to the systems and processes at the intersection between human resource management (HRM) and information technology [1], on the Manufacturing Industry. in India. The function of human resources (HR) departments is administrative and common to all organizations. Organizations may have formalized selection, evaluation, and payroll processes. The HR function consists of tracking existing employee data which traditionally includes personal histories, skills, capabilities, accomplishments and salary. To reduce the manual workload of these administrative activities, organizations began to electronically automate many of these processes by introducing specialized human resource management systems. HR executives rely on internal or external IT professionals to develop and maintain an integrated HRIS.

The main aim of the study conducted was to find out the Impact of HRIS on the satisfaction level of employees from HRIS and the problems faced in the implementation of HRIS in the Public and Private sector Manufacturing units in India .This was done by conducting a survey on 2 companies, one from the public sector and the other from the private sector of manufacturing industry in India. The Public company chosen was GAIL India Limited at Noida, and the other one was a Private company in Gurgaon, whose name is to be kept confidential, as per company norms.

A questionnaire ws framed after prior research consisting of 15 questions out of which 11 were based on HRIS and rest were on demographic details. Questions were based on Likert scale, Ranking, Nominal scale, etc. Further various test like Chi square, Cross tabulation, Independent Sample T-test were performed, to analyse the results of the survey.

According to the findings, it was found out that both the sectors use different HRIS tools, depending upon the organization structure and goals and thus were highly satisfied by various different features of each tool. Communication gap between the top management and technical issues were found out to be the most rated implementation issues of HRIS in Public and Private sector manufacturing units in India respectively

1. INTRODUCTION

1.1 Introduction to Human Resource Information System

Human Resources Information System (HRIS) refers to the systems and processes at the intersection between human resource management (HRM) and information technology [1]. It merges HRM as a discipline and in particular its basic HR activities and processes with the information technology field, whereas the programming of data processing systems evolved into standardized routines and packages of enterprise resource planning (ERP) software. On the whole, these ERP systems have their origin from software that integrates information from different applications into one universal database. The linkage of its financial and human resource modules through one database is the most important distinction to the individually and proprietary developed predecessors, which makes this software application both rigid and flexible.

The function of human resources (HR) departments is administrative and common to all organizations. Organizations may have formalized selection, evaluation, and payroll processes. Management of "human capital" progressed to an imperative and complex process. The HR function consists of tracking existing employee data which traditionally includes personal histories, skills, capabilities, accomplishments and salary. To reduce the manual workload of these administrative activities, organizations began to electronically automate many of these processes by introducing specialized human resource management systems. HR executives rely on internal or external IT professionals to develop and maintain an integrated HRMS.[2] Before client–server architectures evolved in the late 1980s, many HR automation processes were relegated to mainframe computers that could handle large amounts of data transactions. In consequence of the high capital investment necessary to buy or program proprietary software, these internally developed HRMS were limited to organizations that possessed a large amount of capital. The advent of client–server, application service provider, and software as a service (SaaS) or human resource management systems enabled higher administrative control of such systems. Currently human resource management systems encompass [1].

1.1.1 Difference between HR Information System and HR Management System

Many times, HRMS and HRIS are used interchangeably, but in fact the two are not quite the same. It's important to understand the difference if you're shopping for software or productivity tools so that you get what you really need. Take a look below at the differences between the two, the merits of each and then consider whether you need one, the other or a hybrid of both.

Human Resources Management Systems (HRMS) keep track of employee data such as sick and vacation days accrued and taken, employee performance and all aspects of personnel management. A HRMS stores data that can help you better manage your people and track performance reviews. When there are issues with performance, you can track the initial problem against any improvement (or declines).

A HRMS can help you track crucial data such as performance improvement measures without shuffling paper. This can facilitate management of your people by allowing you to track employee initiatives without getting bogged down in manual record keeping. This gives you more time to put the human in human resources and less time behind your computer!

Human Resources Information Systems (HRIS) keep track of important static information about employees such as address, social security number, tax status and withholding information, benefits status, payroll information and which department the staffer works in. Payroll can also be part of a HRIS. At a departmental level, HRIS can crunch simple metrics such as turnover, staff headcounts and other information useful for planning purposes.

By using a HRIS, you can get your HR staffers out of the business of administrative record-keeping. There's no reason for HR to be the dusty repository of info locked in filing cabinets that isn't translated into relevant usable data. Instead, freed of administrative record-keeping duties, HR can participate more meaningfully in planning and leadership.

Most current HR systems combine functionality of HRMS and HRIS. The best human resources software and application will streamline HRMS and HRIS tasks into one robust system. The Jobscience Managing CRM platform allows users to take care of all the necessary HR tasks with a few simple keystrokes because of the robust capabilities of this cloud delivered solution.

Advanced reporting capabilities allow you to track and manage at a variety of levels from individual to department to business units up to company-wide. Another advantage of the combined power of HRMS and HRIS in Jobscience Managing is the real-time collaboration functions so that data can be accessed with pre-set permissions by the manager that needs it, when they need it, without involving an HR gatekeeper.

1.1.2 Impact of HRIS

HR Information Systems (HRIS) have a profound effect on firms that implement them. Most often these firms are replacing several related systems, such as a personnel database, payroll system and benefits system, with one HRIS that does it all. Many people focus on the improved reporting and processing that will be realized from the new system, and those are the reasons most firms choose to implement a new HRIS. But what many people don't focus on is that the new HRIS will most likely affect the company much more deeply – it will challenge the operating structure and principles of all the HR-related departments. An integrated HRIS results is a drastically different environment than a cluster of related but separate systems. The core concept of a centralized data store inherent with an HRIS demands integrated work processes for consistently managing that store. The two attributes – centralized data storage and integrated work processes – will affect the company in ways most managers don't expect.

1.1.3 Evaluating And Preparing for New HRIS

Many companies go through a process of comparing and evaluating several HRIS packages using a team of analysts or managers from the various departments affected – HR, Payroll, Benefits, Employee Relations, Training and so on. As this team prepares its evaluation criteria and reviews HRIS features, much is learned about the goals and values of the various departments. The HR department is looking for improved reporting of

employee data, Payroll is concerned with the system's paycheck calculations and regulatory reporting, while Benefits may be looking for a more streamlined enrollment process. As this team drives deeper into the selection criteria, the members learn more about each other and may start to see the emergence of some really messy business processes. It can be a bittersweet process. The hiring process is a good example. As a person is recruited, hired and paid each department may have its own specialized system and process for managing the employee data. As the HRIS evaluation team discovers redundant processing and data storage, its members start to see ways to make the process more efficient by aligning their part of the hiring process with the requirements of the other departments. The team members are excited to find a better way to get the work done, but scared by the ramifications of closer ties to other departments. As the team evaluates an HRIS software package, it begins to get a better grasp on what the entire company's business processes are, and therefore what the company might require in an HRIS. The team will most likely find that none of the packages are an exact fit and that substantial effort is required to modify or integrate the chosen HRIS. Or if not enough due diligence and research have been done, the team may be facing this effort and not be aware of it. This gap in planning will show itself later in the implementation phase when the project team realizes there are not enough resources – time, people and money to implement the HRIS. Perhaps the most critical results of the HRIS evaluation process are that the evaluation team set correct expectations for the project and gain executive management commitment. With correct, or at least realistic expectations and an executive management team that seriously supports the team's efforts, an HRIS implementation project has a much greater chance to succeed. Most often the HRIS evaluation team members spend most of their efforts building selection criteria and choosing an HRIS, instead of setting expectations and building executive support.

1.1.4 The Structure of HRIS

HRIS applications are systems of databases that allow users to store and track all types of data that are related to human capital in the company. It is necessary to pay attention to the fact that in practice company can buy partial software solutions, which only partially cover the needs of HRM (for example, just a collection of basic information about employees and payroll). These systems cannot be classified as HRIS, because under the

term of systems we imply complex and comprehensive software with all integrated functions for HRM. Only properly implemented systems that permeate the entire company will have maximum positive impact. These are systems that are used to collect, store, manipulate, analyze, retrieve and disseminate HR information. Individual HRIS software solutions differ according to the need of company that developed a specific application. The solutions offered by software companies can be generally divided into three groups:

- The first group represents modules for HRM as part of ERP systems (for example SAP HRMS, as one of the biggest module of SAP R/3 system).
- The second group represents the integral software solutions which merge different modules for computerization of HRM, i.e. integral HRIS.
- The third group includes partial software packages that cover only one function. This group of software is much simpler and relatively cheap solution for small companies that do not require all modules or solutions for those companies which consider it necessary to automate and improve only certain segments of HR.

Regardless of the group they belong all of these solutions are the parts, i.e. modules that are integrated into the HRIS system in one company. In most cases HRIS contains all or most of the following modules:

- *Collection and monitoring of applications for employment or online recruiting* is an application that allows candidates to apply for a certain position in the company, but also for HR department to collect and process the received applications. In this module of HRIS the using of computer systems and networks are very important, especially because of online accesses to the system. Online collection of application has become standard . e-mails (for sending circulars), making online remarks etc.

- *Record keeping* of all personal data is application which has database with data of all employees. It is very important for each company to have these data, and in most cases data must be standardized. For instance, if company needs information on whether an employee has a certificate for particular type of work and if the

company has 7000 employee only search of standardized records can be effective. This module usually includes data for regular and emergency contact with the employee, data on all previously received wages (wage history), data on absenteeism from work, trainings and certificates, estimates the characteristics of employees, information on possible disciplinary action, injuries at work, and data that companies can define by itself, unless they are part of a standard software package. In addition to these data, it is possible to store scanned documents (education diplomas, birth certificates, judgments, etc.).

- *Payroll module* automates the pay process by collecting data on employee time and attendance, calculating various deductions and taxes, and generating periodic pay cheques and employee tax reports. This module is often not fully part of the HRIS, because it is heavily integrated into the system for financial management of the company.

- *Benefits Administration* provides administration of employee participation in various forms of benefits. All employees must be aware of their rights and obligations. The most important activities are included in pension plans, buying life insurance policies, but also in the distribution of shares of the company or division of profits. The primary function of this module is to monitor all benefit programs and to notice any potential deficiencies. The advantage of online access is very important in this module. The fastest and cheapest way to maintain the beneficiary database is ability of online access to the data by the employees. In self service module they can fill the forms about their preferences.

- *Training module and learning management systems* provides a system for organizations to administer and track employee training and development efforts. Company can buy this module on the software market as a separate solution. The most important functions of this module are tracking the education level of employees, their qualifications and / or skills. It allows storing and displaying various types of courses, books, lectures or materials that are suitable for web

learning. Online learning and testing of employees is a remarkable savings in time and money, and provides a high flexibility.

- *Performance management* is very important for each company because continuous monitoring and evaluation are essential when company makes conclusions about effectiveness of HRIS. It is also important to realize whether the objectives are met and which segment should improve. The goal of this process is not criticism but insight in potential updates and upgrades of the system. This module contains features for monitoring system performances, which provides valuable information for the management of the company.

- *Employee Self-Service* in modern environment is module based on web technology which allows employee, together with professionals in HR department to manage the employee's database. With the right permission they can access their data with read-only or change status. Depending on the exact solutions data access can be provided within Intranet (safety is increased) or through the Internet (in which case the company has greater availability of data). These applications are usually used with standard Internet browsers, such as Internet Explorer or Firefox.

In addition to these modules, which cover the basic functions of any HRIS, there are still a number of solutions. These include modules with corporate documents such as instructions for the various programs for employees, HR planning module which include the analysis of previous employment policy, documents about employee's database development, assessment tasks and jobs and the implementation of various satisfaction survey of employees in the company. Selection of software solution depends on the company's management and its decision. This situation also involves the possibility of internal development, acquisition of complete solutions (outsourcing) or renting the resources, i.e. cloud computing. Regardless of the choice management must assess their needs and thus choose a software solution that will have the highest level of utilization. It is equally wrong to choose software that has too many options, which will never be used

or does not possess the necessary options. Decision on HRIS choice must be taken as a strategic decision.

1.1.6 How to correlate with the new HRIS?

Recent changes in the HR User Community have brought an integrated HRIS which leads to more integrated reporting of employee data, which can lead to efforts that benefit the company. Better reporting of employee costs, skills and requirements, time-keeping and recording, etc. give senior managers information that can be used to improve the application of HR policy or to cut costs (i.e. reducing time-card fraud, highlighting wasteful compensation practices, etc.). Most integrated HRIS packages are very sophisticated in the functionality and processes they offer. Compared to legacy, or screen-based/code-based systems, the new HRIS requires a more analytical user. The user cannot simply be trained to put certain codes into certain fields -- he/she must know the business process and how it relates to the HRIS.

HRIS tends to pull user departments together. Using integrated work processes across departments that do not operate under a common authority will highlight data and process ownership issues. These issues in turn get pushed up to HR managers or executive management. Eventually, these managers resolve the issues by increasing the integration of the departments to match the processes. Either way it happens – at implementation or via evolution -- this level of organizational change is always difficult. Supporting the HRIS IT support analysts may be accustomed to, and only skilled for, flat-file processing techniques. Most HRIS packages rely on relational data models, higher-level programming languages, and interactive data management – presenting technical requirements for which some IT analysts may not be ready. The new HRIS may have proprietary languages or facilities, requiring new IT skills. Often these skills will be in high demand, driving a premium rate of pay. Internal resources may opt to leave the company for the higher pay, or they may demand higher pay at the company. The higher pay might be outside the HR guidelines for fair salary. The resulting dilemma can create retention problems. HR users – the analysts in HR, payroll and benefits – must take a more active role in ongoing support and system changes. Since business rules are often coded into the HRIS instead of resting in manual processes, the business analysts are

necessarily drawn into this activity. Some firms may push this "business rule" knowledge to their IT support analysts, or rely on consultants who help with the implementation. Although either of those scenarios can work, HR business analysts and managers have the most to lose if the HRIS does not process transactions correctly. Placing HR analysts in system support and change roles will help ensure that the HRIS processes transactions correctly.

1.1.7 Advantages Of Using HRIS

Many authors (Hendirks, 2003; Beadles, et all, 2005, Kovach, 2002) emphasize the advantages of HRIS. If we collect all those opinions with practical advice in web sites of HRIS producers (www.employease.com, www.hrworld.com, www.link-softsolutions.com etc.) we can observe all HRIS advantages through three dimensions: the benefits for the management, the benefits for the HR department and benefits for employees. The most important advantages for management of the company are:

- Increase of overall decision making efficiency,
- Cost reducing and better control of budget,
- Business transparency,
- A clear business vision and
- A clear insight into the process of hiring and firing employees, at the aggregate level.

The HR department also has a numerous benefits for HRIS:

- Possession of single database of all employees in the company with all necessary information and opportunities for different reports,
- The ability to update databases in real time, on the basis of all changes, which is of extreme importance to regionally diversified companies;
- Elimination of paper forms that are much slower and with much higher probability of errors;
- Minimize errors caused by human factor;

- Employees in HR department do not have to constantly refer to the instructions on working hours, because the application is configured according to existing guidelines, which have reduced delays and uncertainties;
- Improved management system in accordance with the legislation;
- Reduction or elimination of redundancy in the system;
- Standardization of business processes;
- Highly reliable data in the system, whether it is external or internal threats.
- Increased employee satisfaction in HR department because the easiest and efficient execution of the tasks;
- The ability to establish full control over internal migration of employees and the management of their talents and
- The ability to take preventive measures to avoid unpleasant situations in the company.
- HRIS provide the advantages to the employees among which the most important are the following:
- The possibility of independent access to data, which often means working in one software window;
- Saving time (for example, if the employee wishes a day off the simplest wait is to fill the online form available as an option of the HRIS and wait for approval by superiors);
- Automatic tracking and reminder to the business obligations and events;
- Encouraging employees to make decisions and initiatives on the basis of information obtained in the HRIS system (for example, workers can monitor the internal competition for jobs and thus to advance in your company);
- Data availability 24/7;
- Reducing the time required for desired information, which are available in the system;
- The ability to attend internal training courses via the web and the development of personal skills and knowledge and
- Increasing staff morale.

Besides all these advantages, there are a few shortcomings that need to be mentioned. First it is the need of additional training of employees for using self-service module. There is a problem to force employees to use new features that system provides instead the way they previously used (for instance, some of employees always use contact phone in order to obtain the desired information). In addition, employees in HR department must attend several trainings to be able to use modules and to exploit all the options it provides. This problem is given special attention in companies, because without competent software users the company can miss a large number of advantages. The last problem is connected with the process of replacing the old system with the new one. If the company chooses another producer or provider the problem may arise with incompatible data or possible danger to the security of database. Because of privacy issues, replacement process can be much longer comparing to other types of software integration. Regardless to the shortcomings connected with the implementation of HRIS the benefits provided by these systems are dominant. However, these systems may not be introduced without prior analysis of company needs.

1.1.8 Future Projections of HRIS

1. Consolidation of HR information systems into ERP systems
2. HR's role will evolve as their responsibilities are consumed by the business
3. More focus on business as HR is outsourced to the cloud
4. Tech will take over compensation, succession planning, and training
5. More data requires automatic data collection and analytics
6. Real-time performance and productivity tracking
7. Improve employee efficiency through behavioral changes
8. Software that pre-interviews candidates
9. The resume's relevance fades, while visible contributions rise
10. More personalization of jobs fed to candidates
11. Search for the right balance between automation and human touch
12. More standardization and integration with applicant tracking systems (ATS)
13. More and earlier face-to-face conversations with video interviewing
14. Embrace existing tools, don't just create new ones

1.1.9 Manufacturing Industry in India

Manufacturing Industry in India has gone through various phases of development over the period of time. Since independence in 1947, the Indian manufacturing sector has traveled from the initial phase of building the industrial foundation in 1950's and early 1960's, to the license–permit Raj in the period of 1965–1980, to a phase of liberalization of 1990's, emerging into the current phase of global competitiveness. It has grown at a robust rate over the past ten years and has been one of the best performing manufacturing economy. Manufacturing sector contributes about 16% of India's GDP and India's share in world manufacturing is only 1.8%. With changing global realities, the manufacturing sector will need to be the bulwark of employment creation over the next decade, in contrast to current employment of only 9% of India's working population. India's long touted demographic dividend can only then be sufficiently exploited through the systematic growth of this sector.

The lackluster growth of manufacturing can also be traced to the low technological depth of the Indian manufacturing sector. In India R&D has not been sufficiently exploited and needs an overhaul in terms of its focus and its organization. Most Indian manufacturing firms appear to be stuck at the basic or intermediate level of technological capabilities. Creating conducive environments to increase business expenditure on R&D complemented by institutional measures around skill development, regulation and standardization need to be key areas of emphasis.

India's manufacturing sector is vital for its economic progress. The government has realized the importance of this sector to the country's industrial development, and has taken a number of steps to further enhance the industry. Today, the country's attractiveness as a manufacturing centre for foreign companies is clear. Overseas mobile phone and automobile companies have manufacturing plants in India, and luxury brands such as Frette and Louis Vuitton are looking to do the same.

The Indian government has agreed, in principle, to five National Investment and Manufacturing Zones (NIMZs) outside the DMIC region. The zones are Nagpur in

Maharashtra, Tumkur in Karnataka, and Chittoor, Medak and Prakasam in Andhra Pradesh. The state governments have to acquire the land before any investments are made in the approved zones.

Hi-tech exports are also expected to boost the country's manufacturing industry. Hi-tech exports from India have been witnessing a compound annual growth rate (CAGR) of 26 per cent during the period 2007–2011, with exports touching US$ 20.9 billion, a significant increase from the US$ 8.1 billion in 2007. The electronic goods and pharmaceuticals sectors dominate exports of high-tech products, with the share of electronics almost doubling during the 2007–2011 period, according to an industry study.

1.1.10. Some common HRIS used in the Manufacturing Industry

SAP: SAP AG is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. Headquartered in Walldorf, Baden-Württemberg, Germany, with regional offices around the world.[2]

The company's best-known software products are its enterprise resource planning application systems and management (SAP ERP), its enterprise data warehouse product – SAP Business Warehouse (SAP BW), SAP Business Objects software, and most recently, Sybase mobile products and the in-memory computing appliance SAP HANA. It is one of the largest software companies in the world.

SAP's products focus on Enterprise Resource Planning (ERP). The company's main product is SAP ERP. The current version is SAP ERP 6.0 and is part of the SAP Business Suite. Its previous name was R/3. The "R" of SAP R/3 stood for realtime. The number 3 related to the 3-tier architecture: database, application server and client (SAPgui). R/2, which ran on a Mainframe architecture, was the predecessor of R/3. Before R/2 came system RF, later dubbed R/1. SAP ERP is one of five enterprise applications in SAP's Business Suite. The other four applications are:

- Customer Relationship Management (CRM) – helps companies acquire and retain customers, gain marketing and customer insight

- Product Lifecycle Management (PLM) – helps manufacturers with product-related information
- Supply Chain Management (SCM) – helps companies with the process of resourcing its manufacturing and service processes
- Supplier Relationship Management (SRM) – enables companies to procure from suppliers

PeopleSoft: PeopleSoft, Inc. was a company that provided Human Resource Management Systems (HRMS), Financial Management Solutions (FMS), Supply Chain Management (SCM), Customer Relationship Management (CRM), and Enterprise Performance Management(EPM) software, as well as software for manufacturing, enterprise performance management, and student administration to large corporations, governments, and organizations. It existed as an independent corporation until its acquisition by Oracle Corporation in 2005. The PeopleSoft name and product line are now marketed by Oracle.

PeopleSoft Financial Management Solutions (FMS) and Supply Chain Management (SCM) are part of the same package, commonly known as Financials and Supply Chain Management (FSCM).

In December 2004, Oracle announced that it had signed a definitive merger agreement to acquire PeopleSoft for approximately $10.3 billion. A month after the acquisition of PeopleSoft, Oracle cut over half of PeopleSoft's workforce, laying off 6,000 of PeopleSoft's 11,000 employees.

Oracle's PeopleSoft Human Capital Management enables you to architect a global foundation for HR data and improved business processes. PeopleSoft Human Capital Management delivers a robust set of best-in-class human resources functionality that enables you to increase productivity, accelerate business performance, and lower your cost of ownership.

Oracle's PeopleSoft Enterprise Manufacturing Solution focuses on optimizing production processes and ensuring alignment with key business goals by connecting customers, suppliers, and employees with manufacturing best practices. Eliminate waste and

maximize demand-driven efficiency while aligning production processes with core business goals in real time.

PeopleSoft Manufacturing Solution is part of Oracle's PeopleSoft Enterprise Supply Chain Management family of applications.

Its benefits are:

- Manage your extended factory by connecting suppliers and customers with your business process to drive operational efficiency.
- Align manufacturing processes by deploying mixed-mode manufacturing techniques, including make-to-order, lean, make-to-stock, or other unique process needs.
- Optimize production operations by providing real-time performance analysis to help minimize production costs and decrease your product's time to market.

1.2 Objectives of Study

With the increasing effect of globalization and technology, organizations have started to use information systems in various functions and departments in the last decades. The main objective of the study is "to explore the applications of HRIS in Manufacturing Sector of India". Thus, the study attempts to seek the answers to the following questions:

- To study the applications of HRIS in Manufacturing Sector of India.
- To study and investigate into the issues in implementing HRIS in private and public sector manufacturing companies in India.
- To measure and compare the satisfaction levels of employees from HRIS applications in 1 private and 1 public sector manufacturing companies in India.

Besides the above objectives, the study also attempts to test the following hypothesis:

H0: There is no significant relationship between implementation of HRIS and employee satisfaction in public sector manufacturing units in India.

H1: There is no significant relationship between implementation of HRIS and employee satisfaction in private sector manufacturing units in India.

H2: There is no significant difference in the impact of HRIS on the satisfaction level of employees in private & public sector manufacturing units in India.

H3: There is no significant difference in the HRIS system adopted in the private and public sector manufacturing units in India.

2. THEORETICAL BACKGROUND OF PROJECT

- Studies found that more than 90 percent of the organizations use computers/IT for HR functions in general (By Alok Mishra, PhD, and Ibrahim Akman, PhD, Public Personnel Management Volume 39 No. 3 Fall 2010). This is in line with the studies reported by Watson Wyatt Worldwide and Towers Perrin who respectively found that more than 90 percent and 75 percent of HR departments operate with some form of computerized HRIS. According to their study, HR departments are also planning to increase investments in HR related technologies in the immediate future.
- Studies show that HRIS applications in human resource (HR) help in achieving primarily three objectives (Broderick and Boudreau, 1992). HRIS was categorized in three objectives i.e. cost reduction/efficiency gains, client service improvement/facilitating management and employees and improving the strategic orientation of HRM/innovation (Broderick and Boudreau, 1992; Ruël et al., 2004). Ruël et al. (2004) added a fourth dimension to it i.e. allowing integration of HR functions. These could be set as HRIS goals and taken as the basic reasons for adoption of HRIS in any organization.
- Over the past two decades, there have been a number of studies on HRIS. These studies have focused on the type of applications that predominate in HRIS (Broderick and Boudreau, 1992; DeSanctis, 1986; Martinsons, 1994), the contexts necessary for the successful implementation of HRIS (Yeh, 1997) as well as the conditions that support successful HRIS (Haines and Petit, 1997). Martinsons (1994) clarified the usage of HRIS as per the sophistication. He described the use of HRIS for administrative purpose i.e. in employee record-keeping, payroll, payroll benefits etc. in HR as "unsophisticated" (Martinsons, 1994).
- Studies have concluded that HRIS has mostly used for these HR activities (Altarawneh and Al-Shqairat, 2010; Ball, 2001; Hussain et al., 2007; Ngai and Wat, 2006; Ruël et al., 2004). Automation, streamlining administrative tasks, deletion of repetitive activities and the subsequent effects of these applications help HRIS to achieve basic purpose of cost and time reduction, process automation and efficiency

gains (Altarawneh and Al-Shqairat 2010; Ball, 2001; Martinsons, 1994; Ngai and Wat, 2006; Ruël et al., 2004).

- The use of HRIS in training and development, recruitment and selection, HR planning and performance appraisal was viewed as "sophisticated" (Ball, 2001; Martinsons, 1994). Timelessness in data availability, removal of data duplication and improvement and streamlining of HR functions by HRIS helps in employee service improvement. Introduction of web based HRIS shifts HR activities to line managers and employees through self-service technology. Therefore time squandered on basic administrative tasks can now be spent on strategic issues and implementing progressive new plans of the organization. It allows HR professionals to help employees design their career plan, training and development etc.
- Integration of HRIS with other information systems along with applications of HRIS in implementing HR policies and practices that support business strategy of organization makes use of HRIS strategic (Marler, 2009). Kossek and her colleagues have also argued that a corporate human resource information system can practically and symbolically transform human resources into a strategic business partner (Kossek et al., 1994). Ruël et al. (2004) found that an organization with global presence or multi-plant company requires integration. Imagining HR in these organizations without a web based HRISapplications is a myth.
- Many studies have been carried out on various applications of HRIS (Ball, 2001; CedarCrestone, 2006; De Alwis, 2010; Kinnie and Arthurs, 1996; Lin, 1997; Teo et al., 2001; Saharan and Jafri, 2012). A study in Taiwan found that HRIS is most extensively utilized at the EDP level, followed by the MIS and DSS levels (Lin, 1997). Kinnie and Arthurs (1996) in their survey on UK companies revealed that the most frequent uses of HRIS were in operational areas of employee records (72%), payroll (66%), pensions (57%) and employment contract administration (48%). Another study found that employee record-keeping (96.8%), payroll (90.5%) and benefits management (57.1%) were the most common HRIS applications (Teo et al., 2001).
- Ball (2001) in a survey in UK found that current employee details and organizational salary details were the most frequently applied areas.

- Later, Ngai and Wat (2006) found that in Hong Kong companies the two major applications of HRIS are providing general information (86.4 %) and payroll services (84.7%). Recruitment and selection (11.1%) and succession planning (7.9%) were least used HRIS applications (Teo et al., 2001). Ngai and Wat (2006) also showed that corporate communication (20%) and recruitment and selection (26.9% and 19.1%, respectively) were least used HRIS applications. These studies show that HRIS is more commonly used for administrative purposes like employee record-keeping and payroll rather than for strategic purposes (Groe et al., 1996; Kovach and Cathcart, 1999).
- However, many studies have shown that companies have started using sophisticated HRIS like training and development, performance management, compensation management and corporate communication (CedarCrestone, 2006; De Alwis, 2010; Saharan and Jafri, 2012).
- CedarCrestone (2006) in HCM Surveys on US companies broadened the scope of HRIS applications. Administrative HRIS was still the most popular application (62%), companies reported an increasing use of strategic applications i.e. talent acquisition services (61%), performance management (52%), or compensation management (49%) (CedarCrestone, 2006). De Alwis (2010) in his study on Sri Lankan industry shows that the most commonly used modules in HR department are training and development, recruitment and selection and performance appraisal and are being utilized by all the companies. Recent study on Indian companies also found that HR professional had major applications of HRIS as recruitment and selection (67.2% and 71.9%, respectively), pay roll service (67.2%), providing general information (67.2%), compensation (67.2%), performance appraisal (62.5%) and job analysis and design (62.5%) (Saharan and Jafri, 2012).
- Also HRIS was quite in use in corporate communication (48.2%) (Saharan and Jafri, 2012). The most popular future applications of HRIS had been predicted as training and development (72.5%), career development (60.8%) and performance appraisal/management (58.8%) (Teo et al., 2001). There appears to be shift towards strategic applications of HRIS. The possible reason could be that most of the

organizations which are using HRIS for few years for now, want to explore possibilities of strategic HRIS applications over the next few years (Teo et al., 2001).

- Madhuchanda Mohanty and Santosh Kumar Tripathy (2009) analyzed the HRIS of NALCO in his study. The author exhibits that the present HRIS of NALCO has improved the overall pace and competence of HR functions, but still needs reengineering. The study supports that HRIS is used for administrative purpose and not analytical purpose. To gain cost effectiveness in- house development of HRIS is decided but it was very time consuming process. In addition to this there are some other drawbacks that have to be surmountedto make the HRIS of NALCO more proficient.
- MD. Sadique Shaikh (2012) developed three models in his research paper for HRIS designing namely basic HRIS design model, HRIS hexagonal and HRIS phase‟s model. The author emphasized on the payback of HRIS engineering and execution for all levels and domains of businesses; in the form of profitable strategic HR and related business plans and decision, to forecast and to control HR process inside and outside of business organization using HR-databases or HR-Knowledgebase‟s, which includes information related to human resource maintained and processed by HRIS.
- Prof. Dr. Anil C. Bhavsar (2011) discusses various advantages, applications and importance of HRIS. The author highlighted that "today's HRIS has the potential to be an enterprise wide decision support system that helps achieve both strategic and operational objectives."
- The results of the research (by Yasemin Bal, Serdar Bozkurt, Esin Ertemsir, International Conference, 2012) reveal that HR employees perceive HRIS useful and they are satisfied with the system. It was found that both HRIS perception and HRIS satisfaction of employees show difference according to position variable.

3. RESEARCH METHODOLOGY

Research is a quest for knowledge through diligent search or investigation or experimentation aimed at the discovery and interpretation of new knowledge (WHO). Research is an art of scientific investigation.

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research. It is necessary for a researcher to design a methodology for the problem chosen. Even if the method considered in two problems are same, the methodology may be different. It is important for the researcher to know not only the research methods necessary for the research under taken but also the methodology.

3.1 Significance of a Research Study

In general, the prime objectives of conducting a study include:

- To discover new facts
- To find out the significance of tools used
- To verify and find out the most important factors
- To analyze an event or process or phenomenon to identify the cause and effect relationship
- To develop new scientific tools, concepts and theories to solve and understand scientific and non scientific problems
- To overcome or solve the problems occurring in our everyday life.

This project is an exploratory study which finds out the effectiveness of HRIS and the satisfaction levels of the employees of private and public sector manufacturing companies from it and thus to compare the responses obtained from both the sectors and find out the differences and major implementation issues in HRIS. The project aims at finding the orientation of both sector employees of the manufacturing industry from the HR as well as other departments of a company.

3.2 Scope of Study

It basically determines the sample size to be taken and how effectively it can be used for the analysis to be done out of the study. The study was conducted in one public sector Company and the other private sector company of the manufacturing industry. The public sector company taken was Gail India Limited, in Noida. The name of the private company is to be kept confidential as per their rules, so it cannot be disclosed here.

3.3 Questionnaire Development

Having read the literature and after having discussed with the project guide and an expert from the Manufacturing industry, a questionnaire was developed. The questionnaire was developed based on the data collected from previous research papers on HRIS, interviewing the employees, websites of manufacturing companies, internet etc.

The questions were framed so as to find out the effectiveness of the HRIS being used, the most important modules, the level of satisfaction of employees from it, improvement areas and last but not the least to find out the issues in its implementation. It consisted of 15 questions, out of which first 7 questions were based on nominal scale and question number 8 and 10 was based on Likert scale and question number 9 and 11 were based on Ranking. The last four questions concluded to find out the demographic/ Personal details of the employees. A score of ___ was obtained on testing the reliability of the scales using Cron-Bach Alpha test.

3.4 Data Collection and Sample Design

Data is basically a collection of information. In this case, data has been collected via many sources. These sources include primary as well as secondary data sources. Initially, secondary sources were used, to develop a relevant questionnaire by searching through various research papers, journals, websites of manufacturing companies, etc. Then based on the questionnaire formed, a survey was conducted on 51 employees of GAIL India Ltd, and 51 employees of a private manufacturing company. The method of the research sampling is “purposive sampling” which gives the researchers to use their own judgment to select suitable people for the sample (Balcı, 2004). Here the selected sample consisted of employees from HR department as well as other departments. Same questionnaire was

used for both types of employees of the two companies. Their offices were visited for conducting the survey and authorized representatives were also informally interviewed.

3.6 Tools of Analysis

Analysis involves working on the collected and observed data to verify the hypothesis and the objectives of the study. It is done using various tools as SPSS, MS Excel, etc.

The whole data was compiled into MS Excel Spreadsheet and then was analyzed using SPSS v16.0 by applying Independent Sample T Test, Cross tabulation, Reliability test(Cronbach Alpha), Chi Square Tests according to the questions. Independent Sample T Test is performed to find out the significant difference in responses of collected samples. Cross Tabulation is used to find out whether or not and what kind of relationship exists between two things. Reliability test is used to find out the effectiveness and efficiency of the scales used in the questionnaire. The Chi Square test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. All these tests are performed question wise.

3.7 Limitations of Study

- The private company name was not allowed to be disclosed, hence it was kept confidential.
- The employees from the departments other than the HR Department were mostly not aware of the term ‘HRIS’. So it needed to be explained to most of them before proceeding with the questionnaire.
- The information given by some of the employees may not be correct or may be biased due to either being unaware of the terms or being persuaded by the other employee responses.

4. DATA ANALYSIS, INTERPRETATIONS AND FINDINGS

The Analysis is divided into three sections: Analysis of the impact of HRIS in the Public sector manufacturing unit, Analysis of the impact of HRIS in the Private sector manufacturing unit, Comparison of the impacts of HRIS on the employees of Public and Private sector manufacturing units.

4.1 General Analysis:

This analysis is done using the descriptive statistics tool of SPSS for frequency counting. Thus frequency counting is done for the responses obtained from the survey, question wise for public and private sector manufacturing units. Based on the frequency tables, the pie charts are shown below:

1) For Public Sector:

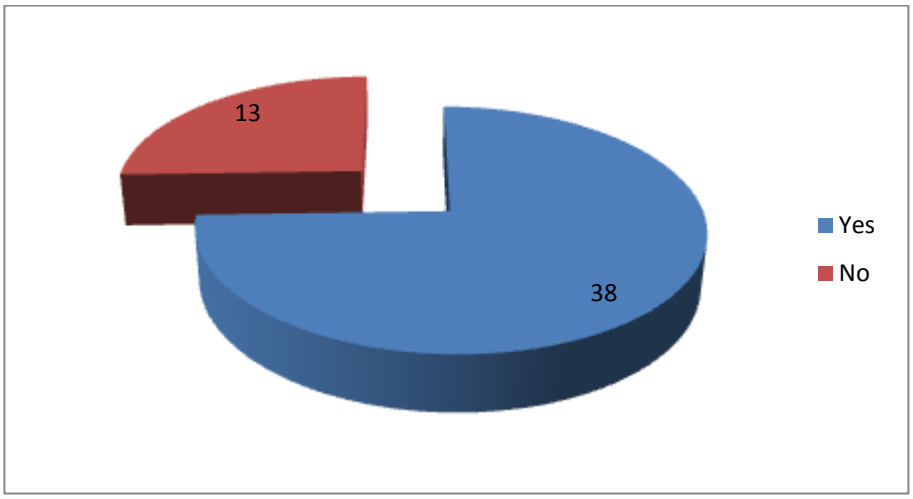

Figure 1: Based on awareness about HRIS

According to the chart above, it is very clear that, most of the employees are aware of the presence of HRIS being used in their organization. Though they were not very sure about its technical name, but had certain knowledge about it.

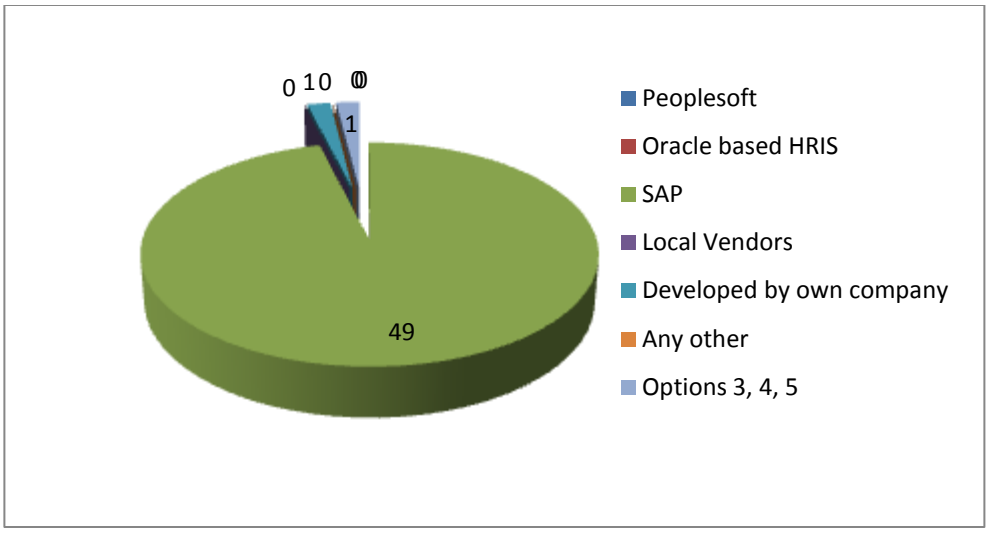

Figure 2: Type of tool used as HRIS

As is clear, from the above figure, the Public unit is using SAP based HRIS and people are well aware about it.

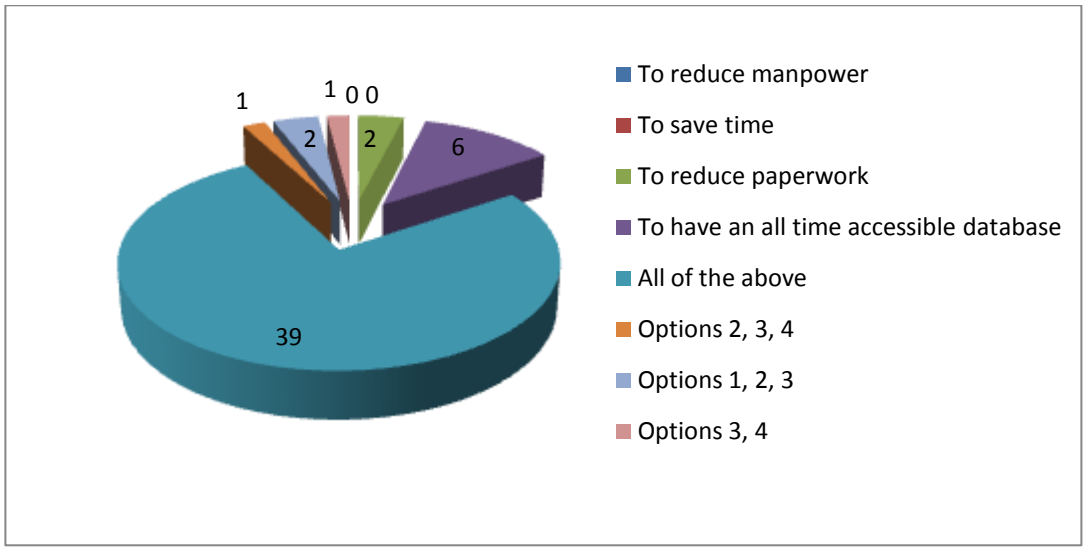

Figure 3: Causes of implementing HRIS

The main reasons for implementing HRIS, as seen from the chart above can be cited as: to reduce manpower, time, paperwork, to have an all time accessible database, etc. Some employees feel its main reason is to have an all time accessible database.

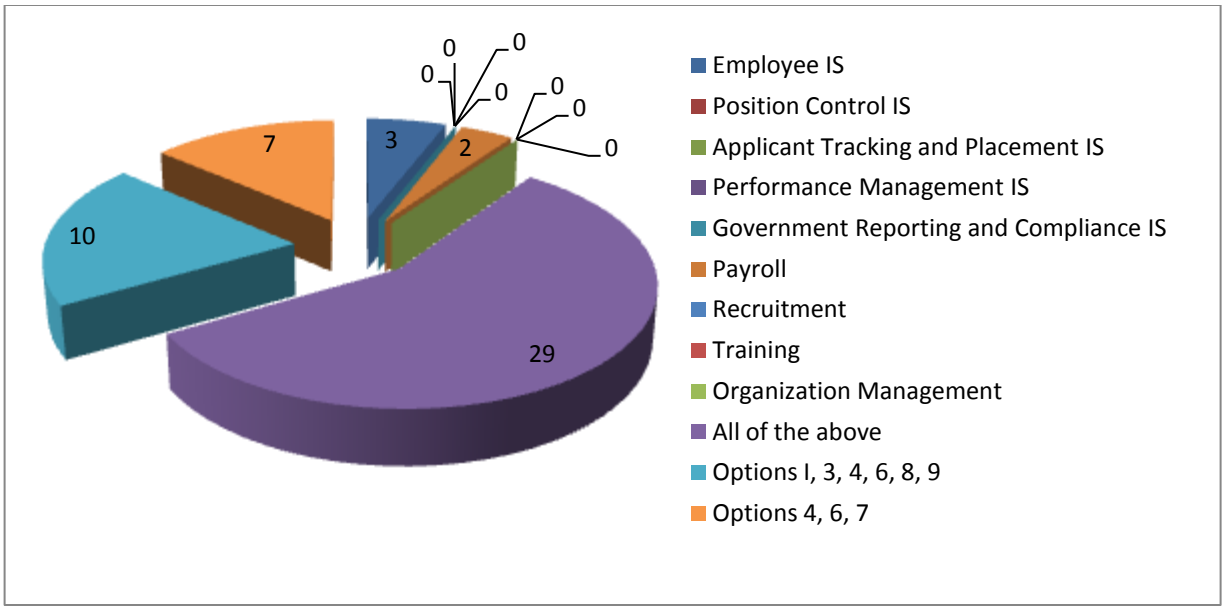

Figure 4: Modules presently operational in HRIS

It is very clear from the graph above that most employees feel that all of the modules of SAP HRIS are operational in their organization. But maximum employees have a view that Performance management, Payroll and employee IS are the most used modules.

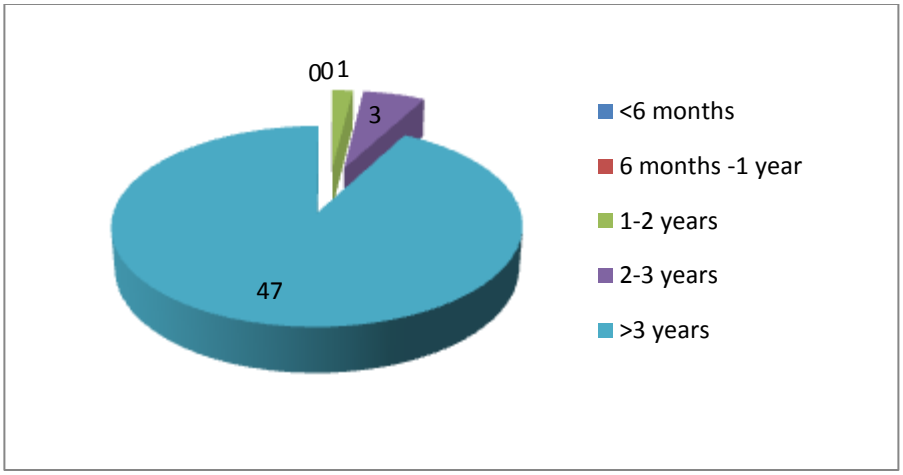

Figure 5: Total time spent on HRIS

Maximum employees have spent more than 3 years working on HRIS, which shows that most employees have been employed there for more than 3 years.

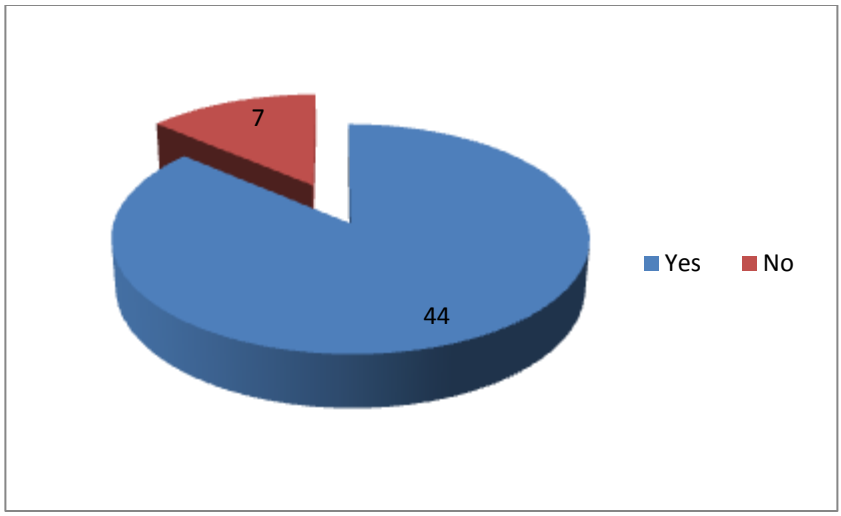

Figure 6: Whether or not training was given on HRIS

According to the chart above, training has been given to most employees, but few from non HR departments had a complaint about this.

Demographic Details

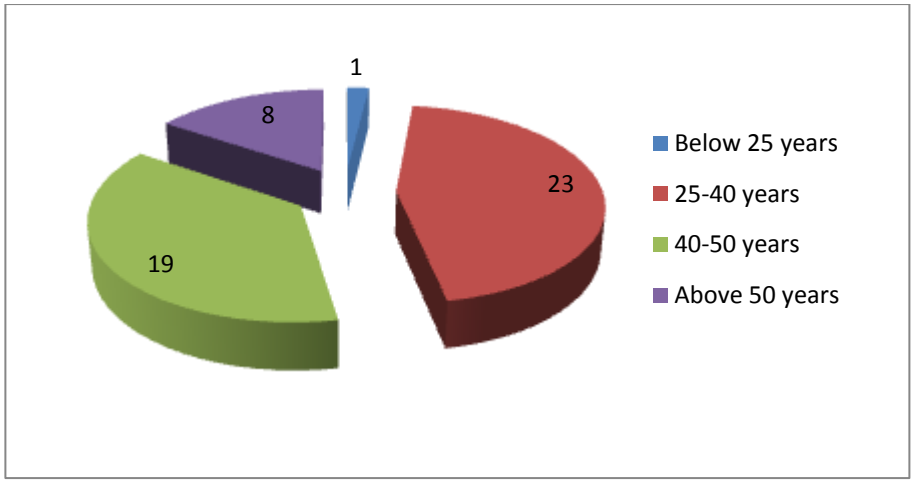

Figure 7: Age

The maximum population of employees is in the age group of 25-40 years or above, which shows that public sector has less of younger employees, since the vacancies are limited and also the recruitment and selection procedure is very rigorous.

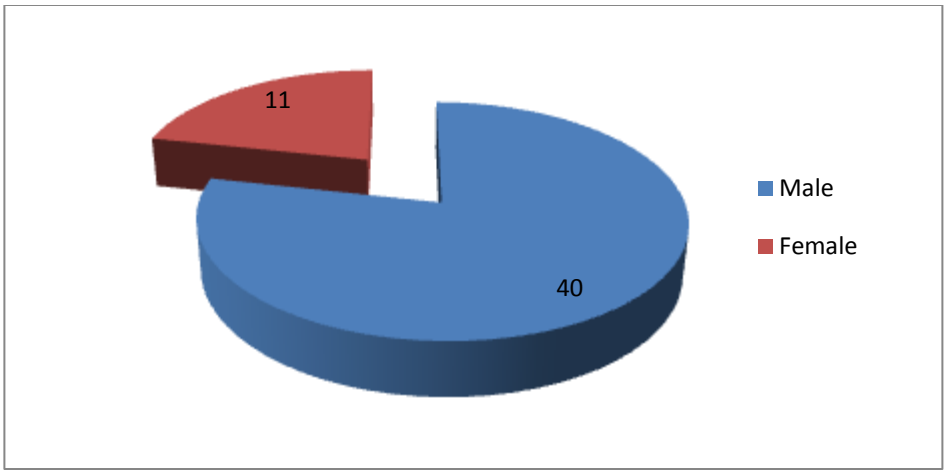

Figure 8: Gender

The chart above indicates a maximum majority of male employees as compared to female employees.

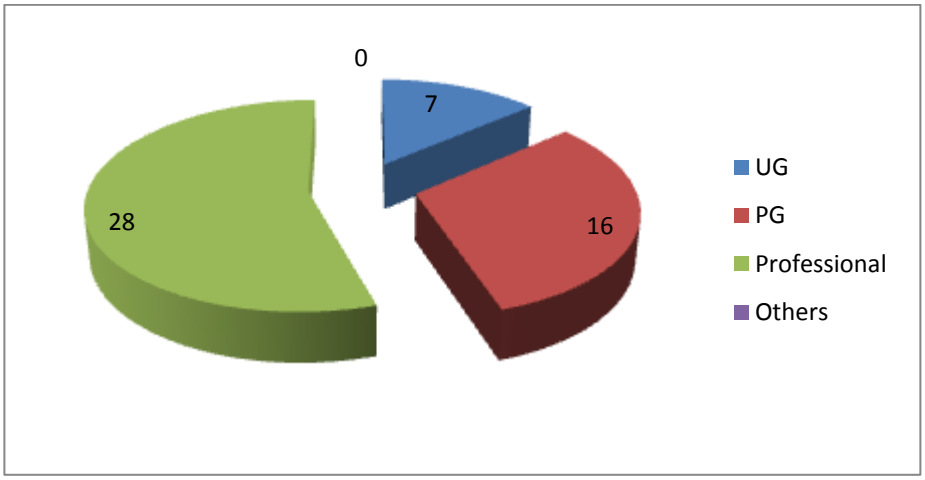

Figure 9: Educational Qualification

From the graph above, it can be deduced that most employees are either professionals in their field or are post graduates. This is due to the tough and rigorous selection procedure of recruitment again.

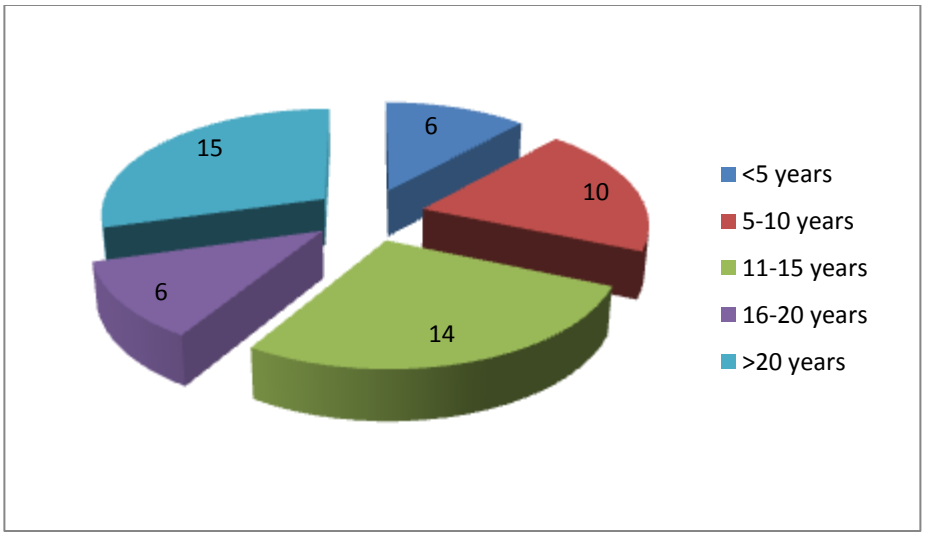

Figure 10: Work Experience

The company has a good strength of veteran employees and employees in the higher experience range, due to the job stability factor in PSU's.

Using cross tabulation, a relationship has been found out between the type of tool used as HRIS (Q2) and the modules that are maximum used in that module. This can be found out from the table below, by seeing the maximum value against the row through various columns.

Table 1: Cross Tabulation

Count		Q4					Total
		1	6	10	11	12	
Q2	3	3	1	29	9	7	49
	5	0	1	0	0	0	1
	7	0	0	0	1	0	1
Total		3	2	29	10	7	51

This table indicates that most of the modules are used in case of SAP as rated by 29 employees, whereas 9 employees say that, Employee IS, Applicant tracking and Placement IS, Performance Management IS, Payroll, Recruitment and Training module are used in SAP. It basically represents the relationship between the different tools used as HRIS and the most operational modules in those tools, as they are used in public sector manufacturing units.

Using the Frequency tables, the following results were found:

a) Q9 of the questionnaire, which ranked the various modules based on the importance given to the level of perception or level of operation by the employees to the HRIS used in their organization, as:

Master Data: 25 employees ranked it at no 1, whereas 11 employees ranked it at no 3, which tell us that master data is ranked as one of the most important features by the public sector employees, as per use in their organization. The main reason accounted for this can be that all the work that is being done in any organization depends on this specific data of the unit, which is kept update from time to time.

Recruitment: 26 employees ranked it at no. 8, while 10 employees ranked it at no. 6. This shows that this is one of the least important modules for these employees. The reason is that, most of the public organizations still follow the paper based comprehensive conventional method of recruitment, due to the strict compliance to the government rules and regulations in these policies.

Personnel Management: 11 employees ranked it at no 4, whereas 9 employees ranked it at no 6, which shows the medium importance given to this module. The main reason is that since PSU's are generally huge bodies, being governed majorly by public partnership, leads to focus more on operations and results rather than individual development.

Payroll: 22 employees ranked it at no 2.while 10 employees ranked it at no. 1,which shows that it is the second most important module. The main cause accounted for this is the strict adherence to various pay commissions and deductions, bonus, allowances etc that need to be taken care of while calculating salaries across various pay scales and departments.

Time Management: 19 employees ranked it at no 5.while 10 employees ranked it at no. 2, which shows that it is the fourth most important module and needs to be taken care of to meet the deadlines within allotted time, which is usually less prevalent in PSU's.

Separation Management: 21 employees ranked it at no.8 while 11 of them ranked it at no 6. This shows that it is last but not the least important for the organization. This is so because here care has to be taken to keep a separate record of employees who have been hired directly government payroll on contractual or temporary basis, for their project etc, for a certain period; from those employees who are directly under company payroll.

Performance Management: 14 employees ranked it at no. 6 while 12 of them ranked it at no. 4. Also 8 of them ranked it at no 7, thus it is sixth most important module of HRIS, as it looks after the various aspects of employee performance and also measure and rewards employees through promotions, performance appraisals, etc.

Reports Management: 12 employees ranked it at no. 7, 10 employees ranked it at no. 5 while 10 of them ranked it at no. 3, which shows that it is of less than medium importance to the organization. This is basically due to the still prevalent conventional formal culture of signing and validating reports in hand written form, as a final proof of acceptance. There is less reliance on online media for this purpose.

b) Q11 of the questionnaire, which ranked the various problems in implementation of HRIS in order of their importance, as employees have perceived to occur in their organization, as:

Financial issues: 14 employees ranked it at no 8, while 13 of them gave it 1st rank. Thus huge contradiction can be seen in the rankings which are mainly due to the difference in perceptions to the problems, because of their varied departments. For e.g. employees from the Finance and HR department would have a clearer picture as to how the budget is passed and sanctioned as compared to those in other departments. Thus it can be rated as an important issue which is having a little more than medium importance.

Technical issues: 12 employees ranked it at no 2, while 10 of them gave it 6th rank. The main reason for this is same as for the above issue, as employees having good computer skills or based in the IT departments, would be able to better understand the basic

technical issues of connectivity, slow speed, etc; than the employees from other departments. Thus this can be seen as the 4th most important issue.

Lack of Expertise and Skill sets: 12 employees ranked it at no 3, while 9 of them gave it 4th rank. The main reason for this is the lack of right skill sets and training which is necessary to be provided to all employees irrespective of their departments, to increase the awareness and facilitate better and efficient use of HRIS throughout the organization. Thus this problem can be rated at no.3.

Resistance to change: 10 employees ranked it at no 2, while 9 of them gave it 8th rank. This again shows a discrepancy in the results obtained which is due to the various mindsets of different age groups of employees. The younger employees are more acceptable to changes as compared to the veteran or old employees. Thus rank 6 can be assigned to this issue.

Lack of Infrastructure: 11 employees ranked it at no 8, 10 and 10 of them gave it 7th and 6th ranks respectively. This shows that this is not a major issue and is the last but not the least important issue, as government aids a lot to the PSU's with respect to these facilities.
Rapid pace of Technology Advancements: 14 employees ranked it at no 3, while 12 of them gave it 1st rank. Thus is the second most important issue to be looked after. The main reason that can be accounted for this is the rapidly evolving new IT technologies due to so much of innovation and research and development in this field.

Communication Gap between Top Management and Employees: 12 employees ranked it at no 1 while 8, 8, 8 and 8 of them ranked it at no 2, 3, 4 and 5 respectively. This is so mainly due to the conventional vertical hierarchical structure still followed in these organizations, which leaves less space for proper interaction between top management and employees. But as perceived from the rankings this can be ranked as one of the very important issue at no. 2.

Lack of Control Mechanism to keep track of HRIS: 10 employees ranked it at no 4, while 10 and 10 of them gave it 5th and 6th rank respectively. Thus this issue is having medium importance at no. 5, as a proper feedback channel is important to provide a clear view of problems faced by employees of various departments.

2) For Private Sector

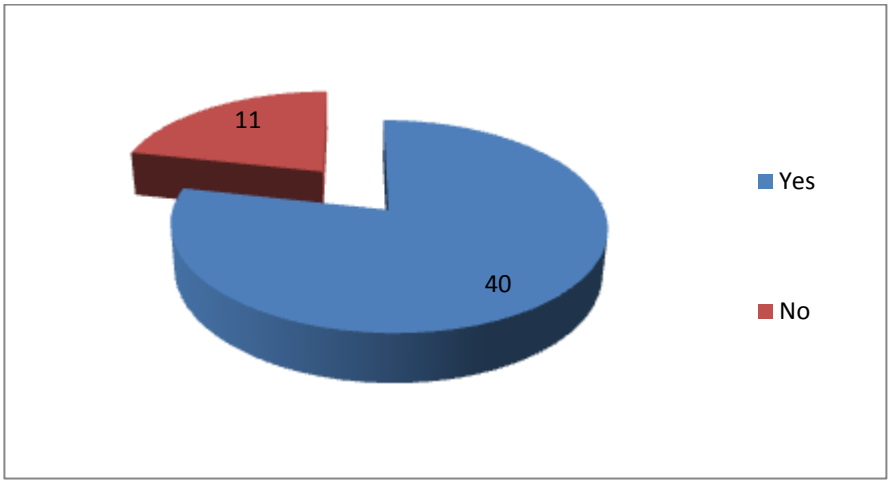

Figure 11: Based on awareness of HRIS

According to the chart above, it is very clear that there is almost same level (good) of awareness about HRIS in case of Private Employees also.

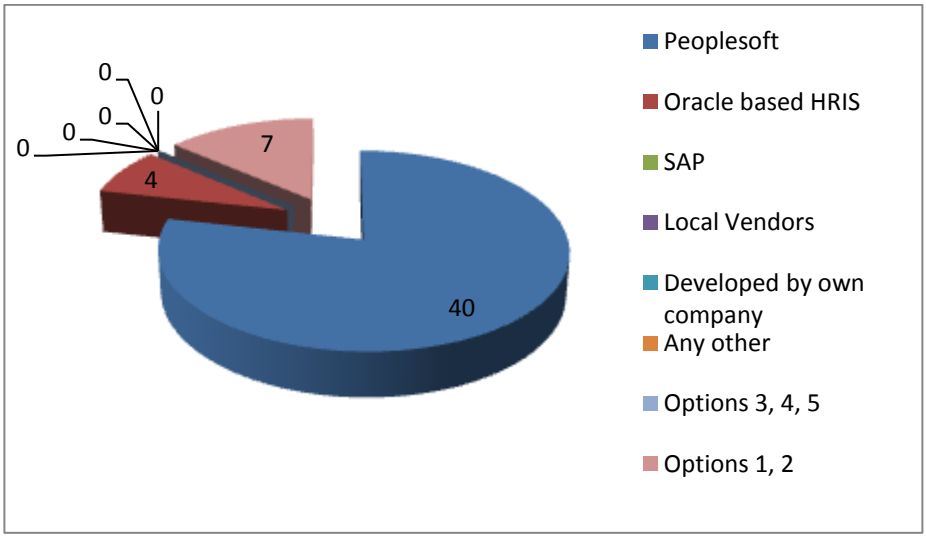

Figure 12: Type of tool used as HRIS

As seen from the graph above, it is very clear that the tool used as HRIS is Peoplesoft in the private company. This is due to the advanced and industry specific feature of this Oracle based software.

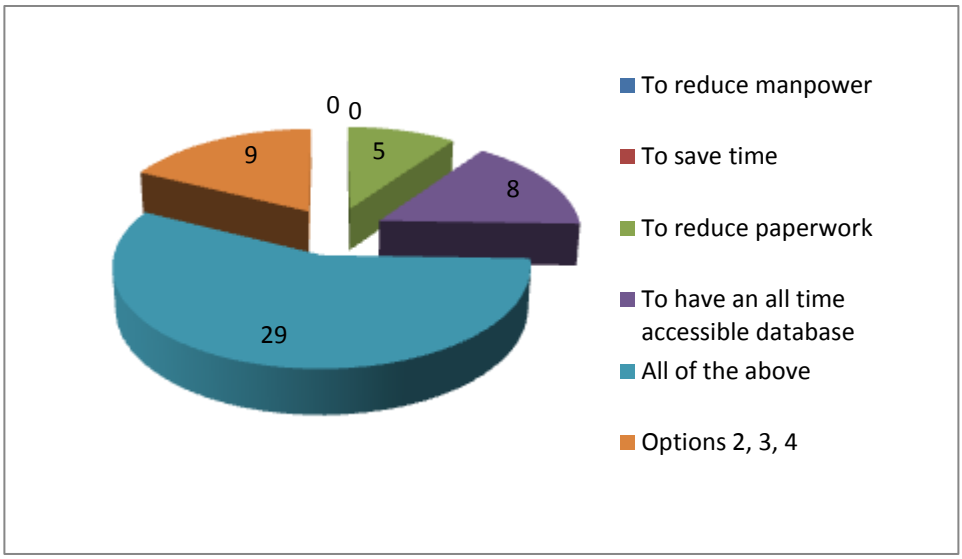

Figure 13: Causes of implementing HRIS

The main cause that can be cited for implementing HRIS in Private sector unit is to have an all time accessible database, to reduce paperwork and to save time.

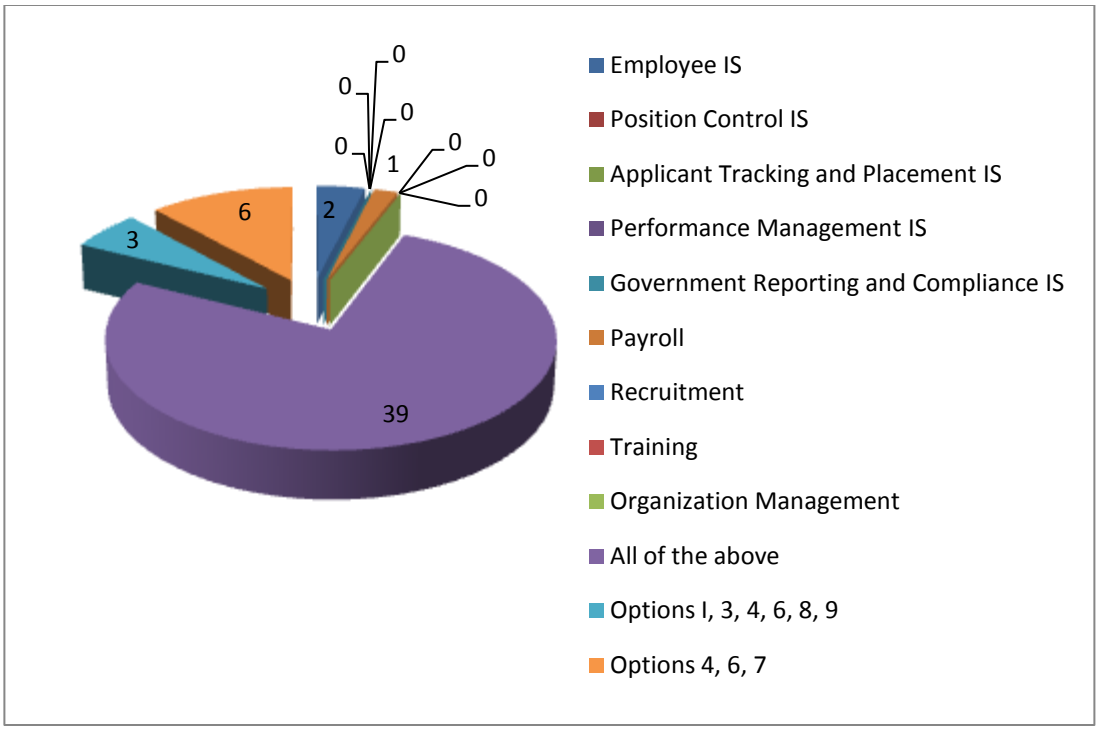

Figure 14: Modules presently operational in HRIS

The main modules presently operational in HRIS as seen from the graph above are mostly all the modules including Government reporting and compliance IS, which is basically due to the advanced and industry specific features of the Oracle based Peoplesoft HRIS, coming these days.

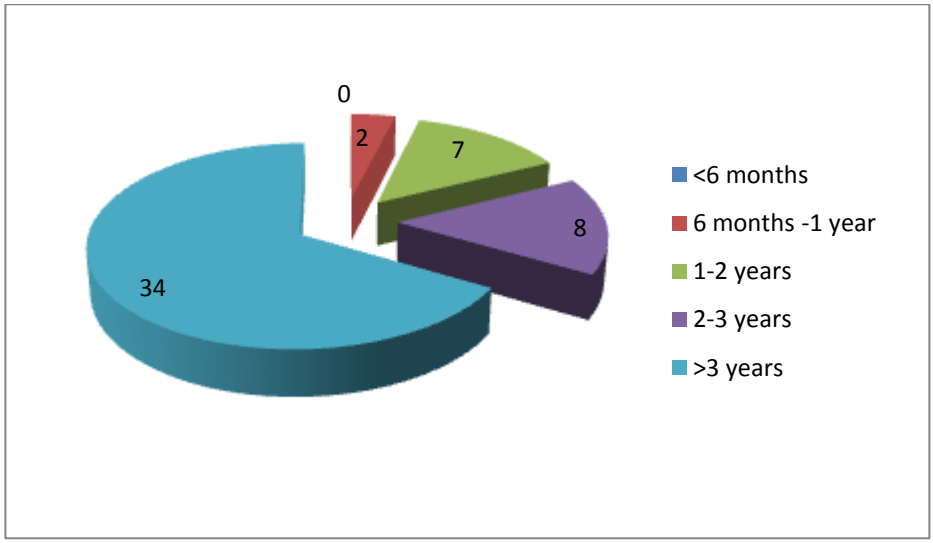

Figure 15: Total time spent on HRIS

In Private sector units also most employees have spent more than 3 years, but also there are more younger or fresh employees in the range of 2-3 years and 1-2 years respectively as compared to the public units.

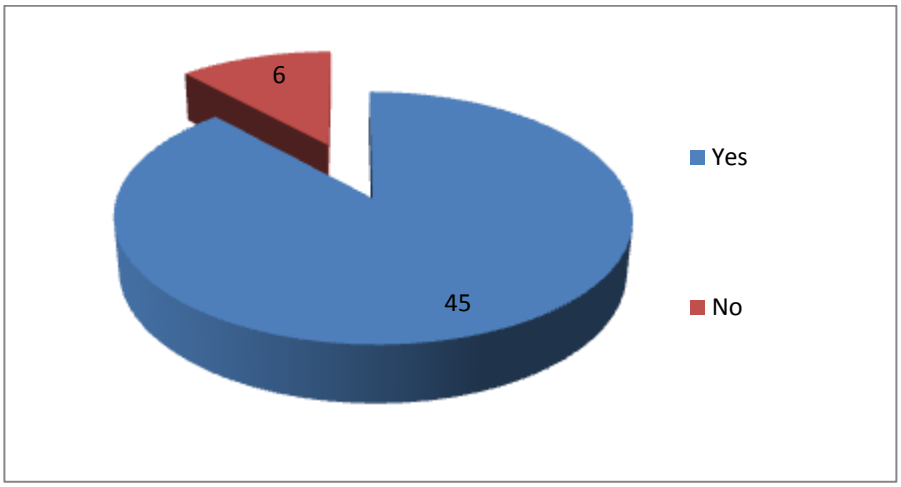

Figure 16: Whether or not training was given on HRIS

As is clear from the chart above, most employees are of a view that training has been provided to them, considering the fact that rest must be fresh employees who are yet to receive the training.

Demographic Details:

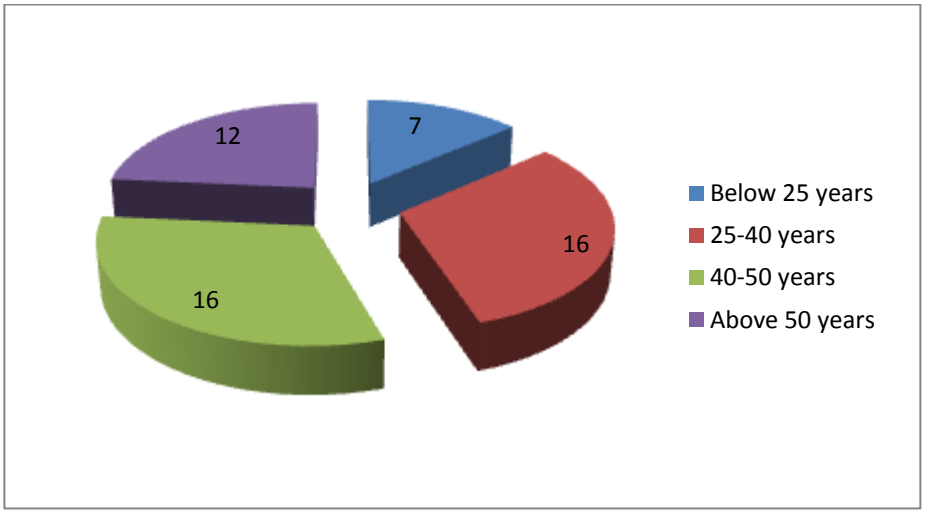

Figure 17: Age

As seen from the chart above, more than half of the employee population is in the range of either 25-40 years or 40-50 years respectively. Although there is also around one fourth employee population above 50 years of age. Thus it is noticeable that as compared to public units, employees here are less experienced.

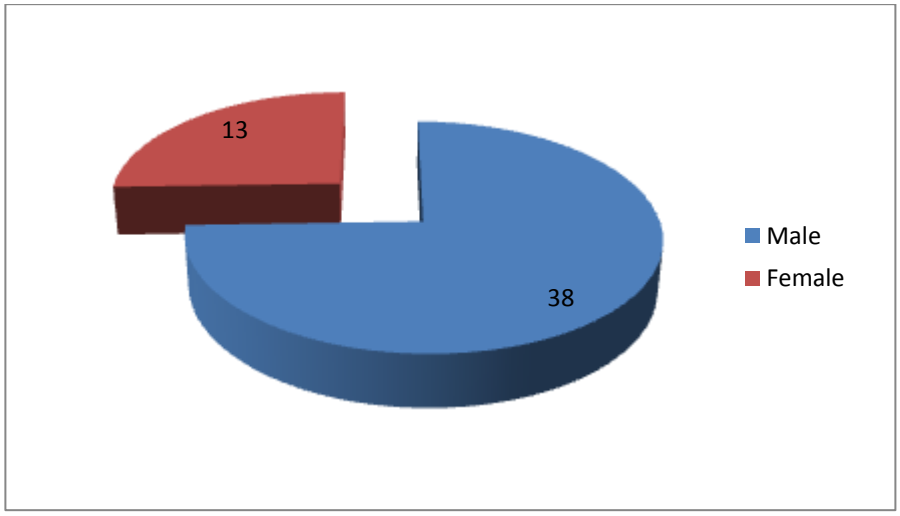

Figure 18: Gender

As seen from the chart, most of the employees are males, but females are more as compared to public units.

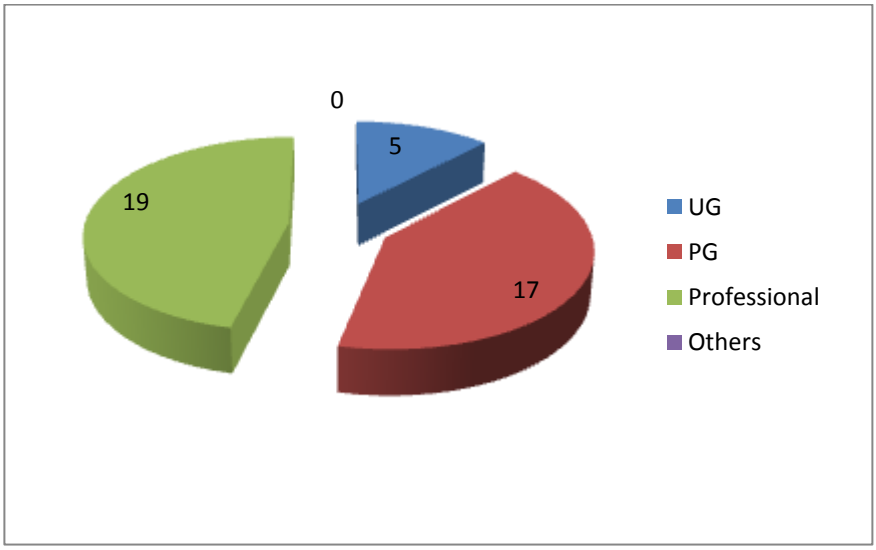

Figure 19: Educational Qualification

As is clear most employees are either having a Postgraduate degree or a professional one. More employees are having a post graduate degree here as compared to the public units.

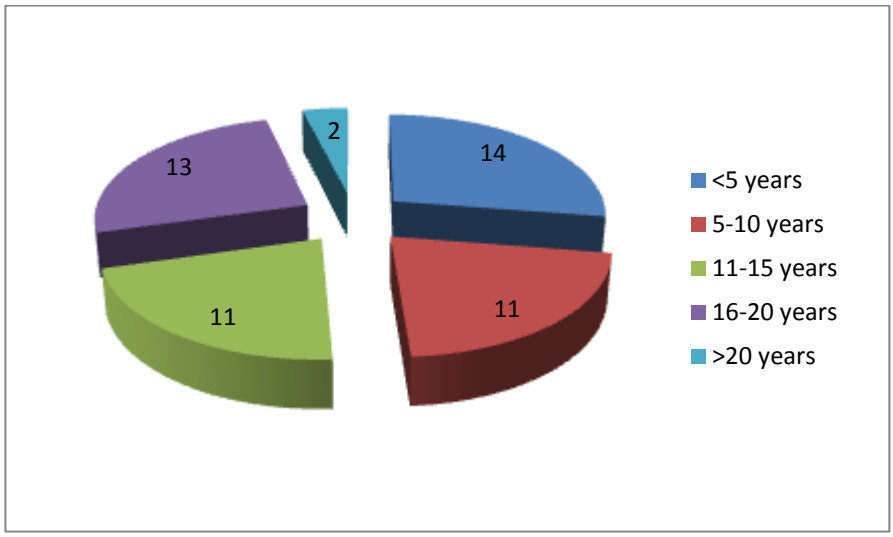

Figure 20: Experience

According to the chart above, it is very obvious that there is a mix of employee experience in the private sector units as compared to the private one. This is due to the comparatively easier recruitment procedure as well the risk taking ability of the company to experiment with more new employees

Table 2: Cross Tabulation

Count		Q4					Total
		1	6	10	11	12	
Q2	1	2	1	29	2	6	40
	2	0	0	3	1	0	4
	8	0	0	7	0	0	7
Total		2	1	39	3	6	51

This table indicates that most of the modules are used in case of Peoplesoft as rated by 29 employees, whereas 6 employees say that it is used for Performance management, Payroll, and training as well. 7 employees also agree to the fact that all the modules are used in Peoplesoft and Oracle based HRIS too. These people are those who feel both these tools are used as HRIS in their organization This table basically represents the relationship

between the different tools used as HRIS and the most operational modules in those tools, as they are used in private sector manufacturing units.

Using the Frequency tables, the following results were found out for:

a) Q9 of the questionnaire, which ranked the various modules based on the importance given to the level of perception or level of operation by the employees to the HRIS used in their organization, as:

Master Data: 25 employees ranked it at no. 1, while 11 and 11 of them ranked it no 3 and 7 respectively. Thus this can be seen as one of the important issues at no. 3 respectively. The fate of the organization depends on this data, as it is necessary for future references as well all the current work is done on it.

Recruitment: 26 employees ranked it at no. 8, while 9 of them ranked it at no 4 respectively. This shows discrepancy in the rankings, because of the unawareness of the employees of other departments than HR. This can be ranked at no. 6 respectively. Also since this module is already being run successfully in private organizations, so not much heed is given to it.

Personnel Management: 12 employees ranked it at no. 6, while 10 and 9 of them ranked it no 3 and 7 respectively. A ranking at no. 5 can thus be provided to it. More heed is paid to individual development here as compared to the public units, due to the lesser no. of people and customer centric approach of most private organizations, which aim at keeping the internal customers happy first.

Payroll: 26 employees ranked it at no. 2, while 9 of them ranked it no 3. Thus it can be seen as one of the most important modules, as each employee is motivated and most interested by this factor.

Time Management: 20 employees ranked it at no. 5, while 9 and 8 of them ranked it no 1 and 3 respectively. Thus rank 3 can be provided to this module as private units' success

and reputation depends upon their accuracy and delivery time, so they believe in meeting deadlines before time.

Separation Management: 20 employees ranked it at no. 8, while 12 and 11 of them ranked it no 5 and 6 respectively. Thus this feature is of minimum importance as compared to others, since role of government in employing people on contracts for projects of private companies; on their own payroll is very less as compared to in case of PSU's.

Performance Management: 19 employees ranked it at no. 6, while 13 of them ranked it at no. 4. Therefore rank 6 can be provided to this, which shows heed is given to measurement of performance for appraisals, promotions and incentives, etc.

Reports Management: 11 employees ranked it at no. 3, while 10 and 10 of them ranked it no 4 and 5 respectively. Thus it can be given rank 4, which shows that it is important to manage reports online since the online documented version is also acceptable in Private units as a formal *document.*

b) Q11 of the questionnaire, which ranked the various problems in implementation of HRIS in order of their importance, as employees have perceived to occur in their organization, as:

Financial issues: 11 employees ranked it at no. 5, whereas 10 employees ranked it at no.8, thus it shows that financial issues are not seen as a major issue in implementation by the employees as they feel that either don't have the knowledge of it, being from Non Finance departments or due to the use of PeopleSoft, which is a costlier HRIS tool as compared to others.

Technical issues: 12 employees ranked it at no 1, whereas 12 employees ranked it at no. 2 respectively, which shows that it is seen as a major issue in implementation of HRIS, as most employees are not aware of dealing with the technical issues like connectivity, speed of internet, etc.

Lack of Expertise and Skill sets: 15 employees ranked it at no. 4, whereas 13 ranked it at no. 3. This shows that it is the third most important issue, which is probably due to the less trained employees and lack of training as compared to the employees of public sector units.

Resistance to change: 16 employees ranked it at no. 7 and 10 ranked it at no. 2. A discrepancy in the rankings can be seen here due to the variance in the mindsets of employees of various age groups. But this is not a major issue, it's of medium importance since more of employees are in the lower age group here.

Lack of Infrastructure: 13 employees ranked it at no. 7 while 12 ranked it at no. 8. This shows that maximum employees feel this issue is of least importance as infrastructure is already well established for HRIS and other issues are of major concern.

Rapid pace of Technology Advancements: 19 employees ranked it at no. 5, whereas 10 and 10 ranked it at no. 2 and no. 3 respectively. This means that this is one of the important issues and can be ranked at no. 3.

Communication Gap between Top Management and Employees: 15 employees ranked it at no. 1 and 10 of them ranked it at no. 3. This means that most employees feel that this is the most important issues in implementation, since, there is low to no interaction between the top management and the lower level employees, which leads to more of failures.

Lack of Control Mechanism to keep track of HRIS: 18 employees ranked it at no. 6, whereas 10 of them ranked it at no. 4. Thus it is very clear that this issue is at no. 4 in importance as it is very much needed to have a proper feedback mechanism to have a clear view of the problems of various departments.

4.2 Comparison between impact of HRIS in Public and Private sector manufacturing companies

Table 3: T-test

Question Number	T-Value	Significance Value (2 tailed)
Q2	3.087	.003
Q6	3.390	.001
Q8a	2.047	.043
Q8b	3.174	.002
Q8c	2.219	.029
Q8d	-3.178	.002
Q10c	3.787	.000
Q10d	3.536	.001
Q10f	7.703	.000
Q10h	-2.651	.009
Q10i	-4.586	.000
Q10j	3.749	.000
Q10l	2.349	.021
Q10m	2.832	.006
Q14	2.172	.032
Q15	2.697	.008

The table above is used to find out the impact of HRIS from the responses obtained from the public and private sector manufacturing units, by comparing the response of each question and thus finding out the questions on which significance value (> 0.050) showed an optimum difference. Thus the table above contains those questions which showed a significant difference in responses. The reasons for these differences are explained below:

For Q2, the difference is due to the type of tool used as HRIS in the two organizations, which are SAP and PeopleSoft in Public and Private Sector units respectively. In Q6, there is significant difference in responses obtained due to the Public unit having most employees who have worked on HRIS for more than 3 years, whereas in Private unit, most employees have been working on HRIS for either 1-2 years or 2-3 years. In Q8a, Q8b, Q8c most employees were more satisfied with the duration, depth and quality of

training on HRIS, provided to them. This can be accounted as the reason for using PeopleSoft which comes with industry specific features having better qualities. The employees of the Public unit were more satisfied with the method of training as compared to those in the Private unit. This is basically due to the rigorous training procedure followed in private units, either on the job and or off the job as compared to public unit. For Q10c, Q10d, Q10f, the difference is due to the better efficiency, consistency, user friendliness of PeopleSoft, since it is easy to understand and interpret and is also more flexible as compared to SAP. For Q10i, Q10j, SAP proves to be more reliable and cost effective to the employees of the Public units, basically since its less expensive and is an older software that has provided consistent results. Q10l, Q10m show a significant difference in responses obtained from the 2 units, due to the better quality and better feedback mechanism provided in PeopleSoft as compared to SAP. Q14 and Q15 account for the difference in their responses for 2 units, due to the no. of employees who are professionally qualified in the Public unit, which is more in no. as compared to the Private unit and because of the more experienced employees present in the Public unit. This is mainly due to tough and rigorous Recruitment and Selection procedure and better Job Stability factor in Public units.

5. CONCLUSION

The findings suggest that for the Manufacturing industry, different sectors prefer different HRIS tools to be implemented according to the Organization Structure and Goals. In the Public sector unit, SAP (HR) is more preferred, since it is more reliable, has good quality of information, is cost effective and has a legacy, whereas in Private sector units, PeopleSoft is more preferred since private units, are more vulnerable to taking risks and prefer using more advanced features to compete with their rivals, since the government compliances are also not so stringent here, and focus is more on innovation and technology to get better. PeopleSoft is basically an Oracle based version of HRIS, used majorly for HR functions. It is more preferred due to its user friendliness, , better quality of information, more transparency and efficiency. This has got advanced features like E-Development, Government Reporting and Compliance, Safety and Health Benefits, Benefits Administration, etc little less flexibility. The most important modules of both the tools used are found out to be Master Data and Payroll. Although all other modules like Employee IS, Position Control IS, Applicant Tracking and Placement IS, Performance Management IS, Master data management, etc. are also present in it, but it provides a little less flexibility Thus the study suggests that employees using PeopleSoft were more satisfied.

The major issues faced during Implementation of HRIS in Public units were found out to be Rapid pace of Technology Advancements, Communication Gap between Top Management and Employees, whereas in Private units these were the Technical issues as connectivity, speed of internet, etc and Communication Gap between Top Management and Employees.

Hypothesis H0 was proved wrong that there is no significant impact of HRIS on the satisfaction levels of employees in Public Sector Manufacturing Units as it was found out that employees were very highly satisfied with the reliability and Record management for future references, whereas they were highly satisfied with the efficiency and security of information; of SAP HRIS.

Hypothesis H1 was also proved wrong that wrong that there is no significant impact of HRIS on the satisfaction levels of employees in Private Sector Manufacturing Units since employees were very highly satisfied with the user friendliness and quality of information and were highly satisfied with the transparency and the reliability ; of the PeopleSoft HRIS.

Hypothesis H2 was also proved wrong as explained in the 3rd part of the data analysis (Table 3: T-test) that no significant difference exists on the Impact of HRIS between the satisfaction level of Employees in Public and Private Sector Manufacturing Units in India.

Hypothesis H3 was also proved wrong that no significance difference exists in the HRIS adopted in the Public and Private Sector Manufacturing Units in India, since the companies under study uses SAP in the Public unit and PeopleSoft in the Private unit as HRIS

Thus to conclude we can say that feasibility of the HRIS to the organization is the major factor that should be taken care of while implementing it and as per the findings PeopleSoft features out to be a little better and advanced HRIS software as compared to SAP, for the Manufacturing Industry.

6. RECOMMENDATIONS

On the basis of the findings, the following recommendations can be made:

- Special training programs based on HRIS should be designed and organized for enhancing the level of awareness among the employees about the benefits of technology and HRIS facilities.
- Expert advice should be taken on the feasibility of the HRIS which is going to be either updated or installed, with respect to the organization's culture and structure.
- Cross functional teams should be formed by selecting people not only from the HR department, but also from various departments like Planning and procurement, Finance, Technical Operations, Engineering division, etc., so as to have feedback from their respective departments and to bring about necessary changes on the impact of HRIS. These teams can also act as a better channel of interaction between top management and employees.
- Cross functional teams along with the IT department, can also design and install their own in house HRIS software, according to their company needs, which would be more cost effective and innovative in the long run.
- HRIS could also be outsourced from local vendors of good repute, who can easily tailor make HRIS, as and when specified.
- Flexibility and future record for references is an important feature of any HRIS, so special care should be taken while selecting any HRIS. E.g. Advanced features of Oracle based HRIS are very well suited for the manufacturing industry. Apart from the basic HR functions, it also performs, E-Development, Applicant tracking and Placement, Safety and Health Provisions, Government reporting & Compliance and Time management, etc.

7. FUTURE SCOPE

- The study can be extended to include more private sector manufacturing units across Delhi, so as to increase the sample size that will lead to increase in the accuracy of the findings.

- Further, this study can be extended to other Industries of India like Banking, Hospitality to get an appropriate status of Impact of HRIS at national level.

- Questions related to computer literacy should be included in the questionnaire so as to have a better understanding of skill sets related to use of HRIS of employees.

- To enhance and validate the findings of this study, other methods of data collection like interviews and focus groups, online questionnaire can be used.

- Also the study could be used to find out the effectiveness of training given for HRIS and to find out the issues in implementing HRIS across industries in a similar pattern.

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9. ANNEXURE A

Questionnaire on HRIS

Dear Sir/Madam

This questionnaire is related to research work and the information you provide will be kept confidential and used for academic and research purpose only.

1. Do you know about HRIS?
   a. Yes ____
   b. No ____

2. What type of tool do you use as HRIS?
   a. PeopleSoft ____ b. Oracle based HRIS ____
   c. SAP ____ d. Local Vendors ____
   e. Developed by own company ____ f. Any other (Please, specify) ____

3. Why did you implement HRIS?
   a. To reduce manpower ____
   b. To save time ____
   c. To reduce the paperwork ____
   d. To have an all time accessible database ____
   e. All of the above ____

4. Presently which HRIS modules are operational in your organization?
   a. Employee IS ____
   b. Position Control IS ____
   c. Applicant Tracking and Placement IS ____
   d. Performance Management IS ____
   e. Government Reporting & Compliance IS ____

f. Payroll ____
g. Recruitment ____
h. Training Module ____
i. Organization Management ____
j. All ____

5. When was the software installed in the company?
   a. Not aware ____
   b. <6 Months ____
   c. 6 Months-1 Year ____
   d. 1-2 Years ____
   e. 2-3 Years ____
   f. >3 Years ____

6. When did you start using the software?
   a. <6 Months ____
   b. 6 Months-1 Year ____
   c. 1-2 Years ____
   d. 2-3 Years ____
   e. >3 Years ____

7. Did the organization provide any training/assistance to use HRIS?
   a. Yes ____
   b. No ____

8. If yes, then rate your level of satisfaction on following parameters:

   1 Highly Satisfied 2 Satisfied 3 Neutral

   4 Dissatisfied 5 Highly Dissatisfied

Parameter	1	2	3	4	5
Training Duration					
Training Depth					
Quality of Training					
Method of Training					
Trainer Skills					

9. Based on your perception or level of operation, prioritize and rank the following HRIS modules: (1 – Most Important to 8 – Least Important):
    - Master Data ____
    - Recruitment ____
    - Personnel Management ____
    - Payroll ____
    - Time Management ____
    - Separation ____
    - Performance Management ____
    - Reports ____

10. Rank the following features of HRIS according to your satisfaction level:

    1 Very High 2 High 3 Medium

    4 Low 5 Very Low

Features	1	2	3	4	5
Ability					
Transparency					
Efficiency					
Consistency					
Security					
User Friendliness					
Accuracy					
Reliability					
Cost Effectiveness					
Flexibility					
Record Management for Future Reference					
Quality of Information					
Proper Feedback Mechanism					

11. Rank the following problems in implementation of HRIS in order of their importance, as you have seen to occur in the organization: (1 – Most Important to 8 – Least Important)

Financial issues	
Technical issues (slow speed of internet, incompatibility, etc.)	
Lack of Expertise & Skill sets	

Resistance to change	
Lack of infrastructure (space, equipment, uninterrupted power supplies, etc.)	
Rapid pace of technology advancements	
Communication gap between top management and employees	
Lack of Control mechanism to keep track of HRIS	

Demographic Details

12. Age:

a . Below 25 ____ b. 25-40 ____

c. 40-50 ____ d. above 50 ____

13. Gender:

a. Male ____ b. Female ____

14. Educational Qualification:

a. UG ____ b. PG ____

c. Professional ____ d. Others ____

15. Experience:

a. <5 Years ____ b. 5-10 Years ____

c. 11-15 Years ____ d. 16-20 Years ____

e. >20 Years ____

10. ANNEXURE B

1) For Public Sector:

Q1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	38	74.5	74.5	74.5
	2	13	25.5	25.5	100.0
	Total	51	100.0	100.0	

Q2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	49	96.1	96.1	96.1
	5	1	2.0	2.0	98.0
	7	1	2.0	2.0	100.0
	Total	51	100.0	100.0	

Q3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	2	3.9	3.9	3.9
	4	6	11.8	11.8	15.7
	5	39	76.5	76.5	92.2
	6	1	2.0	2.0	94.1
	7	2	3.9	3.9	98.0
	8	1	2.0	2.0	100.0
	Total	51	100.0	100.0	

Q4					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	5.9	5.9	5.9
	6	2	3.9	3.9	9.8
	10	29	56.9	56.9	66.7
	11	10	19.6	19.6	86.3
	12	7	13.7	13.7	100.0
	Total	51	100.0	100.0	

Q5					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	51	100.0	100.0	100.0

Q6					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	1	2.0	2.0	2.0
	4	3	5.9	5.9	7.8
	5	47	92.2	92.2	100.0
	Total	51	100.0	100.0	

Q7					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	44	86.3	86.3	86.3
	2	7	13.7	13.7	100.0

Q7					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	44	86.3	86.3	86.3
	2	7	13.7	13.7	100.0
	Total	51	100.0	100.0	

Q12					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.0	2.0	2.0
	2	23	45.1	45.1	47.1
	3	19	37.3	37.3	84.3
	4	8	15.7	15.7	100.0
	Total	51	100.0	100.0	

Q13					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	40	78.4	78.4	78.4
	2	11	21.6	21.6	100.0
	Total	51	100.0	100.0	

Q14					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	13.7	13.7	13.7
	2	16	31.4	31.4	45.1
	3	28	54.9	54.9	100.0

Q14					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	13.7	13.7	13.7
	2	16	31.4	31.4	45.1
	3	28	54.9	54.9	100.0
	Total	51	100.0	100.0	

Q15					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	11.8	11.8	11.8
	2	10	19.6	19.6	31.4
	3	14	27.5	27.5	58.8
	4	6	11.8	11.8	70.6
	5	15	29.4	29.4	100.0
	Total	51	100.0	100.0	

2) For Private Sector:

Q1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	40	78.4	78.4	78.4
	2	11	21.6	21.6	100.0
	Total	51	100.0	100.0	

Q2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	40	78.4	78.4	78.4

	2	4	7.8	7.8	86.3
	8	7	13.7	13.7	100.0
	Total	51	100.0	100.0	

Q3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5	9.8	9.8	9.8
	4	8	15.7	15.7	25.5
	5	29	56.9	56.9	82.4
	6	9	17.6	17.6	100.0
	Total	51	100.0	100.0	

Q4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	3.9	3.9	3.9
	6	1	2.0	2.0	5.9
	10	39	76.5	76.5	82.4
	11	3	5.9	5.9	88.2
	12	6	11.8	11.8	100.0
	Total	51	100.0	100.0	

Q5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	51	100.0	100.0	100.0

Q6

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	2	2	3.9	3.9	3.9
	3	7	13.7	13.7	17.6
	4	8	15.7	15.7	33.3
	5	34	66.7	66.7	100.0
	Total	51	100.0	100.0	

Q7					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	45	88.2	88.2	88.2
	2	6	11.8	11.8	100.0
	Total	51	100.0	100.0	

Q12					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	13.7	13.7	13.7
	2	16	31.4	31.4	45.1
	3	16	31.4	31.4	76.5
	4	12	23.5	23.5	100.0
	Total	51	100.0	100.0	

Q13					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	38	74.5	74.5	74.5
	2	13	25.5	25.5	100.0
	Total	51	100.0	100.0	

Q14					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	29.4	29.4	29.4
	2	17	33.3	33.3	62.7
	3	19	37.3	37.3	100.0
	Total	51	100.0	100.0	

Q15					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	27.5	27.5	27.5
	2	11	21.6	21.6	49.0
	3	11	21.6	21.6	70.6
	4	13	25.5	25.5	96.1
	5	2	3.9	3.9	100.0
	Total	51	100.0	100.0	

Cross Tabulation Tables:

Cross Tabulation Tables:

1) For Public Sector Units:

Count		Q10k					Total
		1	2	3	4	5	
Q1	1	16	11	7	2	2	38
	2	2	9	0	1	1	13
Total		18	20	7	3	3	51

Count	Q10h	Total

		1	2	3	4	5	
Q1	1	20	11	3	2	2	38
	2	5	5	1	1	1	13
Total		25	16	4	3	3	51

Count		**Q10e**				
		1	2	3	4	Total
Q1	1	11	19	6	2	38
	2	4	7	1	1	13
Total		15	26	7	3	51

Count		**Q10e**				
		1	2	3	4	Total
Q1	1	11	19	6	2	38
	2	4	7	1	1	13
Total		15	26	7	3	51

Crosstab

Count					
		Q10c			
		1	2	3	Total
Q1	1	2	21	15	38
	2	2	9	2	13
Total		4	30	17	51

2) For Private Sector Units:

Crosstab

Count						
		Q10l				
		1	2	3	5	Total
Q1	1	19	11	10	0	40

	2	8	1	1	1	11
Total		27	12	11	1	51

Crosstab

Count

		Q10h				
		1	2	3	5	Total
Q1	1	1	24	15	0	40
	2	0	8	2	1	11
Total		1	32	17	1	51

Crosstab

Count

		Q10f				
		1	2	3	4	Total
Q1	1	24	14	2	0	40
	2	8	2	0	1	11
Total		32	16	2	1	51

Crosstab

Count

		Q10b					
		1	2	3	4	5	Total
Q1	1	1	28	8	3	0	40
	2	0	9	0	1	1	11
Total		1	37	8	4	1	51