

The Role of Information Systems in Human Resource Management

Ranjan Jyoti Sarma

*B.Sc. (HONS/Bio-Chem.), LL.M.,
M.B.A. (HR &OB), PGDIPR, Ph.D. (HR/M.B.A.)
Add: H/N – 4/Ananda Path
R.P. Road, Guwahati – 6*

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ABSTRACT:

Emerging hyper-competitive era in the last few decades has increased the need of information system and technology in human resource management. The revolution in information technology is completely and swiftly redefining the way things are done in nearly every field of human activity. Human resources and information technology are two elements that many firms are looking to utilize them as strategic weapons to compete. Information systems especially developed for human resource management referred as human resource information system (HRIS) is an integrated system necessary to collect, record, store, manage, deliver and present data for human resource and hence promotes effectiveness of human resource system. Human resource technology or human resource information system shapes an interaction between human resource management and information technology. There has been a considerable increase in the number of organizations gathering, storing and analyzing information regarding their human resources through the use of human resource information system. HRIS has become a critical factor in making business competitive and effective. Several HRM processes have become more efficient and the impact of this service level improvement allowed a greater involvement of HR in the business strategy. This new role in business strategy adds significant changes to HR function and to its professionals. Along this chapter, we discuss the effects of information systems in HRM, considering the existing literature on the topic, and describe the benefits and possible limitations of using them. We also provide an overview of some applications of technology in functional areas of HRM, within organizations.

Keywords: Information systems, Human resource management, HRIS, HR professionals.

I. INTRODUCTION:

Fast changing markets, industries, and services require organizational environments capable of constant adaptation with bright new ideas and reduced time-to-market. Under these competitive reality, HRM has a more critical role than ever because new forms of business require new ways of involving people. HR professionals must analyze social, economic, political-legal, and technological environment opportunities to redesign HRM processes and practices that are key success factors to the organization mission and objectives. To respond to these challenges, HRM has been forced to adopt new logics and most HR managers must forget habits and ways of thinking and acting outdated. On the other hand, they should help organizations to define their strategies and build programs to develop their human capital.

In this context, information systems have increased the efficiency of HRM through more effective recruitment methods, organizational communication, employee involvement, and increased skills of HR managers. From there, human resource management areas must relate human capital strategies to the most appropriate technological solutions. It means creating an eHR organization focused on interconnecting people with business strategy to achieve rapid adaptation to changing needs common to people and business. These same needs begin to make eHR necessary.

However, not all HR professionals work in strategic HRM. Many still find themselves pressured and seeing their time spent with day-to-day concerns. It is critical to get rid of the administrative burden or at least to mitigate it, to optimize your time and your contribution to the organization. With this chapter, we intend to contribute to the definition of the role of HRIS in

human resources management, as well as the role of HR professionals in this process.

HRIS defined:

Human Resource Information Systems (HRIS) is a process that utilizes the information technology for the effective management of human resource functions and applications. It is a computerized system typically comprising a data base or inter related data base that track employees and their employment specific information (Gill and Johnson, 2010). It can be briefly defined as integrated systems used to gather, store and analyze information regarding an organizations human resources (Hendrickson 2003).

Information Systems in Human Resources Management:

In recent years, information technology has effects on almost every aspect of our society, as well on organizational processes, including HRM processes and practices. From a position associated with administrative management, it has managed to become a strategic partner of organizations, largely because of the use of technologies.

“Continuous innovations in technology will fundamentally change the way HR work is accomplished”. Information systems have a deep effect on HRM. It transformed human resources processes and practices mainly in terms of how organizations collect, store, use, and disseminate information. The quality of HRM is a key success factor for organizations. The HR professional should analyze and consider the environment, social, economic, political-legal, and technological. To respond to these challenges, HRM has been forced to adopt new logics and most HR managers must forget habits and ways of thinking and acting outdated. On the other hand, they should help organizations to define their strategies and build programs to develop their human capital. In fact, the principal goals of HR in organizations are to attract, select, motivate, and retain talented employees in their roles, and “technology has transformed the way HR processes are currently managed, essentially how organizations collect, store, use, and disseminate information about their HR”.

Kovach et al. defines human resources information systems (HRIS) as a systematic procedure for collection, storing, maintaining, retrieving, and validating data needed by organizations about HR. Tannenbaum defines it as a technology-based system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding HR in the organization.

HRIS shapes an integration between HRM and information technology. HRIS is a management system designed specifically to provide managers with information to make HR decisions. Is a system that lets you keep track of all your employees and information about them. It is usually done in a database, or more often in a series of inter-related databases.

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HRIS – Why it is needed?

HRIS provide human resource professionals with opportunities to enhance their contribution to the strategic direction of the firm, First by automating and devolving many routine human resource task to the line management, HRIS provides human resource professionals with the time needed to direct their attention towards more business critical and strategic level tasks, such as leadership development and talent management (Lengnick et al., 2003).

Other incentives for HRIS implementation are mentioned as following.

- Formulation of policies and programs related to human resource.
- Facilitating decision making in areas like promotion, transfer, nomination, setting employees provident funds, retirement, gratuity, leave travel concession and earned leave compensation.
- Supplying data and submitting returns to government and other statutory agencies.
- Collecting appropriate data and converting them to information and knowledge for improved timeless and quality of decision making.
- Producing a greater number of varieties of accurate and real time human resource related reports.
- Increase competitiveness by Reengineering human resource processes and functions.
- Improving employee satisfaction by delivering human resource services more quickly and accurately.

- Provides a comprehensive information picture as a single, integrated data base; this enables organizations to provide structural connectivity across units and activities and to increase the speed of information transactions (Lengnick et al., 2006).

Considering these facts, it is important to mention that the human resource management function

needs to invest in information technology training and communicate the benefits of employee's participation and involvement in HRIS services (Panayotopoulou et al., 2007).

Components of HRIS:

HRIS has major three functional components as shown in Figure 1.



Fig.1 Components of Human Resource Information Systems:

1. **Input-** Input function provides the capabilities needed to get human resource data into the HRIS. It enters personnel information into the HRIS. First of all procedures and processes are required to gather necessary data, once collected, these data's must be entered into the system. Edit tables can be used to determine if the data are acceptable. These tables contain approved values against which the data are automatically checked. The system should have the capability to easily update and change the edit tables. Now days scanning technology permits scanning and storage of an actual image of an organization document including signatures and handwritten notes.
2. **Data maintenance-** Data maintenance function is responsible for the actual updating the data stored in the various storage devices. As changes occur in human resource information, this information should be incorporated into the system, as new data are brought into the system it is often desirable to maintain the old data in the form of historical information. It updates and adds new data to the data base after data have been entered into the HRIS.
3. **Output-** This function of HRIS is most visible one because the majority of HRIS uses are not involved with collecting, editing, and updating human resource data; rather they are concerned with information and reports to be used by the systems. In order to generate valuable output for computer users, HRIS processes output,

makes necessary calculations and formats the presentation.

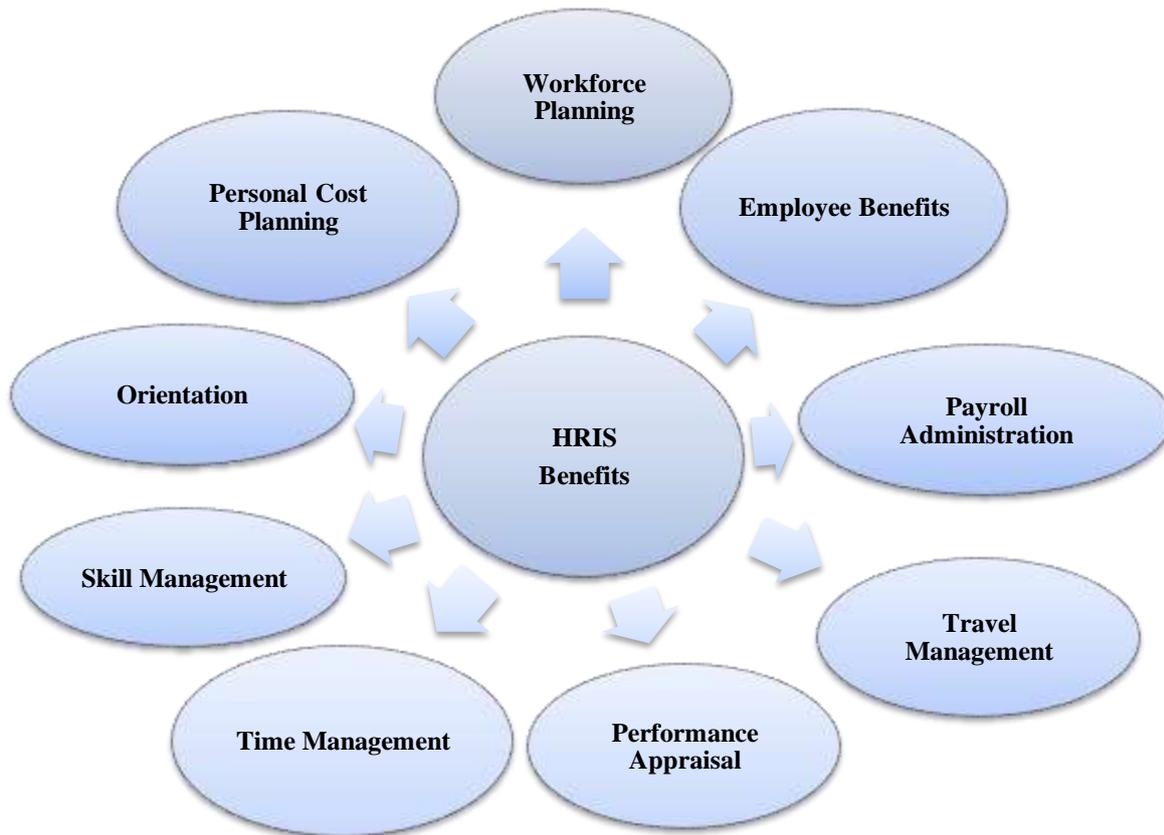
HRIS is a computerized system that aids in the processing of information relating to human resource management. A well-knit HRIS acts as a worthy decision, a device; designed to fulfill the manpower information needs of the organization (Kovach and Cathcart, 1991).

Benefits of HRIS:

HRIS helps in recoding and analyzing employees and organization information and documents, such as employee hand books, emergency evacuation and safety procedures (Fletcher, 2005). It also helps the organizations to keep an accurate, complete and updated data base that can be retrieved from reports and manuals. HRIS advantages can be systematized according to Kovach (2002).

1. Increase competitiveness by improving human resource operations.
2. Ability to implement a number of different operators to human resource.
3. Shift the focus from the operational (transaction) human resource information to strategic human resource information.
4. Include employees as an active part of the HRIS.
5. Reengineering the entire human resource department

(Krishna and Bhaskar, 2011) summarized the benefits of HRIS as mentioned in Figure 2.



HRIS benefits can be categorized as following:

1. Benefits for management.
2. Benefits for human resource department.
3. Benefits for employees.

Benefits for management include:

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

Benefits for human resource department includes:

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

- Improved management system in accordance with the legislation.
- Elimination or reduction of redundancy in the system.
- Standardization of business processes.

Benefits for employees:

- Saves time (Time management)
- The possibility of independent access to data, which often means working in one software window.
- 24/7 data availability.
- Increasing staff morale.
- Automatic tracking and reminder to business obligations and events.
- Encouraging employees to make decisions and initiatives on the basis of information obtained in the HRIS system.
- The ability to attend internal training courses via the web and the development of personal skills and knowledge.

HRIS also has the potential to fundamentally affect revenue channels, beyond cost reduction and productivity improvements. It may enhance innovation, and speed up time to market for products. In addition HRIS can fundamentally

change the way individuals relate to one another and to their organizations through various communication media.

Users

There are several users of a HRIS. So, who uses HRIS and how is it used? Essentially, we can define three groups of people: HR professionals, functional managers, and employees.

In the **HR professionals'** case, HRIS helps them to fulfil the job functions, even the most elementary job tasks, like reporting and compliance, payroll and compensation analysis, benefits administration, applicant tracking, and skills inventory.

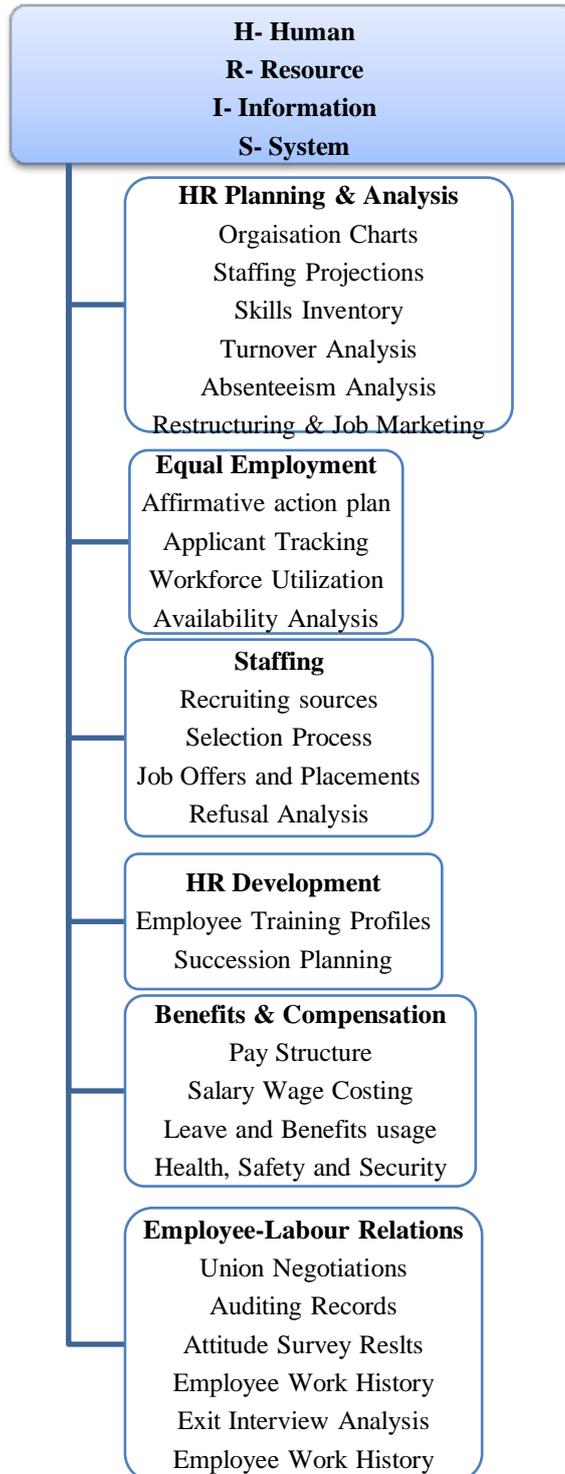
In the other hand, **functional managers** expect that HRIS provide data to achieve goals and objectives. They expect that the system provide information for performance appraisal and management, team and project management resume processing, recruitment and retention, training and skills testing, and management development.

Additionally, **individual employees** become end users of several HRIS applications, such as self-service, benefit options, career planning, or training and development. Boateng draws attention to the importance of web-based access and self-service portals that have simplified the use of the systems for the employees.

HRIS Model

HRIS designed for human resource management plays a vital role in implementing the strategic business objectives of the organization, and in running the daily functions effectively and efficiently to improve the productivity and proficiency. HRIS has been addressed as a tool that organizations use to solve and manage a variety of issues and processes connected to the management of people. On the one hand, technology may be used for different purposes within particular human resource functions- for recruitment and selection, performance evaluation, compensation and benefits, training and development, health and safety, employee relation and legal issues, retention and work life balance (Enshur et al., 2002). On the other hand, a company that uses a complex mix of HRIS solutions enables the human resource function to manage in human resources as well as employees information flow in an integrated approach across the entire employment cycle of each individual, thus shifting the attention from a process centered human resource to a customer(employee)-centered human resource management.

The HRIS model is outlined in the Figure 3:



Importance of HRIS

HRIS primary role of integrating human resource management and information technology has lead to competitive advantage and hence attracted many human resource managers and professionals. Other vital facts of HRIS reported in literature are effective human resource decision

making and also strengthening an organization’s character (Sadri and Chatterjee, 2003), reducing process and administration cost, speeding up transaction processing, reduce information errors and improve the tracking and control of human resource actions (Lengnick et al., 2003), crucial in

terms of operating, controlling and planning activities in human resource (Lenderer 1984).

It can be summarized that HRIS, is a computerized system that aids in the processing of information relating to human resource management and has become a crucial element of all organizations. It can be deemed as a device which is designed to fulfill the manpower information needs of the organization. Thus, the importance of HRIS is multifaceted, ranging from operational assistance in collecting, storing and preparing data for reports, simplifying and accelerating the processes and controlling the available data, reducing labor costs for human resource departments, and providing timely and diverse information to the management of the company, based on which it is possible to make quality strategic decisions related to human capital.

Functions of HRIS

HRIS functions interactively with human resource management systems such as human resource planning, staffing, training, and career development, performance management and compensation management (Kavanagh et al., 1990).

The functions can also be categorized as following.

1. Create and maintain employee record: The data being entered create an employee record and this record is maintained throughout employment. In most of the organizations the HRIS administrator is responsible for creating and maintaining these records.
2. Ensure legal compliance: Data entered into the HRIS can be used to help the organization comply with government regulations in an accurate and timely fashion. Ensuring data integrity and accuracy is very important and a key responsibility of human resource professional.
3. Human resource planning and forecasting: Information from recruitment, training and development, and administrative subsystems, such as number of open positions, types of positions, employee skills and competencies, job rates, retirement eligibility and employee turnover rates can be used to help managers develop long range staffing plans and provide valuable information to the human resource professionals.
4. Talent management/Knowledge management: The data that are entered into the system, such as skills, competencies, jobs held, training and employee development interests, can be used to help managers provide development opportunities for their employees, ensure that

the appropriate employees are offered positions that will enhance their skills, provide the appropriate training for employees so that they can advance in the organization, and highlight an employee's interests and development paths. This information will help human resource professionals to provide more targeted advice and counsel to managers to create a development plan that meets organizational and employee needs.

5. Strategic alignment: Information from the system can help organizations align human resource activities more effectively with their strategic plan.
6. Enhanced decision making: The ability to extract data from the HRIS and use these data not just to create information but also to improve the quality of management decision has become increasingly important. Information needs to be relevant, useful, timely and accurate.

II. CONCLUSION

The combination of Human resources and information technology known as HRIS are being implemented by many firms as strategic weapons towards the uprising business competitiveness. From the above-mentioned discussion, it can be deduced that HRIS has the potential to be an enterprise wide decision support system that helps to achieve both strategic and operational objectives. Firms are increasingly moving beyond manual human resource system today, by computerizing individual human resource tasks, installing HRIS and using the internet and intranet use of its human resources and maintain competitiveness in its market. HRIS can be seen as a spine of the company and vital in meeting the needs of all stakeholders in the company. HRIS enables effectiveness, efficiency and promotes competitiveness among the firms. Hence, HRIS must be driven by strategic vision and it should be implemented as an open system, where information technology facilitates communication freely between integrated features. Therefore comprehensive and effective HRIS must be driven by organization vision, value and culture. Finally, the paper has enlightened the strategic role and importance of HRIS especially towards business competitiveness. However, future studies should consider what makes successful implementation of HRIS.

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