

## RATIONALE FOR HUMAN RESOURCE INFORMATION SYSTEM: A BIRD EYE VIEW

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### ABSTRACT

*Increasingly, intellectuals and practitioners acknowledge that Human Resource Information System is a strategic resource and that its effectual management symbolizes a significant organizational capability. The present paper is an effort to understand the rationale behind using human resource information system. The paper discusses need and purposes of HRIS, privacy issues & information security, new & future trends, and approaches for effective HRIS.*

**Key Words:** Human resource information system, HRIS, Information, Effectiveness, Technology, Strategy, Organisation

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## Introduction

During the past several decades human resource functions has been transformed from a relatively obscure record keeping staff function to a central and top-level managerial function in the organisation. There are many factors that have affected this change-technology advance, recognition of human rights, professionalisation, unionization, government legislations, etc.

Probably the most important factor is the general recognition of human beings in an organisation as the most important resource. The importance and scope of human resource management functions have resulted in greater complexity in the field. There is a need to classify, reclassify or cross-classify the information related to human resources. The data management pressure coupled with the increasing accessibility of more powerful computers, have led to widespread growth of computer applications within human resources management systems (HRMS) or human resource information system (HRIS). Although new systems offer many advantages, they require thousands of hours of strategic planning, information gathering, priority setting & decision-making. To minimize disappointments & maximize success, HR manager should understand the rationale behind the use of HRIS and must engage in thorough system planning.

## Need and Purpose for HRIS

The difficulty in maintaining and the shortcomings of manual records system can be stated as the two basic reasons as the need for Human Resource Information System (HRIS). The difficulty here refers to the voluminous data on the employees which is unfeasible to track manually and which has to be updated from time to time. Referring to the shortcomings of manual records systems, Evans, Alstair (1986) stated that cost, accuracy, fragmentation, duplication and difficulty of analysis are some of the causes. To him, maintenance and updating

of manual record systems is a labour intensive and costly process and transfer of data from one record to another increase the chance of error, which affects the accuracy, and reliability of data held. The stored information has to be maintained in a fragmented way with different pieces of information and thus it becomes difficult to provide a single comprehensive picture of an employee on one record. As the information held in the system is needed simultaneously by a number of other departments the manual record system tends to be prone to duplication. Further, the manual analysis is extremely time consuming and the statistical output of the personnel department tends to be limited to what can be put together more readily (ibid).

The computerization of personnel records offers an option to be considered when HR department faces conflicting pressures to provide more information with a cut back on administrative overhead costs. As the costs of computer hardware falls relative to the costs of employing clerical staff, the adoption of computerized systems becomes increasingly cost effective". An American study cited in Evans' article states the extent to which the staffing costs of administering a HR department can be reduced as; a reduction of one-third in the time taken to process new employees, savings up to 55 to 90 percent of the time taken to provide routine information by manual methods, clerical saving of over 600 hours per year in providing data to patrol, over 800 hrs per year in preparing weekly reports and almost 500 hrs per year in preparing monthly, quarterly and annual reports. Another survey conducted by a software consultant has highlighted the need for HRIS in India (Gupta, P.K. and Chhabra, S., 2004). Accordingly it was found that there is very little time allotted in handling information in respect of the HR function, may be because of time required to handle the abundant information. There is a lack of information about Human Resources in the industry at all levels. HRIS would help achieve "equality" in areas like promotion, transfer, nomination, etc. It helps to settle employees'

dues in time, in respect of Provident Fund, Retirement, Gratuity, LTC and Earned Leave Compensation etc. It helps the HR people to utilize the time he saved through computerized operation to under take other creative tasks, which otherwise he would have spent in merely maintaining the routine work manually.

Analyzing HRM needs is extremely important because each organization wishes to utilize data in a different way. The importance of flexibility in system design and use cannot be ignored. As the HRM function itself continues to change, so will the needs of the supporting systems. Because, a computerized system must reflect these changes, the HR manager should ensure that it could adopt to the organization's changing needs. The way in which HRIS applications are introduced to an organization is critical. It should be designed according to its own system and needs (Stone, 1995). The success of the HR department in developing systems for collecting and using HR information and data depends on the partnership of line managers and employees working with line management must be willing to give data and information for better use of it. Employees need to be willing to learn how to use it with the changes and adoptions. HR professionals must be willing to build HRIS that serve the needs of line managers and employees.

HRIS serves two major **purposes** in organizations. One relates to administrative and operational efficiency, the other to effectiveness.

The first purpose of HRIS is *to improve the efficiency* with which data on employees and HR activities is compiled. Many HR activities can be performed more efficiently and with less paper work if automated. When on-line data input is used, fewer forms is stored, and less manual record keeping is necessary. Much of the reengineering of HR activities have focused on identifying the flow of HR data and how the data can be retrieved more efficiently for authorized

users. Workflow, automation of some HR activities, and automation of HR record keeping are key to improve HR operations by making workforce more efficient.

The second purpose of an HRIS is *more strategic* and related to HR planning. Accessible data enable HR planning and managerial decision-making. For example, instead of manually doing a turnover analysis by department, length of service, and educational background, a specialist can quickly compile such a report by using an HRIS and various sorting and analysis functions.

HR management has grown with strategic value in many organizations, Accordingly, there has been an increased emphasis on obtaining and using HRIS data for strategic planning and human resource forecasting, which focus on broader HR effectiveness over time (Mathis, Jackson, 1999). He described HRIS is an integrated system designed to provide information used in HR decision-making. HRIS through computers has simplified the task of analyzing vast amount of data, and thing can be invaluable aids in HR management, from pay roll processing to record retention. It is also found that cost saving from the introduction of computer system is significant which increase the credibility of the departments (Matthewman, 2002). A well-designed HRIS can serve as the main management tool in the alignment of HR department goals with the aim of long-term strategies planning decisions. The ability of HRIS to quantify, analyse and model change has enhanced the status of HRIS in many organisations. Global competition is putting increasing pressure on managers to make better and faster decisions. HR information technology can improve HRM and contribute to the competitive advantage of organisations (Sherman, Bohlander & Snell, 1998) <sup>22</sup>. If information is not relevant to the strategic business plans of an organisation or if it is invasion of personal privacy, it should not be included in the HRIS (Cherrington, 1995). HRIS can be shaped by the competitive strategy of a firm. Three

competitive strategies were identified by Broderick and Boudreau (1992) that influence the objectives and design of HRIS – cost leadership, customer satisfaction and innovation. Cost leadership strategy flow on economics of scale, customer satisfaction strategy focuses on enhancing customer services to gain market share where as innovations emphasizes differentiation through new products, services and technology. It is obvious in the 21<sup>st</sup> century that data will derive an increasing number of business decisions and strategies. HRIS is an excellent example of an area where business can capitalize not only on administrative cost savings, but also on leveraging a strategic advantage through information gathering, processing, and sharing (Kovach, Hughes, Fagan, & Maggitti, 2002). Preliminary research shows that successful HRIS operations are identified by such outcomes as organizational competence; i.e. meeting strategic goals (Pierce, Newstrom, 2002).

### **The Privacy Issue and Information Security**

One consequence of the tendency toward consolidation and the shift to larger and more comprehensive systems is that more people want information that the human resource system can provide, consequently more people have access to these huge storehouses of employee information. Unless something is done to limit access, major problems related to individual privacy and information security can occur.

*Privacy* refers to the rights of employees as individual. It is protected by several different federal laws (U.S.A) and by our constitution (India). These laws relate both to what information is retained and how information is handled.

*Security* refers to the protection of information accessible through computers and prevention or limitation of access so that only those with an appropriate need to know can obtain information.

Information security in the context of human resource information systems comes in three forms. 1<sup>st</sup> *Physical security* is concerned with the protection of data and equipment against theft and destruction. It is typically ensured by limiting access to facilities and retaining backup copies of the database and software. Sabotage by disgruntled employees or former employees are a special problem. 2<sup>nd</sup> *access security* refers to controlling entry into the system or portions of it, usually accomplished by the use of passwords. Individuals who have legitimate need to know certain facts because of the nature of their position are issued passwords giving them access to a limited portion of the database. Usually it is considered advisable to change these passwords frequently. Finally, *procedural security* establishes a set of security policies and operating practices that, among other things, are directed toward compliance with privacy laws. Practices covered include procedures for backing up data, prohibitions on sharing passwords, and limitations on the sharing of information in the database. The procedures should be stated in writing and made available to all who might be in a position to use them.

The HR data, information, and assessment systems built by organizations can be misused by firms and individuals. Consequently, HR professionals have a special responsibility to secure these systems, yet without limiting the system's potentials for helping the organizations to change condition rapidly and correctly. The results of successfully accomplishing this balance of interests are beneficial for the organisation and the individual (Schuler & Jackson, 1996).

## New and Future Trends

In the future, HR professionals can expect to see more widespread adoption and greater power in the types of applications described earlier. In addition, many new applications may become available.

- One wave of the future is the *more use of expert systems technology in human resource applications*. Computers are good at working with quantitative information: expert systems allow them to work with qualitative information in the same way that humans do. An expert system is a computer program that applies inference rules to facts in order to duplicate the reasoning process of a human expert. Some expert systems are already available for HR applications, such as performance appraisals, systems for authorizing compassionate leave fairly and consistently and for advising supervisors on unfair dismissal cases. Many more seem likely to be developed in the near future (Pai-Cheng, 1990).
- Another trend seems to be toward even greater *use of HRIS data and functions by non-HR specialists*. As systems become more user-friendly and managers more computer literate, an increasing number of managers will be able to generate their own HR reports, forecasts, and what if scenarios to facilitate day-to-day management and future planning. The development of truly integrated HRIS, in which all applications share the same interval structures, look, feel, and basic commands, will greatly facilitate this increase in users (O'Connell, 1992).
- Another pacesetter trend is *linking HRIS with knowledge management*, on the belief that intellectual capital is the core competitive asset in contemporary organization.



Knowledge management assumes that knowledge and its complement learning are the forces that optimize organizational performance (Davenport & Prusak, 1998). Furthermore, organizational knowledge can be more closely observed in its currency, intellectual capital, which has been defined as both “hard” and “soft” assets. Both of these categories are distinct, yet clearly interdependent. “Hard” intellectual capital assets refer to legal documents, software, and database; while their “soft” counterparts are people-centered organizational strengths including skills, expertise, culture, and commitment (Stewart, 2001). These two categories can be effectively integrated with human resource information systems that are well designed. In brief, HRIS make vital contributions to knowledge management by advancing organizational learning. For example, HRIS facilitates double loop learning feedback that enables organizational change and discussion, intra-organisational communication and decision-making, and shared visions (Argyis, Schon, 1996). Strategic initiatives and related modifications can also benefit from HRIS pathways. In addition, knowledge management involves relevant training, which can often be delivered in both cost- and time-effective ways with an HRIS. Even total quality management of highly skilled professionals such as physicians can be enriched with a carefully planned HRIS (Davenport, Glaser, 2002).

- The latest thinking has made the Human resource function be looked upon as the Human capital Management function in a bid to recognize the value of human resources. This needed more management level information and support which is possible through computerized HRIS. But an HRIS cannot substitute for sound management policies and procedures that deals with interpersonal activities like counseling, interviewing, supervision and surveillance (Castelino, 2002). Organisations that are determined to

improve productivity, lower costs, increase employee satisfaction will find technology in general and HRIS in particular a big help. It affects the entire workforce and deliver significant financial returns, which are an important part of HRM's growth as a strategic and value-adding partner to the business (HR Focus, 2004).

### **Effective Human Resource Information System: Some Approaches**

There are four basic approaches to effective human resource information system. Effective information system depends upon the information need of the organization and the way it can be met most effectively. These are important, whatever be the size of the organization.

- Expanding the existing computer based payroll system: Since most firms now use a computer for payroll purposes, this system itself includes many basic employee data elements, which may be expanded to include other elements necessary for human resource planning.
- Establishing a supplement system: Alternatively, a supplement system could be established and interfaced with the payroll system to provide the additional data elements required. If planned intelligently, this could be a step toward approach to building a comprehensive HRIS.
- Establishing Computerised Files and Data Processing Systems: This is a traditional manual system assisted by a computer. In essence the procedures are the same as for the manual system except that computations, clerical processing, and some reporting are done more quickly and accurately. Here, a set of data processing software modules that are linked to each other and to a central employee data system in some way. Basically, such automated human resource human resource information systems consist of linked

databases with “application programmes” that store, manipulate, and retrieve data and provide reports. These system modules, as found in commercial software systems, tend to be independent so that we may start with the employee data system or the payroll system and add on one module at a time.

- Setting up a completely separate comprehensive information system: This is the third alternative, using fully computerized data base management systems which suggests the establishment of a wholly separate information system for human resource planning purpose only. This is the trend in large and modern organizations. It is a centralized information source in a company that is diverse in its organization, products and locations.

The relatively recent development of comprehensive HRIS software has led to a large demand for technologically literate HR professionals; many business schools have started to think about or have begun to incorporate more advanced technology such as enterprise resource planning (ERP) systems into their curriculum (Bedell et al, 2007). A survey conducted by Kirstee S. Ball (2001) revealed that the more people employed by the organisation the more likely the HR functions hold information electronically both of the individual and the organization; the information analysis is more likely done with the HRIS; the less likely it is to purchase additional noncore HR modules.

## Conclusion

Successful human resource management requires mastery of a tremendous amount of well-organized information. Information can be defined as tangible or intangible entity, which serves to reduce uncertainty about some future state or event. Acquiring and analyzing

information and taking action based on their interpretation of information is the common function of all organizations. Every organization needs to process information, whether it manufactures a product or provide a service. It is important to remember that the value of a HRIS can only be determined by identifying and appraising what the system actually does for the HR functions. A viable system should be capable of replacing present clerical operations, achieve a level of control and information retrieval that is not feasible with conventional methods, and provide tangible and intangible cost savings.

## References

- Argyris, Chris and Schon, Donald, A.,( 1996) *Organisational Learning : Theory, Method, and Practice*, New York, Addison Wesley.
- Ball, Kirstee, S.,(2001) “The Use of Human Resource Information Systems : A Survey”, *Personnel Review*, Vol.30, No.6,pp 677-693.
- Bedell,Michael D;Floyd,Barry D; Kay Mc Glashan Nicols.,(2007),“Enterprise Resource Planning Software In The Human Resource Classroom”, *Journal of Management Education*, Vol.31, No.1, pp.43-63.
- Broderick Renae and Boudreau, John,(1992a) “Human Resource Management, Information Technology and the Competitive edge”, *Academy of Management Executive*, Vol.6, No.2, pp 7 - 17.
- Cherrington, D.J., (1995) *The Management of HR*, 4<sup>th</sup> Edn., Prentice Hall, , pp. 154-159.
- Castelino, Francis, (2002) “Human Capital Management Through HRIS”, *Sroth*, Vol.1, No.1, March, pp. 92 - 95.

Davenport, Thomas, H. and Prusak, Laurence, (1998) *Working Knowledge*, Cambridge, MA: Havard Business School.

Davenport, Thomas, H. and Glaser, John, (2002) “Just-in-Time Delivery Comes to Knowledge Management”, *Havard Business Review*, Vol.80,No.7, pp.107 -111.

Evans, Alastair, (1986), *Computerising Personnel System: A Basic Guide*, IPM, London

*How HRIS is Transforming the Workplace – and HR’s Role*,( 2004), HR Focus, March, IOMA Publication, New York, p.4.

Kovach, Kenneth, A., Hughes, Allen, A., Fagan, Paul and Maggitti, Patrick, G., (2002) “Employment Relations Today : Summer”, Vol.29, No.2, ABI/INFORM Global.

Mathewman, G., (2002), *Human Resource Effectiveness*, 1<sup>st</sup> Edn., Jaico Publishing Company Ltd.,pp. 96 -102.

Mathis, R.L., and Jackson, J.H.,( 1999) *Human Resource Management*, 9<sup>th</sup> Edn., South-Western College Publishing, pp. 49 -67.

O’Connell, Sandra E., (1992) *Expert Tells How to Have the Best of Both World*, HR Magazine, February, pp.29-30;

Pai-Cheng, (1990) “Developing Expert Systems for Human Resource Planning and Management”, *Human Resource Planning*, Vol.13, No.3, pp. 159 -177.

Pierce, Jon L and Newstrom, John, W., (2002) *The Manager’s Bookself : A Mosaid of Contemporary Views*, Upper Saddle River, NJ: Prentice Hall.

Schuler, R.S.; Youngblood, S.A. and Huber, K.L.,(1988), *Personnel and Human Resource Management*, 3<sup>rd</sup> Edn, West Publishing Company, pp. 82 -91.

Sherman, A. Bohlander, G. and Snell, S., (1998), *Managing Human Resources*, 10<sup>th</sup> Edn., South Western College Publishing, pp.22 -23.

Stewart, Thomas, (2001), *The Wealth of Knowledge: Intellectual Capital and the Twenty-first Century Organisation*, New York:Doubleday and Company,.

Stone, R.J., (1995), *Human Resource Management*, 2<sup>nd</sup> Edn., Jacaranda Willy Ltd., pp.30 -45.

