HUMAN RESOURCE INFORMATION SYSTEM: AN INNOVATIVE APPROACH TO IMPROVE HUMAN RESOURCE MANAGEMENT EFFECTIVENESS

SARIKA SURI[*]

ABSTRACT

We are in the Information Age and information is the life blood of an organization. Real synergy is possible only by perfect information management in the organization. In order to keep pace with the changing business scenario, an organization should have improvements in technology as it has a major impact on the use of information for managing human resources. Human Resource Information System can help to achieve performance improvement. This paper studies the role of Human Resource Information System in improving the effectiveness of Human Resource Management functions. The main aim of the paper is to present an analysis of Human Resource Information System: its concept and features, reasons for introducing it in an organization, criteria for selecting it, steps for introducing it in an organization, its application in different areas of HR, improving productivity through Human Resource Information System, its vendors, its benefits and limitations to the organization.

Keywords: Information, Human resource, Management, Productivity.

[*] RESEARCH SCHOLAR, INSTITUTE OF MANAGEMENT STUDIES & RESEARCH

MAHARSHI DAYANAND UNIVERSITY, ROHTAK

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Introduction

Information is a valuable asset to make quality business decisions that give an organization a competitive edge. To become effective HR planners, it is essential to have current, relevant information readily available for planning purposes. Specifically, to correctly calculate personnel demand and supply levels, it is must have access to information on the numbers, availability, skill qualification levels, performance evaluation results, career development plans, succession or replacement scenarios, training needs etc. for the entire workforce. It is to these elements of information, among many others, that Human Resource Information System (HRIS) is critical to effective human resource planning.

What is Human Resource Information System

The most central use of technology in HRM is an organization's Human Resource Information System (HRIS). Larger companies typically integrate their separate HR systems into integrated Human Resource Information System (HRIS). A Human Resource Information System (HRIS) is a computer-based information system for managing the administration of HR processes and procedures. Tannenbaum (1990) defined HRIS as any system that helps an organization to 'acquire, store, manipulate, analyze, retrieve and distribute information about an organization's human resources'. Kettley and Reilly (2003) defined an HRIS as a 'fully integrated, organization-wide network of HR-related data, information, services, tools and transactions'.

Reasons for introducing an Human Resource Information System (HRIS)

The CIPD (2007d) survey established the top 10 reasons for introducing an HRIS. These are:

1. To improve quality of information available.

2. To reduce administrative burden on the HR department.

3. To improve speed at which information is available.

4. To improve flexibility of information to support business planning.

5. To improve services to employees.

6. To produce HR metrics.

7. To aid human capital reporting.

8. To improve productivity.

9. To reduce operational costs.

10. To manage people's working time more effectively.

Features of an HRIS: are the use of software, integration with other IT systems in the organization, use of the intranet and provisions for self-service.
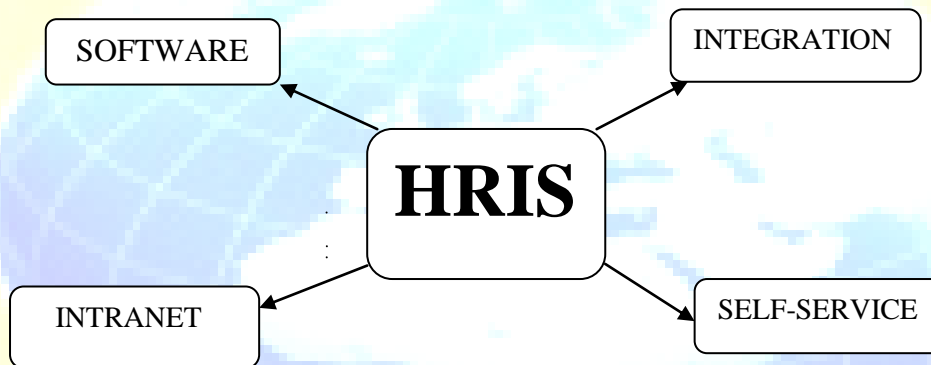
1. **Use of software:** it is customary to buy software from an external supplier. There is a choice between buying a 'vanilla system' (i.e. an 'off-the-shelf' system without any upgrades) or customize the supplier's system to meet specified business requirements.

2. **Integration:** Enterprise resource planning (ERP) systems integrate all data and processes of an organization into a unified system with the same database. As the CIPD(2005b) pointed out, integration of the HR system with IT systems in the wider organization so that they can 'talk to one another' will aid human capital reporting, comply with supply- chain partner requirements, improve profitability, reduce headcount and deliver against economic criteria.

3. **Intranet**: an intranet system is one where computer terminals are linked so that they can share information within an organization or within part of an organization. HR intranet systems can be used for purposes such as updating personal details, applications for internal jobs online, requests for training, access to e-learning,

administration of queries and communication. For example, LG&E Energy Corporation uses its intranet for benefits communication.

4. **Self-service:** a human resource self-service system (HRSS) allows managers and employees access to information and the facility to interact with the system to input information or make choices of their own.

For managers, self-service means that they can access information immediately. This might be HR metrics (human capital reporting measures) in areas such as absenteeism, personal details, performance management data, learning and development progress, and pay (as a basis for pay reviews). This facilitates the devolution of responsibility to line managers and reduces the administrative burden on HR.

Employees can also access information, input data about themselves, request training and apply for jobs online.

Criteria for selecting an HRIS

1. **Integration:** is the ability to link with other databases and computers. HR managers make quality decisions by harmonizing information from various sources. Therefore, the HRIS selected must be compatible with all other systems and databases. The HRIS must be linked:

   - To other computers
   - To other databases
   - To other software
   - To e-mail and fax
   - To legal help
   - To intranet applications
   - To payroll
   - To reporting systems
   - To word processing
   - To other HR software

   Such integration combines information for better decision making.

2. **Cost–effectiveness:** the HRIS should be able to give a fair rate of return to the organization in terms of reduced costs. It must reduce back office work and costs and bring speed in transactions and sharing of information for better decision-making.

3. **Data Access Control:** the HRIS must be able to configure the information. Access should be granted only on a "need to know" basis, with passwords, personal identification numbers(PINs), and codes serving as entry barriers prohibiting

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unauthorized access to other data elements that are not required by the legitimate work requirements of a particular jobholder.

4. **Upgrades:** the HRIS must have the capability to be upgraded. The arrangement with the vendor of the HRIS must ensure that upgrades are part of the contract, provided at cost or free so that the system is current and fresh.

5. **In-depth Reporting:** the main purpose of HRIS is information for the organization's benefit. The HRIS must be able to analyse, interpret and present visually data and information, so that decisions can be made. The kind of features required for reports are-
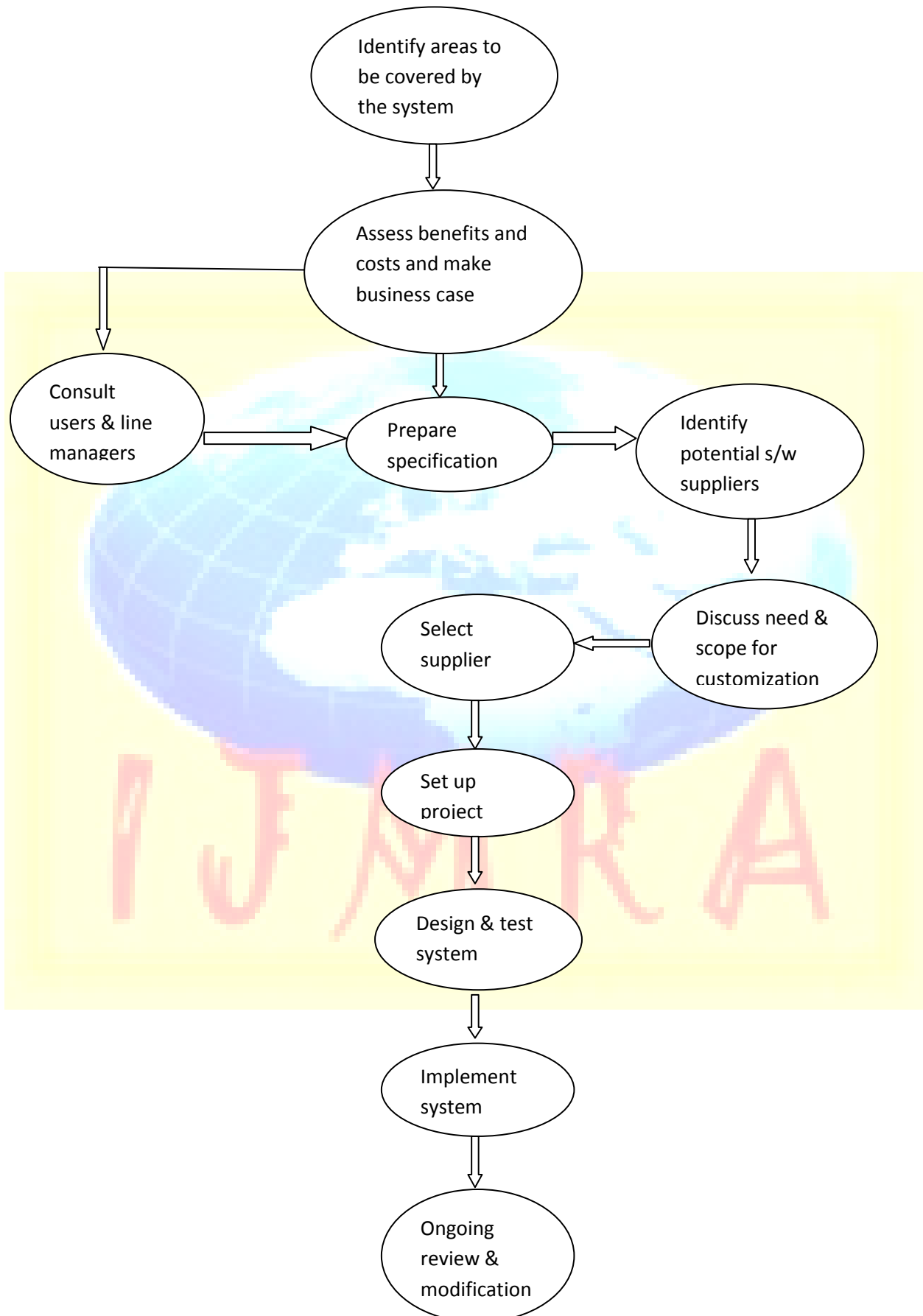
   - Analysis trees
   - Unlimited user license
   - Graphics

   - Interactive graphs
   - Response to pre-determined formulae

   - Drag and drop use
   - Integrations
   - Analysis through different databases
   - Customizable and configurable system

6. **Warehousing:** is the ability to store information. Organizations store information to retrieve at appropriate times for decision-making. The HRIS must factor in exactly the kind of information and its volume each year required for warehousing.

7. **Mining:** is the ability to retrieve information easily from the morass of information stored in the warehouse. The HRIS must have the 'search' capability to retrieve information quickly.

8. **Scalable:** is the ability of the HRIS to be expanded in capacity and features as the business grows.

9. **Training:** the vendor that supplies the HRIS must provide training to the employees using it. This training is ongoing as new features and upgrades are incorporated. It is only through training that the HRIS can be fully exploited in its potential.

10. **Maintenance:** the vendors must provide maintenance in case of systems breakdowns. Their response must be quick and the downtime minimal.

Some of the most popular HRIS systems include PeopleSoft and SAP.

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Steps for introducing HRIS

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        ┌─────────────────┐
        │ Identify areas to│
        │ be covered by    │
        │ the system       │
        └─────────────────┘
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        ┌─────────────────┐
        │ Assess benefits and│
        │ costs and make    │
        │ business case     │
        └─────────────────┘
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Identify areas to be covered by the system

Assess benefits and costs and make business case

Consult users & line managers

Prepare specification

Identify potential s/w suppliers

Discuss need & scope for customization

Select supplier

Set up project

Design & test system

Implement system

Ongoing review & modification

The following steps should be followed in setting up an HRIS:

1. **Inception of an idea:** an idea must originate somewhere. The originator of the idea should make a preliminary report justifying the need for an HRIS. The most critical part of this step is to clearly illustrate how an HRIS can assist in making certain decisions.

2. **Feasibility study:** the present system should be studied to highlight the problem areas and the cost-benefit analysis of an HRIS. Economic Feasibility, Technical Feasibility and Operational Feasibility of HRIS should be studied.

3. **Selecting a project team:** once the feasibility study is accepted and the resources have been allocated, a project team should be selected. The project team should consist of a human resource representative, who is knowledgeable about the organization, its human resource functions and activities and also a representative of the management information system. The project team should also have clerical people from the human resource department.

4. **Defining the requirements:** a statement of requirements specifies in detail exactly what the system needs to do. The objective here is to make sure that the mission of an HRIS truly matches with the management's needs of an HRIS.

5. **Vendor analysis:** the purpose of this step is to determine the availability of hardware and software that will best meet the organization's needs at the least price. This involves discussions with various vendors and will help in making a decision of going 'off-the shelf' package or to develop the system internally.

6. **Contract negotiations:** the contract stipulating the price, delivery, vendor's responsibilities with regard to installation, service maintenance, training to organization employees, etc. may be negotiated.

7. **Training:** firstly project team members should be trained to use the system and then they could train all users from all other departments.

8. **Tailoring the system:** it involves making changes to the system to best fit the organizational needs.

9. **Testing the system:** the purpose of testing is to verify output of HRIS and make sure that it is doing what it is supposed to do.

10. **Setting up:** is also known as the implementation stage. During implementation, whatever shortfalls are found are rectified while operating the system.

11. **Running in parallel:** for the security, the new system is run in parallel with the old till the new system stabilizes and confidence is gained in its operation.

12. **Maintenance:** the HRIS needs to undergo modifications with the change in requirements. This requires maintenance on the part of vendor. In case of systems breakdowns their response must be quick and the downtime minimal.

Applications of HRIS

Important uses of HRIS are:
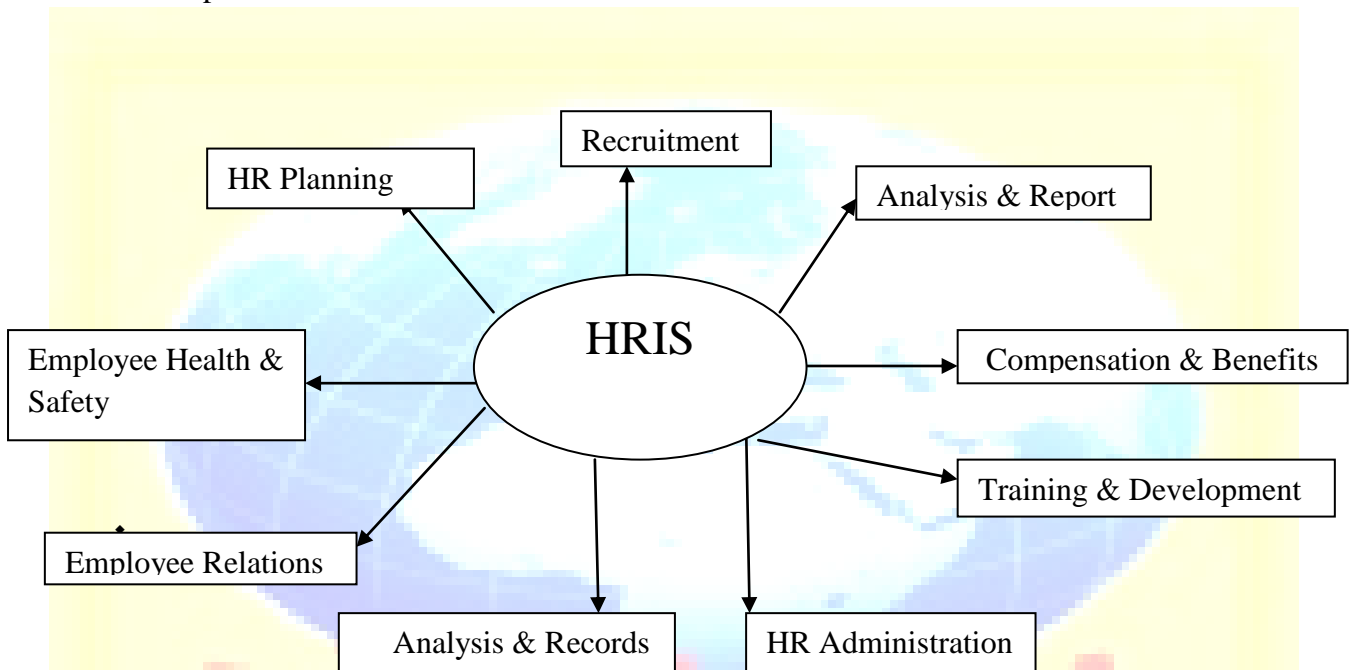
HR Planning

- Organisation charts
- HR policies and procedures
- Organization rules and regulations
- HR Budget
- Job Analysis and Design
- Succession Plans Software and records
- Job Evaluation Software and records

- Organization information
- Organisation standards
- HR Annual Plan
- Industry standards
- Career Plans Software and records
- Knowledge and Skills inventory
- Hospitality Staffing Norms

Recruitment

- Job Descriptions
- Talent Bank
- Vacancy details
- Applicant search
- Applicant correspondence
- Applicant addresses contact numbers
- Online applications
- Compensation structure
- Photographs of applicants
- Record of Orientation Programmes

- Applicant details
- Job Specifications
- Job Advertisements & postings
- Applicant status
- Applicant tracking
- Departmental and unit vacancies
- Job-person matching
- Interview scheduling
- Standard Job Offer & Appointment Letters

Analysis and Reports

- Sourcing cost analysis
- Recruitment cost analysis

- Sourcing statistics
- Vacancy costing

Compensation and Benefits

- Compensation and benefits structure
- Overtime records
- Individual pay slips
- Leave records
- Leave request and entitlements
- Wages administration
- Performance Appraisal rating
- Vacation entitlements
- Progressive Payroll costs to sales turnover percentage

- Salary grades
- Pay reviews and proposals
- Deductions
- Maternity benefits and trails
- Ad hoc payments
- Allowances
- Payroll costs
- Attendance
- Information on rewards issued (bonuses, increments, etc)

Training and Development

- Training Needs Analysis
- Budget control and cost allocation
- Trainee profiles

- Programme scheduling (colour planner)
- Online course bookings

- ➢ Cancellation management
- ➢ Classroom bookings
- ➢ Post Training Knowledge inventory
- ➢ Skills gap analysis
- ➢ External training programmes
- ➢ Course evaluations

- ➢ Lecturer profiles
- ➢ T&D administration
- ➢ Performance appraisal recommendations
- ➢ Training Records
- ➢ Competency details

HR Administration

- ➢ HR files
- ➢ Standard letters
- ➢ Contracts with vendors
- ➢ Labour Laws
- ➢ Budget control
- ➢ Employee turnover records
- ➢ Grievance reviews
- ➢ Expense control and management
- ➢ On-line expense approvals

- ➢ Personnel files
- ➢ Staff Lists
- ➢ Employment history
- ➢ Competition data
- ➢ Absenteeism
- ➢ Disciplinary reviews
- ➢ HR reports
- ➢ Time-recording
- ➢ New employee joining records

Analysis and Records

- ➢ Expense cost analysis
- ➢ Administrative costs

- ➢ Expenditure analysis

Employee Relations

- ➢ Union Contract
- ➢ History of Disciplinary cases
- ➢ Employee Recognition records

- ➢ History of Union issues
- ➢ Suggestion Scheme records

Employee Health and Safety

- ➢ Employee Accident Records
- ➢ Safety Rules (on intranet)

- ➢ Emergency Plan (on intranet)

Improving Productivity Through HRIS

HR Portals, usually hosted on a company's intranet, provide employees with a single access point or "gateway" to all human resource related information. They let employees, managers and executives interactively (and selectively) access and modify that information. They thereby streamline the HR process and enable human resource managers to focus more on strategic issues.

Technology	How used by HR
Application Service Providers (ASP's) and technology outsourcing.	ASP's provide software applications, for instance, for processing employment applications. The ASP's host and manage the services for the employer from their own remote computers
Web portals	Employers use these, to enable employees to sign up for and manage their own benefits packages and to update their personal information
PCs and high-speed access	Make it easier for employees to take advantage of the employer's Web-assisted HR activities
Streamlining desktop video	Used, for instance, to facilitate distance learning and training or to provide corporate information to employees quickly and inexpensively
The mobile Web and wireless net access	Used to facilitate employees' access to the company's Web-based HR activities
E-procurement	Used for ordering work materials more efficiently online
Internet and network monitoring software	Used to track employees' Internet and e-mail activities or to monitor their performance.
Bluetooth	A special wireless technology used to synchronize various electronic tools like cellular phones and PCs, and thus facilitate employees' access to the employer' online HR services.

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Electronic signatures	Legally valid e-signatures that the employer can use to more expeditiously obtain signatures for applications and record-keeping
Electronic bill presentment and payment	Used, for instance, to eliminate paper checks and to facilitate payments to employees and suppliers
Data warehouse and computerized analytical programs	Help HR managers monitor their HR systems. For example, they make it easier to assess things like cost per hire, and to compare current employees' skills with the firm's projected strategic needs.

HRIS Vendors

Many firms offer HRIS applications ranging from benefits enrollment to applicant tracking, time and attendance records, training and development, payroll, pension plans and employee surveys.[6] Some of the HRIS vendors are: Automatic Data Processing, Inc., Business Information Technology, Inc., Human Resource Microsystems, Lawson Software, Oracle Corporation, PeopleSoft, Inc., Restrac Web Hire, SAP America, Inc., etc.

Benefits of HRIS

The following benefits are derived from the system:

➢ Higher speed of retrieval and processing of data

➢ Reduction in duplication of efforts leading to reduced costs

➢ Ease in classifying and reclassifying the data

➢ Better analysis leading to more effective decision-making

➢ Higher accuracy of information/report generated

➢ Fast response to answer queries

➢ Improved quality of reports

➢ Better work culture

➢ Establishing of streamlined and systematic procedures

➢ More transparency in the system

Limitations of HRIS

The computerized Human Resource Information System also has many problems which need to be addressed to:

➢ It can be costly in terms of finance and manpower.

➢ It can be threatening and inconvenient to those who are not comfortable with computers

➢ Often, the personnel designing HRIS do not have a thorough understanding of what constitutes quality information for the users. Inadequate documentation or training can undermine the system's utility, and increase resistance to the system by exactly those employees and managers who are supposed to aid in its use.

➢ Computers cannot substitute human beings. Computers can at best aid the human effort. The quality of responses is dependent upon the accuracy of data input and queries fired. The garbage-in-garbage-out concept many a time defeats the purpose of HRIS.

Installing of HRIS therefore needs to be viewed as a whole but also as a process composed of separate projects, each of which must be planned and realistically scheduled.

Conclusion

The most central use of technology in HRM is an organization's HRIS. It can significantly improve the efficiency of HR operation. It is an essential element of a properly functioning HR planning process. It can be used to support strategic decision making, to avoid litigation, to evaluate programs or policies, or to support daily operating concerns. An HRIS must be specific to the needs of the organization. HRIS is expensive and a capital investment that must ensure a return on investment in terms of cost savings and profitable use of information.

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References

- CIPD (2005b). *People Management and Technology: Progress and potential,* CIPD, London. Retrieved December 22, 2013, from http://www.cipd.co.uk/hr-resources/survey-reports/people-management-technology-progress-potential.aspx

- CIPD (2007d) *HR and Technology: Impact and advantages*, CIPD, London

- Frank Kuzmits, "Communicating Benefits: A Double Click Away," *Compensation and Benefits Review,* September/October 1998, pp. 60-64.

- Guide to HR products and services yellow pages. (2004, April) . *HR Magazine,* pp. 157-176.

- James Schultz, "Avoid the DDTs of HRIS Implementation," *HR Magazine* 42, no. 5 (May 1977), pp. 37-41. See also, Bill Roberts, "The New HRIS: Good Deal or $6 Million Paperweight?" *HR Magazine* 43, no. 3 (February 1998), p. 40

- Jim Meade, "Analytical Tools Give Meaning to Data," *HR Magazine* 46, no. 11 (November 2001): 97 ff.

- Kettley, P and Reilly, P (2003) *e-HR: An introduction*, Report No 398, Institute of Employment Studies, Brighton

- Samuel Greengard, *"10 HR Technology Trends for 2001," Workforce, HR Trends and Tools for Business Results* 80, no. 1(January 2001): 20-22

- Tannenbaum, S., 1990, HRIS: user group implications, Journal of Systems Management, 41 (1), pp 27-32

- Victor Haines and Andre Petit, "Conditions for Successful Human Resource Information Systems," Human Resource Management 36, no.2 (Summer 1997), pp.261-276; see also "Five critical "-tions" help you select new or replacement HRIS," Human Department Management Report, August 2003, page one.