Implementation of Human Resource Information System in Pakistani Organizations

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by

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Technology has opened new vistas for eliminating administrative overhead and has transformed the HR department into a strategic partner in the organizational process. Technology has dramatically altered the lives of HR professionals over last few years. Today, much of what used to be time consuming manual processes are performed by computers, freeing HR professionals to work on value-adding activities. Rational application of technology has freed the HR professionals from running errands that created low, sometime negative, value in the organization. Local/Wide Area Networks and Internet options have opened the door for integrated HRIS development. With the help of these integrated systems HR management functions have been bolstered in ways that was unthinkable in manual systems.

Historically, HRIS has attracted little attention in Pakistani organizations. Very few recognized the critical importance of HR element in the competitive advantage of organizations. In the first wave, computer-based systems concentrated on material and physical factors of production. Generally, material resources earned greater share of management’s attention because most believed that these resources were scarce and costly. The other reason for apathy was excess supply of HR factor and companies could hire and fire without seriously affecting their business operations and financial status. The present business environment, overshadowed by fierce competition, globalization, emergence of knowledge worker, right-sizing, and intense emphasis on Customer Relationship Management, has added new dimensions to HR management. Migration towards lean and flat organizations coupled with emerging management styles demand that the top quality HR should be selected and then efficiently managed and retained till they add value to business. Organizations are also realizing that success does not depend on army of unproductive employees but on few well-motivated and skilled workers who contribute enormously to the core competencies of organization. Again the cost of HR has gone up substantially in Pakistan too – over the past fifteen years the cost of management staff has gone up by 5 times and that of non-management staff by 10 times.

Most current HR systems in Pakistani organizations are paper-based and therefore manually intensive, creating high costs. HR specialists are inundated with routine chores, causing delays for customers and employees. They hardly meet the challenges of modern day business.

HRIS can be defined as a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by an organization about its HR, personnel activities, and organizational unit characteristics. HRIS is the systems that allow managing all possible digital information of employees. A carefully planned HRIS will help the top management in strategic planning and decisions making process.

Before a successful HRIS can be implemented, the organization must determine what they need. Their needs must coincide with their objectives to try to maintain or gain a competitive advantage.
One reason for the increased use of such systems is that they are essential for HR planning, enabling HR managers to achieve their business-related goals. In addition HRIS are thought to increase HR managers’ abilities to monitor the workforce, produce reports easily, utilize employee skills effectively, and even reduce labor costs.

It is easy to think of HRIS in terms of the hardware and software packages used to implement them and to measure them by the number of workstation, applications, or users who log onto the system. However, the most important elements of an HRIS are not the computers, but the information. The focus of any comprehensive HRIS should be on information validity, reliability and utility first and on automation of the process second. Many organizations have gone through years of expensive software development only to find that the process for accomplishing the work should have been changed, or added little or no value to the end result.

Like any other system, HRIS can be developed in-house or can be outsourced to a vendor. Although most of the ground rules remain the same in both scenarios, however specific concerns in both situations should be carefully addressed. For instance, insistence on having a copy of source code and quality system documentation, in case of outsourcing, will achieve future independence and avoid unnecessary costs when amendments or enhancements need to be done.

Prior to automating the HR processes organizations should carefully look at all related processes and begin re-engineering them. These processes were designed for paper-based systems and need to be rationalized. There is no use taking a bad process and automating it. The other important thing that has to be done before designing and implementing HRIS is to functionalize the HR activities. For instance, breakdown of compensation into different categories, assignment of job codes, employee codes, etc. Traditionally most of routine functions have been concentrated in HR department because of constraints of manual systems. Think of dispersing those functions at the line manager level – like vacations and overtime. Network systems have made it possible to distribute functions in logical manner.

The main intent of an HRIS is to keep an accurate, complete updated database that can be called when needed for reports, recordkeeping and automating routines and tasks such as application tracking. An HRIS system is made up of distinct yet interconnected modules that perform specialized functions. Each module is an "umbrella" term covering a group of related personnel activities. Specific modules in a system may include some or all of these:

- Basic module containing basic, vital information
- Career Development Module
- Benefits Module
- Job Evaluation Module
- Position control
- Tax Module
- Safety Module
- Recruitment Module
- Payroll Module
- Employee Self Service Module
- Training Module
- Labor Relations Module
A well implemented HRIS should particularly facilitate:

- Applicant tracking
- Basic employee information
- Benefits administration
- Bonus and incentive management
- Career development/planning
- Compensation budgeting
- Legal compliance
- Employment history
- Health and safety
- Health insurance utilization
- HR planning and forecasting
- Job descriptions/analysis
- HR reports

- Operating Control Reports
- Turnaround Documents
- Periodic Standard Reports
- On call/Canned reports
- Ad Hoc - usually audit-based reports

Whatever system is built or acquired for automating HR functions it should be ensured that it should be on open platform in terms of hardware and software. Also it is important to ensure that the system is portable and scalable.

HR INFORMATION PLANNING

Gaining the support of top management and taking an assessment of the organization’s HR needs and requirements is paramount. Top management should appreciate that their firm commitment to the project is crucial to the success of entire effort. They should be willing to handle all financial, administrative, technical, and Change Management issues. In organizations there are conservative pressure groups that pursue status quo and feel threatened by the introduction of IT. These pressure groups will become active as soon as they realize that top management commitment is found wavering.

INVolVEMENT OF RIGHT PERSONNEL IN THE DEVELOPMENT PHASE

HR, Information Systems (IS) professionals, and others who work with these systems must be good problem solvers, have a solid grounding in management and be able to create workable structures from often chaotic situations.

There are questions any organization would need to address when they start thinking of implementing HRIS. It is important to carry out a thorough feasibility study and determine whether or not work on a new or modified system is capable of being accomplished. Generally, the feasibility study addresses four key feasibility types:
1. **TECHNICAL FEASIBILITY:**

Can the system be built?
Is the technology currently available to build such a system?
If the technology is available, at what stage of the product life cycle is it?

2. **OPERATIONAL FEASIBILITY:**

Will the system be used as intended?
Will it operate in the way that users want?

3. **ECONOMIC FEASIBILITY:**

Can the proposed system be cost justified?
Will it pay for itself?
Do anticipated benefits outweigh expected costs?

4. **SCHEDULE FEASIBILITY:**

Can the system be completed in the needed time frame?

HRIS information planning identifies main objectives. The main areas covered are by answering the basics five “w” questions:

- Who needs HR Information?
- Why do they need the information?
- When will they need the information?
- What information do they need?
- Where are they located, and where will the information be delivered?

For each “Who” there should be answers to the other four w’s. The order of the information may have a significant impact on the whole HRIS issue.

This phase generally covers:

- Development of overall objectives
- Identification of HRIS project(s)
- Setting priorities and selecting projects
- Analyzing resource requirements
- Setting schedule, milestones, and deadlines
- Development of HRIS plan

**SYSTEM DEVELOPMENT TEAM**

At the very beginning of the project, there should be a Project Team consisting of subject matter experts (i.e. HR specialists) as well as IT Professionals and Consultants who can inter-relate with each other well. A Project Manager who is an HR expert such as HR Manager who also has some technical savvy is the most desirable to head up this team. Enlisting some staffers from field locations will help because they can give other perspectives that may not be obvious to the staffers at the corporate location, so remember it is important to enlist their help too to make sure
the project can be a success. Selecting an appropriate investigation team is very important and it requires deliberate efforts. Right people with sufficient knowledge of organization, policies, needs and objectives can be part of investigation team.

The investigation team’s primary task is to define:

- What is the problem?
- What is the size of the system development effort involved?
- What possible options exist as solutions?
- What type of costs and benefits are involved with each of the option?

During system development managers and users and other team members interact with each other and with the project analyst, it is important that the team members clearly articulate their information and processing needs.

NEEDS ANALYSIS

User input is critical in determining the operational success of HRIS. It is important to involve all stakeholders in the process right from the beginning as it will mitigate resistance to change and will facilitate conversion from manual to automated system.

In order to be successful, the Needs Analysis must accomplish the following:

- Integrated Data Plan layout for organization
- What information will be needed for reporting?
- Costs vs. Benefits
- Present way versus way with an HRIS system
- How will system interface with other systems such as legacy Payroll and GL systems? The most difficult and challenging task by far is getting an HRIS system from a vendor to interface with a legacy "home-grown" system developed by internal IT personnel
- Looking at other similar companies and competitors as to what they do
- Surveying HR departments

Specifically identified steps are required during development process that fall within the following categories:

- Proposal to Management
- Requirements Analysis
- System Specifications
- System Design
- System Development
- Installation and Conversion
- Evaluation

This paper will not discuss all of the above stages, per se, but will deal with issues that are seen important from the standpoint of HR specialists.

REQUIREMENTS ANALYSIS

If users are heavily involved in systems design, they have more opportunities to mold the system according to their priorities and user requirement and more opportunities to control the outcome. Furthermore, they are more likely to react positively to the complete system because they have been active participants in the change process itself. It is often difficult to get users involved in the
development project if they are pressed for time. Incorporating the user’s knowledge and expertise leads to better solutions. However, users often take the very narrow and limited view of the problem to be solved and may overlook important opportunities for improving business processes in innovative ways through the application information technology (IT).

Analysis is the foundation of any system and any compromise at this stage will not only affect the final product but will raise thorny issues during the development process. Bad analysis will continue to raise its ugly head even after the system has gone in production. There will be frequent modifications to the system and there will be patches all over. This will prove to be more costly in the long run.

There is user-designer communication gap. Users and IS specialists tend to have different backgrounds, interests, and priorities. For example, systems specialists have a highly technical, or machine orientation and users prefer systems that are oriented to solving business problems or facilitating organizational tasks. Often the orientations of both groups are so at odds that they appear to speak in different languages. Systems development projects run a very high risk of failures when there is a pronounced gap between users and technicians and when these groups continue to pursue different goals. Under such circumstances users are often driven out of the implementations process. Users generally relinquish control and become complacent. The IS specialists get firmly seated in the driving seat. The problem is that they forget to comprehend that the system development is being done for users and their full involvement is a pre-requisite for success.

Although it is basic responsibility of the system analyst to listen carefully to what users really want and to what types of systems they are likely to use. However, the HR specialists assigned to the project must play proactive role and be fully involved in the project. They should give enough time and energy to understanding technical jargon used by IS specialists because that will enable better communication.

The analysis of output and Input needs usually suggests numerous processing requirements for application software. These requirements normally address such issues as the basic functions and capabilities that the software must possess. At times system developers determine whether the application software should be created in-house or acquired from a vendor. This decision is often called the make-or-buy-decision and all options should be carefully weighed to choose the right alternative.

Ideally, system analysis and design activities are supposed to include an organization Impact Analysis, but this has traditionally been neglected. An organizational Impact Analysis explains how a proposed system will affect organizational structure, attitudes, decision making and operations.

**GUIDELINES FOR IMPLEMENTATION OF HRIS**

Based on organizational realities, the management should choose the most appropriate conversion method - direct conversion, parallel conversion, phased conversion, or pilot project. The implementation process demands organizational change. It affects all parts of the organization. The important thing to remember is that any information system is not just a technical system. Taking a broader view, the information system should be considered as socio-technical system. Unless all aspects of such a socio-technical system are studied carefully there are chances that system success will be compromised.

Organizations must recognize that there is resistance to change and it must be managed properly. Changes may be resisted because different users may be affected by the system in different ways. Some users may welcome a new system because it brings changes they perceive as beneficial to
them, other may resist these changes because they believe the shifts are detrimental to their interests. Right strategies should be designed to overcome resistance to change and often large organization would require professional help. In addition to procedural changes, transformations in job functions, organizational structure, powers relationship, and behavior will all have to be carefully planned.

Most organizations compromise on the quality of training during the conversion cycle. User training is one of the most critical aspects of systems implementation. Required time should be spared for training and it should not be transferred as additional burden to staff in addition to their normal duties. Staff assigned for training should see themselves as select individuals who have been chosen to work with new systems. This environment will be created when there is enough management support behind this activity. There are numerous training approaches that may be used. Appropriate technique should be picked up, based on the system and staff characteristics.

SUCCESSFUL SYSTEMS DEVELOPMENT

Using industry accepted systems development methodologies, modeling tools and techniques ensures successful system development. These methodologies enable developers to develop information system that not only satisfy user requirements, but also ensure timely delivery and within budget.

The main factors ensuring successful system development are:

- High-level user involvement throughout the system development process
- Project management techniques used to implement system plans
- Conscientious attempts to minimize development time and cost
- Use of rigorous and disciplined approach to systems development
- A sincere concern for complete and accurate design specifications and documentation
- Clear, complete and accurate documentation for the new system is generated throughout the system development process
- Alternative system designs are developed and critically evaluated prior to committing to final design, technology and software development
- Structured program design and coding is used
- System implementation and user training are carefully planned and coordinated
- System designs are used to guide software design, coding and testing
- Post implementation reviews are conducted to ensure that user and management needs were met
- The system design is for easy maintenance

SYSTEM FAILURE

Each organization must design measures of system success and carefully study the systems in production to judge the effectiveness of systems. The quality of HRIS should be evaluated in terms of user criteria rather than the criteria of the IS staff. The impact of the application system on the work environment and job dimensions must be carefully assessed.

Even some of the systems that are in production can be considered failures if they have taken extra time and money to implement or are so functionally deficient that businesses cannot reap the expected benefits. Many HRIS failures are not necessarily that they are falling apart, but either they clearly are not used in the way they are intended, or they are not used at all. Users often have to
develop parallel manual procedures to make these systems work properly, or they keep working with the existing manual systems. These problems can be attributed not only to technical features of HRIS but to non-technical sources as well. In fact most of the problems of system failures stem from organizational factors.

Implementation of HRIS demands huge capital outlays. When HRIS fail to work properly or cost too much to develop, companies may not realize any benefits from their investment, and the system may not be able to solve the problems for which it was intended.

Some of the factors which can spell failure of an HRIS system can fall in the following domain:

- Clear goals/objectives not specified
- Faulty requirement analysis
- System solves the wrong problem
- Wide range of software is available and any decision, which may be taken in isolation from the development team, can lead to acquisition of improper product or vendor selection
- Lack of top management commitment
- Planning overlooks impact on clerical procedures
- Lack of HR/functional expertise in designing
- Lack of IS expertise in system development
- Underestimate of conversion effort
- Unrealistic management expectations
- Lack of overall plan for record management
- Lack of flexibility and adaptability
- Misinterpreting HR specifications
- Poor communication between HR/IS
- Inadequate testing

**SYSTEM SIGNIFICANCE**

Organizations should carefully review the system to ensure that “significance” is achieved. Professionally developed successful HRIS should enable and ensure:

- Better safety
- Better service
- Competitive Advantage
- Fewer Errors
- Greater Accuracy
- Higher Quality Products
- Improved Health Care
- Improved Communication
- Increased Efficiency
- Improved reporting and decision making
- Increased Productivity
- More efficient administration
- More opportunities
- Reduced labor requirements
- Reduced costs
- Superior managerial decision making
- Superior control
HRIS COSTS TO CONSIDER

- Hardware
- Software
- Project Team salaries
- Conversion and Installation/Implementation
- On going Maintenance/Support
- Internal Project Team
- Determination of system requirements
- Development of evaluation criteria, if outsourcing
- Development of request proposal
- Initial screening of vendors, if outsourcing
- System development work
- Vendor charges
- Support staff and office supplies and facilities

AUTHOR’S SYNOPSIS

KHUSRO P. MALIK

Highly committed Information Technology, Business Process Re-engineering, and Human Resource Management professional, possessing excellent communication, management and analytical skills. Masters in Public Administration (Punjab University) and Masters in Business Administration (University of Ottawa). His niche expertise is etched in the merger of technology and management.

There are three distinct strains of skills that were acquired during 35 years of professional life that provide holistic understanding of socio-technical systems.

Information Technology covers versatile experience in design and development of computer systems, and Project Management. Complete exposure to hardware and software technology along with understanding of development methodologies is inherent part of this experience. Completed and handled numerous large projects both in the international and domestic industry. Assignment to NUST/PIQC “Project Management” module and university teaching assignments at Bahria University and Fatima Jinnah University demonstrate subject knowledge and training skills.

Business Process Re-engineering experience spans methods and procedures development, process re-engineering, work flow analysis, organizational design and change management, and headcount determination. Application of Information Technology as key enabler of BPR is niche expertise. Assignment to NUST/PIQC “Business Process Re-engineering” module demonstrates training and professional expertise. Frequent speaker on BPR at prestigious universities.

Human Resource Management unique exposure was acquired from the systems perspective that brought in-depth understanding of HR practices and issues. Long association with the development of methods and procedures and computerization of HR functions provide solid foundation in HRM. Concentration of skills particularly cover work flows analysis, job design, job evaluation, compensation and benefits, and HR Information Systems. Core faculty of NUST/PIQC in “Certified Human Resource Professional” diploma.