Application of Human Resource Information System (Hris)

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ABSTRACT: Human resources information systems (HRIS) can play an important part in a company's HR function. After all, we live, work and play in the information age. Implementing an effective HRIS can be sure-fire for HR to stay on the cutting edge in its bid to deliver more effective and streamlined service. HRIS can assist human resources in numerous ways, but particularly in their day-to-day duties by streamlining workflow processes through control processes, system interfaces and database validation. One of the most common HR gripes is being bombarded with mundane e-mail and administrative work that takes away from the actual practice of „walking the floor". HRIS may be individual component of DSS (Decision Support System) or may be itself act as a DSS according to organizational needs as well as infrastructure of It., nature of human resource data and information record keeping, maintaining and processing. HRIS engineering and implementation is beneficial to all levels and domains of businesses from small enterprise to big corporation like MNCs, INCS and NGOs. It is most important design aspect of business GUI like MIS, BIS, ES, and KBES and so on. Using information related to human resource which maintained and processed by HRIS by accepting HR-databases, HR-Knowledgebase"s , which helps to CEOs, MDs, VP of HR department to make strategic HR and related business plans and decision , to forecast, to control HR process inside and outside of business organization. This paper start with some review history and fundamental with future scope of HRIS and end with my some basic HRIS designing models which are based on my knowledge about the subject from literature review, case studies, research papers, articles and books. I have developed three models from start to end efforts for HRIS designing namely basic HRIS design model, HRIS hexagonal and HRIS phases" model in this research paper.

KEYWORDS: BIS, HRIS, HRIS-Hexagonal, HRIS Engineering Phase model, HRA, HR-DBMS, KBES, MIS.

HISTORY & REVIEW OF HRIS

Thus, the first personnel systems were made to store a tremendous amount of data for record keeping and reporting associated with personnel administration. In the course of time, the development of HR activities generated the design, development and the successful implementation of various computer-based HRIS (Martinsons 1997). Kavanagh et al. (1990) present their conception of the development of HRIS introducing the historical eras in HR from the pre-World War II era to the 1980s and how the eras have affected the development of HRIS. In the 1990s there existed various expectations of how HRIS should have affected an organization"s HR activities and business planning. Studies about advantages of using HRIS and about users of HRIS were performed. An organization was considered efficient if it had technology and IS to support HR activities. Also, effectiveness of HRIS on work and development of HR departments and HR professionals were under discussion.

(Tannenbaum 1990, Broderick & Boudreau 1991, 1992, Kossek et al. 1994, Atwater 1995, Groe, Pyle & Jamrog 1996, Townsend & Hendrickson 1996, Haines & Petit 1997, Axel 1998, Hubbard et al. 1998, Rodger, Pendharkar, Paper & Molnar 1998, Stroh, Grasshoff, Rudé & Carter 1998, Van der Linden & Parker 1998, Elliot & Tevavichulada 1999, Niederman 1999.) In the new millennium electronic services such as e-learning, e-commerce and e-business became possible and common because of the invention of World-Wide-Web (WWW). Along with the development of HRIS the concept of electronic HRM (e-HRM) has also been launched as an internet invention and implementation of HRIS. Because of the different technical devices and realizations, there are terms which may have similar meanings to e-HRM, such as electronic HR (e-HR), virtual HR(M), HR internet, web-based HR, computer based human resource information systems (CHRIS) and HR portals. Still, according to the literature, various articles and web sites, e-HRM is the most commonly-used term. Ruël et al. (2004: 366) present that "the word „implementing" in that context has a meaning, such as making something work, putting something into practice, or having something realized". Strohmeier (2005: 2), for his part, explains that „spatial segregation" means the situation where the actors and the HR application are in different places. „Technical network" means that actors may work in the same room or on different continents and use the same application. „Technical support" usually consists of the use of e-mail. „Shared organization" and „at least two actors" mean that the work is shared between several actors. „Performing of HRM tasks" includes the basic work processes, such as recruiting, development and compensation. Based on the

above it is possible to conclude that today the development of HRIS is still an on-going process both in practice and in science.

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____ INTRODUCTION

Kavanagh et al. (1990) defined HRIS as "a system used to acquire, store, manipulate, analyze, retrieve, and distribute information regarding an organization"s human resources. An HRIS is not simply computer hardware and associated HR-related software. Although an HRIS includes hardware and software, it also includes people, forms, policies and procedures, and data". It is important to note that a company that does not have a computerized system still has an HRM system; that is, the paper systems that most companies used before\ the development of computer technology were still comparable with an HRIS, but the management of employee information was not done as quickly as in a computerized system. If a company did not have a paper system, the development and implementation of a computerized system would be extremely difficult. For the purpose of this book, however, we will use the term HRIS to refer to a computerized system designed to manage the company"s HR. The purpose of the HRIS is to provide service, in the form of accurate and timely information, to the "clients" of the system. As there are a variety of potential users of HR information, it may be used for strategic, tactical, and operational decision making (e.g., to plan for needed employees in a merger); to avoid litigation (e.g., to identify discrimination problems in hiring); to evaluate programs, policies, or practices (e.g., to evaluate the effectiveness of a training program); and/or to support daily operations (e.g., to help managers monitor time and attendance of their employees). All these uses mean that there is a

mandatory requirement that data and reports be accurate and timely and that the "client" can understand how to use the information. Because of the complexity and data intensiveness of the HRM function, it is one of the last management functions to be targeted for automation (Bussler & Davis, 2001/2002). This fact does not mean that an HRIS is not important; it just indicates the difficulty of developing and implementing it compared with other business functions— for example, billing and accounting systems. Powered by information systems and the Internet, today almost every process in every function of HRM is being computerized. The systems and process focus helps organizations keep the customer perspective in mind, since quality is primarily defined and operationalized in terms of total customer satisfaction (Evans, 2005). Today‟s competitive environment requires organizations to integrate the activities of each functional department while keeping the customer in mind. An effective HRIS helps by providing the technology to generate accurate and timely employee information to fulfill this objective.

CONCEPT OF HRIS

HRIS is a key management tool which collects, maintains, analyses and reports information on people and jobs. It is a system because it integrates all the relevant data, which otherwise might have been lying in a fragmented and scattered way at various points in the larger system; converts this data into meaningful conclusions or information and makes it accessible to the persons, who need it for their decisions. This integration of data can be at the macro level at the level of a nation or geographical regional groupings- or at the micro level, that is, at the level of an organisation. Macro level HRIS is generally focused towards manpower planning and

includes statistical information on population, technology and economy. Such information can be obtained from several sources like publications of the Planning Commission, Ministry of Labor, The National Sample Survey Organisation, The National Labor Institute, The World Economic Forum, International Labor Organisation etc. to name a few. At the micro level, the information requirements include modules on recruitment, personal data, skills assessment, training and development, performance appraisal, rewards and punishment, grievance handling and so on. This information is used for understanding the patterns of HR policies, actions, and employee behaviors as well as for identifying gaps in the HR system and the effectiveness of the HR system. As we shall see in the next Unit, HR Audit is an activity that cannot be undertaken unless a proper HRIS is in place.

IT PARADIGM SHIFT AND HRIS

Technological advancements have resulted in a dramatic change in consumer interaction and the methods of service delivery. Consumers are now experimenting with new ways of conducting business. Take, for example, developments regarding automated teller machines (ATMs). Over the course of their more than 15-year history, ATMs have evolved to provide basic banking services 24 hours a day 7 days a week. Finally, new technology is bringing banking services directly into the customer‟s home. In the medical industry, rising costs have increased the availability of at-home diagnostic equipment and tests. Software packages let people construct their own wills, and even design the house of their dreams. Changes, such as those described above, in the external environment have serious implications for strategic planning within the organization, especially with regard to the human resource

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planning and service delivery functions. As in other cases, mentioned above, in the work-related matters too the employees are expecting greater speed, transparency and empowerment. These in turn, need increased availability and access to the information about their organization, their work, themselves and their colleagues. Some changes that have taken place within organizations to fulfill the requirement of speed and quick response have been well chronicled. Organizations have been restructured through downsizing, rightsizings,

and re-engineering that trim the work force, eliminate middle management, flatten the organization, and improve communication and decision making functions. However, proper information management and communication planning is seen to be the most critical and sustainable move to satisfy employee expectations of self-regulation, greater control over their work-life, and greater opportunity to contribute to the organizational goals. HRIS is, therefore, often seen to be an imperative in a fast changing technological environment.

BASIC HRIS DEVELOPMENT MODEL
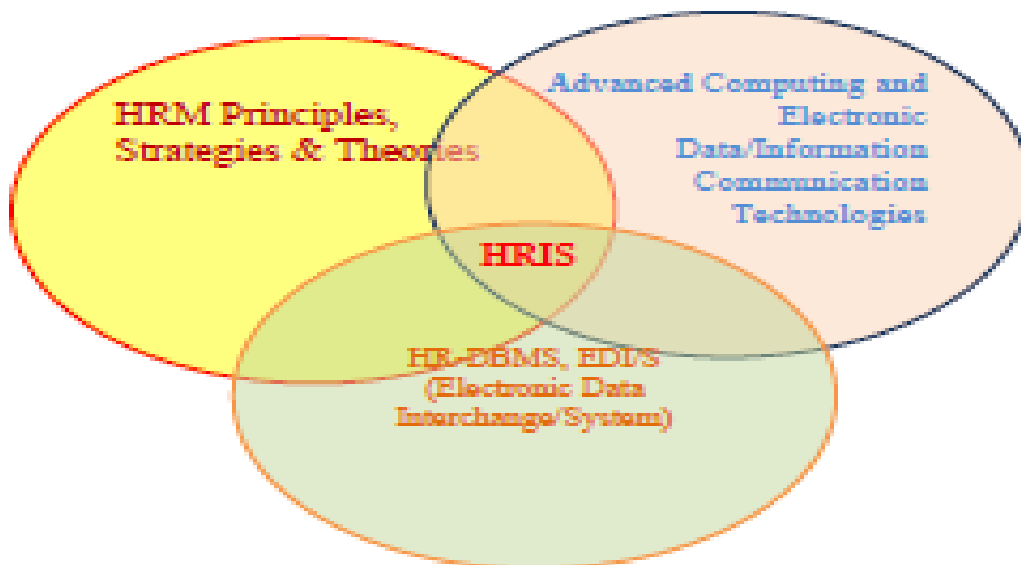
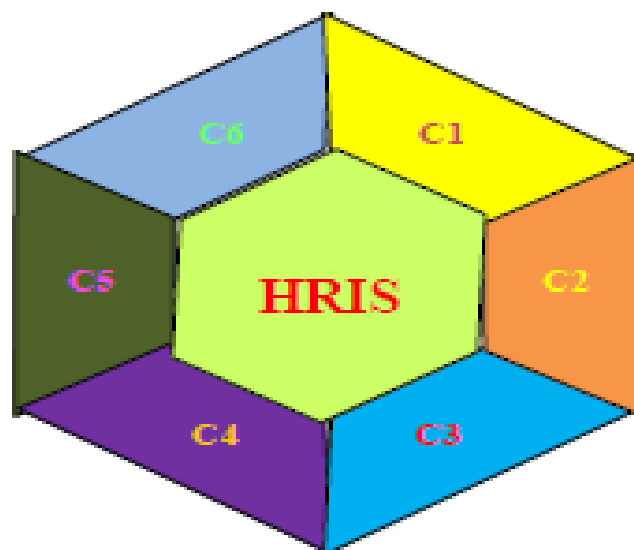**EXHIBIT 1: BASIC HRIS DEVELOPMENT MODEL**

The above exhibit display basic HRIS development proposed model. In this model it is shown when organization start to think to design and develop HIRS for their business must have to consider three basic building blocks for HRIS engineering and implementation. When business software or GUI designer think about HRIS component in MIS/BIS/DSS/KBS, they must have gather fact of what expert says and what is the

current situation needs of HR-developments of business organization. Similarly next essential element is , how to change/convert physical HRM/HRD information into electronic e-HRM/e-HRD information, how to manage, process data and display in the form of human resource information at GUI or interface for decision making, controlling, planning HR related process of business. Hence need for design HR-DBMS server, need to maintain

with data security and integrity, as well as Electronic Data Interchange/System (EDI/S) required to process HR-related data and generate human resource information with DSS component in business software's for decision-making process. The third most basic consideration for HRIS-implementation advanced concepts adaption of High

Performance Computing (HPC), efficient computer networks, advanced function of www(internet) for data/information communication/exchange from servers-to-servers or servers-to-clients. Thus without serious review and feasibility study of all these three basic building blocks, we unable to move for further steps in HRIS development.

HRIS HEXAGONAL MODEL FOR ENGINEERING

EXHIBIT 2: HRIS HEXAGONAL MODEL FOR ENGINEERING

After the basic HRIS development model, this second most important model as shown in above exhibit i.e. HRIS hexagonal model for engineering. The model is based on six corners which centralized to HRIS i.e. C1, C2, C3, C4, C5, & C6 as explained in below with clock wise direction.

- **ORGANIZATIONAL BEHAVIOR (C1)**

The first corner C1 concern only with concepts and necessary theories from OB which are applicable and helpful in HRIS development like HRD, HRM, Team-work

coordination, effective communication, organization culture, psychology, stress, conflicts, negotiation skill, MDP, motivation and so on.

- **HUMAN RELATIONS/EMOTIONAL INTELLIGENCE (EI) (C2)**

The another most important aspect in HRIS development, proper study of theories and essential of human relation and emotional intelligence (EI). Maximum HRIS designer think there is no any need to consider HR and

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EI issues in HRIS. Environmental development, but don''t forget it HR information system executed by HR, hence equally need arise to modeling of human relations and emotional intelligence factors in HRIS engineering.

- **INTERNET (WWW) (C3)**

Internet/World Wide Web (WWW) play very important role in HRIS implementation for HR related DBMS, record keeping, maintaining, updating, processing, transmission, reception and human resource information generation and available to HR managers, business leaders, top management for decision making process. Thus it really must important issue to design effective and efficient computer network for data communication as sell as enhance performance of internet by using excellent quality network hardware, drivers, interfaces and software with synchronizing with designed HRIS.

GUI/HCI (C4)

One of the important task how to utilize (display) processed HR related data (information) on VDU in well managed, understandable and acquirable form for observation and decision making process for human resource planning and development, which could be achieved by engineering interactive computer graphics interface for related HRIS, using dialog box, options, buttons, cursors, progress bar, menu, tools, status bar, plug ins, uploader, down loader, DSS component, data repository support, mining support, query processing capabilities, record keeping, updating, submission, reset, wizards and indicators, some time also speech recognition merging is best provision. Such integrated form called GUI (Graphic User Interface) or HCI (Human Computer Interface) which engineered for HRIS.

HRIS-DBMS & STORAGE (C5)

This is the heart of HRIS, because HRIS is the e-HRM system, which needs HR related data in electronic format to process it and change it into meaningful human resource information. To develop HR-DBMS HRA (Human Resource Accounting/Audit) is very important task which deals with

- Record of presenters/absenteeism

- Record of levels both paid/unpaid

- Record of salaries/bonus/fringe benefits/wages and other facilities

- Record of retired/pensioner employees

- Record of experienced employees

- Record of new hired interviews
- Record of accidental cases & insurances

- Record of OT/TA/DA

- Records of pregnancy

- Record of medical & health care

- Record of training & development

- Record of qualification and age and so on to maintain & update such huge records mass volume of electronic data repository/dictionary required, hence must have to engineer super-servers, data marts or data warehouses for general records keeping and to maintain present, past, and historical databases, backup of HR department for future HR-process & planning demands.

QUERY PROCESSING CONCEPTS (C6)

Several kinds of query processing systems must need to develop to explore desired HR-DBMS from super servers, data marts or warehouses. This concept is called query processing at average data pools and data mining at data marts or data warehouse like biggest data pools. Some advanced systems for this aids are online processing, Online Transaction Processing (OLTP), Online Analytical Processing (OLAP), SQL-queries processing & oracle-DBMS, ROLAP, MOLAP & HOLAP are advanced engineering of OLAP to make it more useful & most sophisticated.
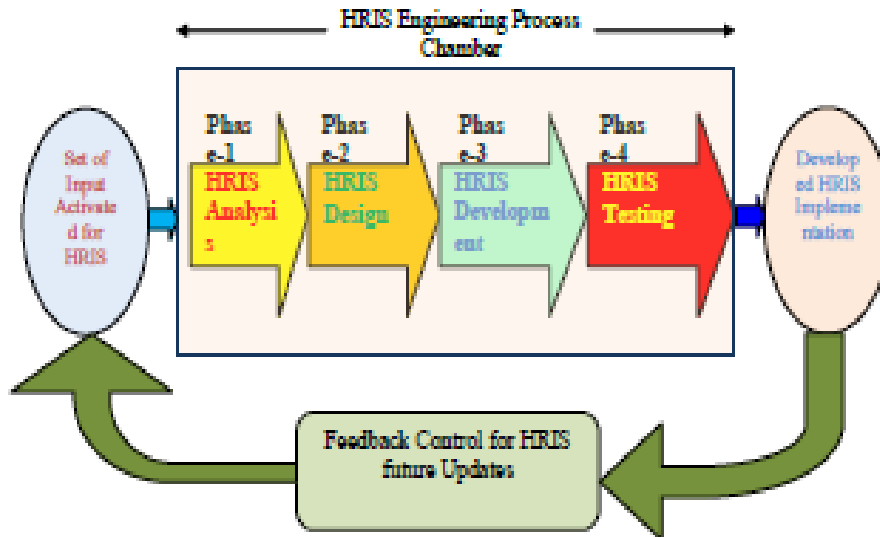
EXHIBIT 3: HRIS ENGINEERING PHASE MODEL

This showcased exhibit is the last stage of engineering of HRIS after successful passing from model 1 & 2. This model passes from four major HRIS-engineering phases therefore labeled as "HRIS Engineering Phase Model". Off course this model is inspired by the classical software development life cycle (SDLC) model, but this step again similar need to take in HRIS development, because its itself engineering of business HRIS GUI. After feasibility study set of input (considered) activities for HRIS, to phase-1 analysis. In this phase using fact finding methods from research methodology with getting suitable research tools, requirement gathering or data collection related to HRIS designing obtain. In second Phase-2 collected data relive (i.e. filtering of useful data with rejecting not useful or relevant) as well as relive data further absorbed (summarized) into suitable model like flow charts, box charts (N-S diagram) process modeling using DFD (Data Flow Diagrams), structured-chart, modular chart, decision tables, decision-tree, vein diagrams, mathematical models, logical model, block diagrams, pseudo code (structured English/ Program Development Language (PDL)), algorithms, or any other convenient modeling with keeping in mind what suitable for each collected refined portion of data to represent. These models of Phase-2, is handover to Phase-3 to change HRIS-models into actual HRIS-GUI for HR process & planning using suitable coding language which best match to models. These coding or HRIS development tools may be any 3GLs or UGLs computer languages which concern with business modeling and simulations. The last Phase-4 verifies behaviors and function of developed HRIS

called HRIS-testing. We can simply define HRIS-testing as "it is the process of to check whether an HRIS user"s requirement engineered in HRIS in the form of process and function". If testing OK implements it, otherwise through HRISfeedback control gather facts (data) about shortcomings, languages and errors in developed HRIS for it updating, modification or reengineering to it according to HRIS users need.

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