# USABILITY OF HUMAN RESOURSE INFORMATION SYSTEMS ON RECRUITMENT, TRAINING AND PERSONNEL DEVELOPMENT, AND COMPENSATION PLANNING

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**ABSTRACT**

The innovation of information technology brings new perspective of conducting and managing business. It changes the way to manage human resources in the organizations. So that, the organization have to adapt to this trend of management and also have to switch from conventional managing human resource method to human resource information system (HRIS). This paper addresses the usability of HRIS in human resource management and particularly on recruitment, training and personnel development, and compensation planning. The capability of information system used in the human resource district is discussed. The recruitment process in today's organizations involves the application of the Internet for recruiting people outside the organizations. Whereas the application of Intranet is used for inventorying internal personnel. As a result, the development of the human resourses in the organization can be well handled.

Key Word: HRIS, Recruitment, Training & Personnel Development, Compensation Planning

## 1.0 INTRODUCTION

All larger firms have a human resources function that handles much of the specialized processing concerning the firm's personnel. The conceptual system that is used in managing the personnel is called the human resources information system, or HRIS. For many years, top management placed little emphasis on the HRIS. However, government legislation, aimed at ensuring equality in firms' personnel practices, prompted top management to give the HRIS the attention that it deserved. Enjoying its new status, the HRIS began to migrate from IS to HR, and in the process it took advantage of microcomputer technology.

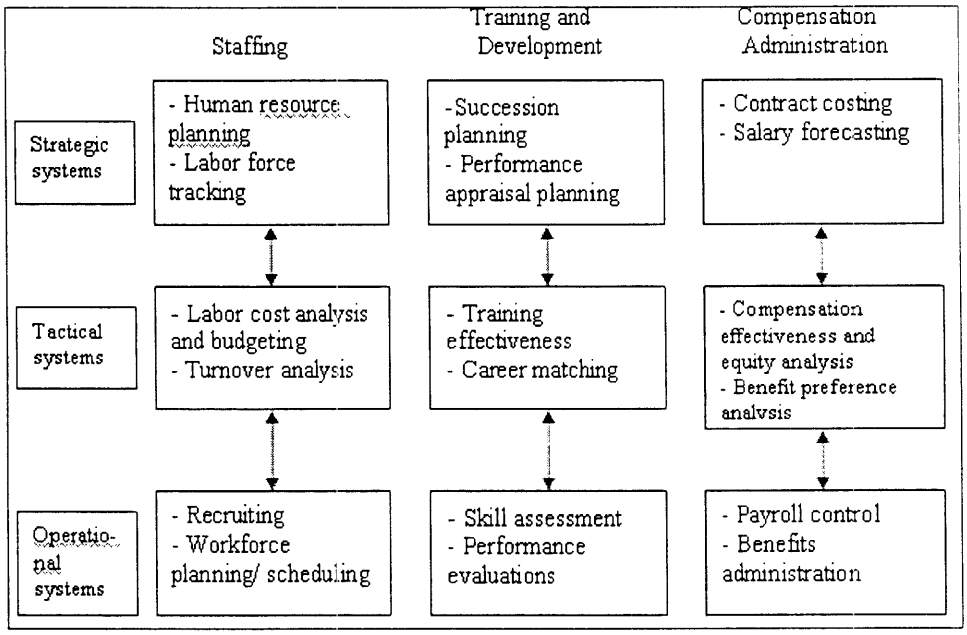
The HRIS conforms to the same basic format as the other business area information systems. The accounting information system (AIS) provides personnel data of a financial nature, the human resources research subsystem conducts special research projects to gather new data, and human resources intelligence subsystem gathers personnel-related data and information from the environment (Linder & Parker, 1998). The HRIS database complements the personnel data with data describing both organizations and individuals in the firm's environment that influence the personnel flow. Although much of the HRIS processing in large firms has been downloaded from the mainframes in IS to micros in HR, the HRIS database is still largely contained within the central computers. The six output subsystems trace the flow of personnel through the firm. Many of the applications contained within each of these subsystems have been implemented by a large number of firms, but some are still in the process of development.

The HRIS has come a long way in the past decade, and many executives now regard it as being just as valuable as other business area information systems. However, there is still room for growth as the HRIS tackles some of the most difficult management problems.

## 2.0 DEFINITION AND CONCEPT

HR performs a support function, facilitating the flow of the personnel resource through the firm. Each firm must have a system for gathering and maintaining the data that describes the human resources, transforming the data into information and then reporting the information to users. This system has been named human resource information system (HRIS). HRIS are designed to support planning to meet the personnel needs of the business, development of employees to their full potential, and control of all personnel policies and programs (Walker & Perrain, 2001). Originally, businesses used computer-based information systems to produce paychecks and payroll reports, maintain personnel records, and analyze the use of personnel in business operations. Many firms have gone beyond these traditional personnel management functions and have developed human resource information system (HRIS) that also support recruitment, selection, and hiring; job placement; performance appraisals; employee benefits analysis; training and development; and health, safety, and security.

**FIGURE 1: Human Resource Information Systems Support The Strategic, Tactical, And Operational Use Of The Human Resources.**




**Source: Walker & Perrain (2001)**

## 3.0 THE CAPABILITY OF HRIS

The Internet has become a major force foe change in human resource management. For example, online HRM systems may involve recruiting for employees through recruitment sections of corporate websites. Companies are also using commercial recruiting services and databases on

the World Wide Web, posting messages in selected Internet newsgroups, and communicating with job applicants via e-mail.

The Internet has a wealth of information and contacts for both employers and job hunters. Top websites for job hunters and employers on the World Wide Web include Monster.com, FreeAgent.com, and Jobweb.org. These websites are full of reports, statistics, and other useful HRM information, such as job reports by industry, or listings o the top recruiting markets by industry and profession (O' Brian, 2004) . Of course, you may also want to access the job listings and resource databases of commercial recruiting companies on the Web.

Intranet technologies allow companies to process most common HRM applications over their corporate intranets. Intranets allow the HRM department to provide around-the-clock services to their customers: the employees. They can also disseminate valuable information faster than through previous company channels (McLeod & Schell, 2001). Intranets can collect information online from employees for input to their HRM files, and they can enable employees to perform HRM tasks with little intervention by the HRM department.

For example, employee self-service (ESS) intranet applications allow employees to view benefits, enter travel and expense reports, verify employment and salary information, access and update their personal information, and enter data that has a time constraint to it. Through this completely electronic process, employees can use their Web browsers to look up individual payroll and benefits information online, right from their desktop PCs, mobile computers, or intranet kiosks located around a work site.

Another benefit of the intranet is that it can serve as a superior training tool. Employees can easily download instructions and processes to get the information or education they need. In addition, employees using new technology can view training videos over the intranet on demand. Thus, the intranet eliminates the need to loan out and track training videos. Employees can also use their corporate intranets to produce automated pay sheets, the online alternative to time cards. These electronic forms have made viewing, entering, and adjusting payroll information easy for both employees and HRM professionals.

## 4.0 HRIS AND RECRUITMENT

Effective recruitment and selection of employees for the core workforce that provides the organization with stability and continuity has become essential for organizational survival and presents another set of challenges (Kraut & Korman, 1999). There is already intense competition for workers who are talented enough to be a part of the core, and this is predicted to become even fiercer. A review of technologically advanced recruitment processes will now be presented.

### 4.1 On-Line Recruiting

Among the biggest changes in the area of staffing is the growth of on-line recruiting. Electronic recruiting takes several forms organizations both large and small post job vacancies on their own Web sites. There are currently hundreds of career services web sites including those of traditional employment agencies who advertise over the Internet as well as others belonging to exclusively on-line search firms. One of the critical differences among Internet recruiters is the method by which their service matches candidates with jobs. So called bulletin board, such as Monster Board, has served primarily as on-line job posting and resume listing services whose main objective is to speed the dissemination and exchange of information between job seekers and organizations with jobs to fill, and to provide an effective and cost-effective means of reaching a

wide audience. Electronically capturing items of low predictive validity does little to improve hiring and could lead to the relegation of on-line recruiting to the bin of discarded HR fads.

A relatively sophisticated approach is illustrated by Intellimatch, a service that is available free to job hunters in the general public and to organizations by subscription. Intellimatch uses a structured, skill-inventory approach to both resume construction and position descriptions. Another approach to matching job candidates with openings is illustrated by Resumix, which uses expert-system technology. The basic Resumix system is a resume-tracking computer application that organizational clients purchase, not an Internet site (end users are the HR staff of these client organizations rather than job seekers and potential employers). Resumix uses scanning and imaging technologies to enter resumes into its system. It then uses artificial intelligence to extract key information, which is put into a standardized candidate summary. The extraction technology allows it to categorize candidate information on the basis of broad job categories and somewhat more specific skill areas, as well as to store summarized personal information and educational and work histories.

This type of approach could be made more effective if a standardized, cross-job, cross-organizational vocabulary of individual characteristics, job specifications, and assessment tools were developed and used to create both applicant descriptions and job listing. Individuals who reported meeting particular job specifications could be given on-line valid tests or assessments. The tests could be scored immediately, with applicants whose scores exceed the cutoff moving to the next step of the selection process. The organizations need not to do its own testing and for applicants to be repeatedly tested.

On-line recruiting has disadvantages that must also be noted. One is that direct contact between the applicant and prospective employer usually takes place later than in the traditional process. The employer is interested in a general match between person and organization rather than a fit to a particular job. Second disadvantage of on-line recruiting is that it may reduce the access of disadvantaged lob seekers to job vacancy information because minority and older applicants are less likely to own, use, or feel comfortable with computers.

In addition, the massive proliferation of recruiting sites of varying quality and the volume of electronic resumes that HR departments sometimes receive in response to a posting have the potential to make the system ineffective because of sheer information overload.

### 4.2 Automating Assessment Activities

A current trend in applicant screening is the paperless application. The paperless application process usually involves a combination of Touch-Tone and interactive voice technology with artificial intelligence software. An example of this is provided by the Automated Prescreening Process (APP) that HReasy, an HR consulting firm, furnishes to its clients. Under the APP system, individuals who respond to ads or walk in to apply for a job are directed to call a special toll-free telephone number, which is 24/7. Once they have placed the call, applicants are prompted to enter their social security numbers and telephone numbers to initiate an automated screening interview. Those who meet the initial requirement are advanced to a second-level interview. After the interview, managers at the client organization can receive by fax, e-mail, or phone a report on the applicant's qualifications. Automation of initial applicant screening has several advantages: it is ready whenever an applicant is, it proceeds more quickly and more objectively than traditional screening, and it reduces demands on both the HR staff and the hiring managers.

4.3 Interactive Simulating

One of the most innovative applications of selection technology is in the use of live telephone call-centered role-play exercises to as assessing candidates for customer contact positions. The Telephone Assessment Program (TAP) of Assessment Solutions, Inc. (ASI) is a state-of-the-art example of this type of system. ASI designs job-and organization-specific simulations to assess candidates' abilities to perform key aspects of the target job. Each exercise is modeled directly on the job and simulates common types of calls the customer representative would receive. Candidates are provided with written background materials and time to review these materials. They receive a series of telephone calls from "customers" who are actually trained assessors at ASI. Every assessor uses a structured multidimensional on-line rating form to document and evaluate the candidate's performance which is compared with the ability level needed to succeed on the job, as predetermined by a job analysis at the client organization. Scores are then mechanically combines, and a dimensional and overall performance report is generated for each candidate.

Advantages of this approach are that it can be conducted remotely with candidates virtually anywhere in the world; it provides a realistic preview of the target job, and it reliably yet relatively inexpensively captures actual samples of behavior using specially trained assessors. Strategically, it focuses on the customer's perspective, which is in line with the new organizational emphasis on customer and client satisfaction.

## 5.0 HRIS AND TRAINING AND PERSONNEL DEVELOPMENT

When we speak of training and development, we should first look at some definitions to ensure that we are speaking of results rather than activities. Activities are visible and measurable and give us the comfort of believing that we are genuinely accomplishing something. However, they are still only activities. Results are measurable as well, but defining the activities that contribute directly to results is a tortuous path.

- Training is an activity with a desirable result: workforce development to increase productivity, innovation, and competitiveness.
- Development is the ultimate result for employees and for the organization; it means a person moves from one level of potential contribution to a higher one.

For years, classroom training was seen as the primary means of employee development. An organization decided on a course of action and decided that some or all employees would take a classroom course. All employees took the same course and hopefully they will gain the same knowledge. Over the past few years, we have seen synchronous training, where employees in remote locations attend the same class at the same time and have enhanced interactivity through real-time e-mail or voice-to-voice conversations with their instructor and classmates.

Most computer-based training, despite the hype given to it recently, is still training. Its goal is to impart predetermines knowledge. It sues an anytime, anywhere classroom, but is still individualistic and imparts intellectual content, with perhaps a bit of skill building and motivation thrown in. It is usually cheaper and often more convenient. And when there is sufficient broadband width to pump multimedia into the wires, and up-to-date hardware on the user's end to receive it, the results can be exciting.

When the Internet or a sophisticated corporate intranet is used for distance learning, interactivity can be added, a greater range of standard courses can be accessed, and, with new developments in bandwidth, the imagination of the producers is the only limit to the types and amount of graphic material presented.

Computer-based training has radically altered the corporate training field in a number of ways. It has:

- Conquered distance and enabled employees around the world to benefit from knowledge previously available only in selected sites.
- Reduced the attendant costs of training: travel, accommodations ,and class size limitation.
- Enabled companies to purchase off-the-shelf courses at a fraction of the cost of developing them and providing stand-up trainers.
- Opened entire free libraries of secondary sources to bolster course content.
- Added course-specific chat rooms to replace student dialogues and bull sessions.
- Opened the doors to innovation in distance learning by providing a business base training. The flood of net-based businesses in the training field is almost overwhelming, and the consequent competition among them will spark continuously improved products.
- Raised the bar for course developers by increasing demand for better graphics, real time video and audio, and expectations of "edutainment" as part of education.
- Raised the bar for instructors, since the competition for great teachers will only increase exponentially s a more sophisticated audience of learners see the possibilities of this new distance learning.

The future of training is almost certainly web-based, t least for those courses with wide audience appeal and need to know information. The dropout rate in distance learning is much higher than in traditional classroom instruction. There are seldom attendance sheets in distance learning. Participants feel they can learn at their own pace, so they may sip through, or drop out of, a course whose promotional material is better than its content. There is little human interaction to develop insights and feelings about the material presented, and some distance learning courses have hardly evolved from the old computer instruction manuals of the mid 1980s.

## 6.0 HRIS AND COMPENSATION PLANNING

The first companies to develop the web-based total compensation planning tool were the high-technology companies. Compensation decision power already had been shifting from HR to line managers with the attacks on bureaucracy, empowerment of management to manage, and depletion of corporate compensation departments in favor of generalist HR partners (Linder & Parker, 1998). However, the goals and objectives for automated compensation analysis and delivery systems is to bring the needed information to those who must make pay decisions quickly and accurately in the form in which they can best use the information. There are several steps in setting up electronic compensation planning:

### 6.1 Determine the manager's population

Before a manager can administer the compensation plan, the population must be determined. Because it is role-based, the web-based application must "know" who is a manager and to whom he or she directly reports. Each plan has eligibility rules, and an employee must be assigned to the appropriate compensation plans. Then the human resource information system (HRIS), or compensation program logic, determines if an employee is covered under that plan as of a specified date.

### 6.2 Rating employees

The manager now accesses the rating that was generated during the performance management process or, if that process was not web-enabled or the data are not in machine readable form,

enters the appropriate performance rating into the application for each employee. The system automatically generates graphics that depict the distribution of the ratings—both the actual distribution for the manager's employee population and the desired distribution.

6.3 Compensation planning

One of the more popular tools used by managers in the analysis and planning phase of salary administration is the performance/ increase percentage matrix. The guidelines in the range quartiles show the suggested percentage increases that could be given by a manager to an employee depending on the employee's position in the range. Jobs can be assigned to salary ranges strictly according to market rates; on the basis of traditional evaluation methods or via newer, competency-based approaches.

6.4 Planning new base salaries

When the performance rating versus position-in-range matrix is finalized, the manager can proceed with compensation planning. Running totals are maintained for total compensation amounts and for the budgeted pool amount, offset by the amount the manager allocates to each individual, along with the remaining total available. The manager then plans each employee's change until all of the employees are reviewed, using as real-time updated iterations as he or she believes are necessary.

6.5 Planning new variable compensation

In a fashion identical to that used for base salaries, each employee who is eligible for variable compensation is now reviewed, and a suggested amount of compensation is calculated. The graphic shows the total compensation amount (in bar form) for each employee, taking into account the amount of the new annualized salary that was suggested, as well as the suggested variable amount. These amounts are added together, along with any other variable amounts that the employee is eligible for.

6.6 Planning stock compensation awards

The manager can now decide on the award of any stock that is part of the total compensation package. Companies often outsource the administration of this component using either dedicated software or the financial services firms that handle option exercise and other stock transactions for the companies. When this step is completed, managers can generate statistics for their own work group and, under certain conditions, determine where they stand in relation to other groups.

6.7 Approving compensation plans

After a manager submits a compensation plan, it is accessible to the approving manager for review and approval. The manager can both "roll up" for an aggregate view of pay-for-performance and "drill down" to examine any one individual's pay plan.

## 7.0 CASE STUDY

7.1 Case 1: Information Technology In Training Human Resources

Information technology has great influence towards human resources management and specifically on training policy through the experience of a Spanish telecommunication firm, Telefonica. The company uses the intranet as one of the training tool in the company. It discussed about the advantages and the disadvantages (Gasco *et al.*, 2001). Besides, Telefonia has come out with a training policy that focused on what on what they call cooperative learning with several aspects that must be followed. The training model is strongly dependent on ICT. Telefonica also opted for a learning management system that is call *red teledidaatica* and it's one of the different

services available on the corporate Intranet. The use of information technology in human resource management brought important qualitative change to its corporation.

7.2 Case 2: Virtual HR

The extensive use of information technology impacts the HR professional job role through influencing informational demands on these employees as well as demands for providing IT support (Gardner *et al.,* 2003). The authors found that HR professionals are enables to provide increased information responsiveness, have more information autonomy, and have more external professional links. Another implication is IT appears to serve as an empowering function for HR professionals, providing a medium in which HR professionals can provide increased value in their work.

## 8.0 CONCLUSION

It seems very clearly that the tool for human resource management is changing. The organizations cannot keep away from this trend and changes in the information technology age. The organizations have to aware of these changes and adapt to it. This has been overlooked by the managers of the organization as the human resource function is invisible in the organizations.

The language used in mauinstream management and its corresponding management tools is changing, but the foundations and intellectual constructions on which it is based, still goes back to older paradigms. Therefore, there is no real paradigm shift up yo this point. Still, we cannot overlook the disadvantages of the implication of the human resource information system (HRIS). Detail studies have to be brought out toensure that the application of HRIS do bring benefits to the organizations.

## REFERENCES


Walker, A. J. & Perrin, T. (2001). *Web-based human resource: The technologies and trend are transforming human resource.* New York: McGraw-Hill.

Kraut, A. I. & Korman, A. K. (1999). *Evolving practices in human resource management: Responses to a changing world of work.* San Francisco: Jossey-Bass.

Linder, G. V. & Parker, P. (1998). On paradoxes between human resources management, postmodernism, and HR information systems. *Accounting Management and Information Technology,* 8, 265-282.

O'Brien, J. A. (2004). *Management information system: Information technology in the business enterprise (6th ed.).* New York: McGraw-Hill/ Irwin.

Gasco, J. L., Llopis, J. & Gonzalez, M. R. (2001). The use of information technology in training human resources: An e-learning case study. *Journal of European Industrial Training, 5,* 370-382.

McLeod, R. Jr. & Schell, G. (2001). *Management information system (8th ed.).* Upper Saddle River: Prentice Hall.

Gardner, S. D., Lepak, D. P. & Bartol, K. M. (2003). Virtual HR: The impact of information technology on the human resource professional. *Journal of Vocational Behavior, 63,*159-179.