

HRIS - Smart `Knowledge Management` Solution - Plugging IT Leadership into Industrial Management!

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Abstract

There was never a time when the significance of `Knowledge` or its management was denied or placed second to any activity of life either of an individual or of the group as a whole. This research writing is to celebrate that how in an industrial scenario, the bits and pieces of `Knowledge` scattered in different organizational locations and how the management can strategically arrange and manage that valuable resource in the form of `Existent Knowledge` to be retrieved as and when required. In the current research effort, the author will try to prove the logic by prototyping an assumed organizational scenario (i.e., Medicare Hospital) the positive effects of implementing an `Efficient way of Organizational knowledge Management` (i.e., HRIS), to not only streamline the effective `Data Storage` but to eliminate the `redundant` organizational activities associated with `Knowledge collection, Management and Storage` of the work processes. Current study confirmed the worth of smart knowledge management technique - HRIS, for organizational control over `Existing Knowledge` with speed, efficiency, economy and accuracy at the crucial times for the best organizational strategic decision making in line with sustainable corporate competitiveness.

Keywords

Knowledge Management, Prototyping, Data Storage, work processes, Organizational strategic decision making and sustainable corporate competitiveness

1. Introduction

`Knowledge Management` is regarded as the most significant field irrespective of the fact that what aspect of human activity is associated with it. Human beings are termed as `Social Animals` by the sociologists due to their mental process superiority over the other living beings. All the other theorists, no matter what school of thought they belong to, celebrated the human thought processes as well as the knowledge potential in one way or the other. However, the current day world is significantly attracted towards the fruits, the `Knowledge Management` can offer.

Our current research activity is to introduce and investigate the following aspects of `Knowledge Management`:

- The existence of `Knowledge` scatter at different locations of the Organization,
- To investigate the scenarios through which the management of a company can be confident about the fact that the required existing knowledge is sufficiently available in their data storage or knowledge base, to be used as and when required.

Henceforth, the construct of this paper is divided in the following factions:

First chapter will high light the introduction of the overall research activity. In the second chapter, I will theoretically introduce the core concepts of the current research activity i.e, Knowledge Management as well as the HRIS (Human Resource Information System) in brief. The third Chapter will offer the Prototyping of the research situation of `Medicare Hospital` as an assumed Organizational scenario, for research testing. In the fourth chapter, I will define and Implement the HRIS as a tool of `Knowledge Management` to see the effects and the fifth and sixth Chapters will highlight the research discussion and conclusive situation respectively in the form of the best symptoms through which the Management of the organization can identify if `they have the sound existing knowledge potential at their to be used at the real time of need.

2. Theoretical background

Knowledge Management (KM) takes the aid of multiple strategic practices implemented by the organizations to help in the processes of understanding, probing, and gathering, sharing and finally enabling the utilization of insights or acumens and experiences. Such awareness through insights and experiences comprise knowledge as organizational processes or practices either through the organizational workforce or reflected through the organization's overall image itself. Since 1991 `Knowledge Management` has taken a formal shape of an established discipline (Nonaka

1991). In today's world, the significance of Knowledge Management (KM) has forced many renowned organizations (i.e., private, public or NGOs) to dedicate their resources to their internal KM efforts, especially as a part of their strategic business processes, information technology, or human resource management departmental operations (Addicott, McGivern & Ferlie 2006). According to Wright (2005), the term of 'Personal knowledge Management' was first introduced in 1999 to refer to the process of management of knowledge at the individual level.

According to Becerra-Fernandez (2004), the main ingredients of Knowledge sharing include 'Collection and systematic organization of information' from various sources, 'Minimization of up-front knowledge engineering', 'exploiting user feedback' for maintenance and evolution, 'integration into existing environment' and finally the 'active presentation' of relevant information. Knowledge sharing is regarded as an activity when an individual disseminates his acquired knowledge to other members within an organization (Ryuet al. 2003). The departments within one Organization depend and take support from each other in the form of data sharing and intelligent ways of record management and jointly utilizing it at the time of need instead of saving similar data at different locations within one Organization. According to Bock et al (2005), Knowledge sharing relates to the acceptance by the individuals in an e-community to share their personally acquired or learnt knowledge with other. The HRIS (Human Resource Information System) is an application which automates various important human resource related knowledge based processes among the different organizational locations (i.e., horizontally as well as vertically), thereby increasing the speed and accuracy of implementing business and human functions. According to Davenport (1998) Knowledge management systems (KMS) are tools to effect the management of knowledge and are manifested in a variety of implementations.

According to Jansen et al (2000) the designing process of the data portals involves the steps like, explanation of the knowledge base of the system, Functions and the User interface as well as the navigation. McCallum et al (2000) further suggested that Knowledge based Portal can either be simply an information gateway to knowledge or it can be specialized and sophisticated. HRIS's seamless, automated efficiency gives a manager time to develop effective strategies and its advanced reporting facilities help the user to access their results upon completion. At the same time it is also enabled to generate advanced manpower reports and queries, be it the effectiveness of an employee's training, his employment history in the company, employees key potential areas, employees financial worth etc. It collects and maintains all the information the manager(s) or departmental head(s) needs for virtually every function of HR management and then performs almost all associated processes automatically. HRIS facilitates double loop learning feedback that enables organizational change and discussion, intra organizational communication and decision-making, and shared visions (Argryis, & Schon, 1996). Even total quality management of highly skilled professionals such as physicians can be enriched with a carefully planned HRIS (Davenport, & Glaser, 2002) It automates many business processes associated with employees, employers and organizational structures and relationships. HRIS is also an intelligent choice for the management of any organization to be comfortable about that the fact that the needed HR related information can be achieved at the time of need without any difficulty.

3. Research Methodology

I used Prototyping technique to create an assumed testing organizational scenario 'Medicare Hospital', to implement a smart ICT based Knowledge Management tool, i.e., HRIS, which is quite popular approach in the modern day organizations. In addition, I took the use of 'Environmental Scanning' and 'Market Intelligence' through the extensive web as well research articles analysis to arrive at the logical conclusion.

3.1. Research Question

The research question here is as follows: 'Since the existing 'Knowledge' is scatter at different locations of the Organization, so how the management of a company can be confident of the fact that the required existing knowledge will be accessible at the time of need?'

3.2 Research Techniques

Here I have used Prototyping methods to create an artificial organizational setup and implemented HRIS as a smart tool of 'Organizational Knowledge Management'. I also took the help of Environmental scanning and Market Intelligence to understand the testing environment, research techniques and to evaluate the research results.

3.2.1 Prototyping: An assumed testing situation i.e., Medicare Hospital.

A well reputed hospital with three OPD outlets i.e., General Medicine, Children Clinic and ENT section. 40 well equipped rooms, Emergency section, 1 Lab, a small cafeteria and 02 ambulances. An assumed Organizational setup

of `Medicare Hospital` used for prototyping the real scenario to evaluate the effects of implementing a tool of `Knowledge Management` i.e., HRIS, to arrive at the justified research conclusion, is as follows:

3.2.1.1 Organizational Chart of Medicare Hospital (Assumed scenario)

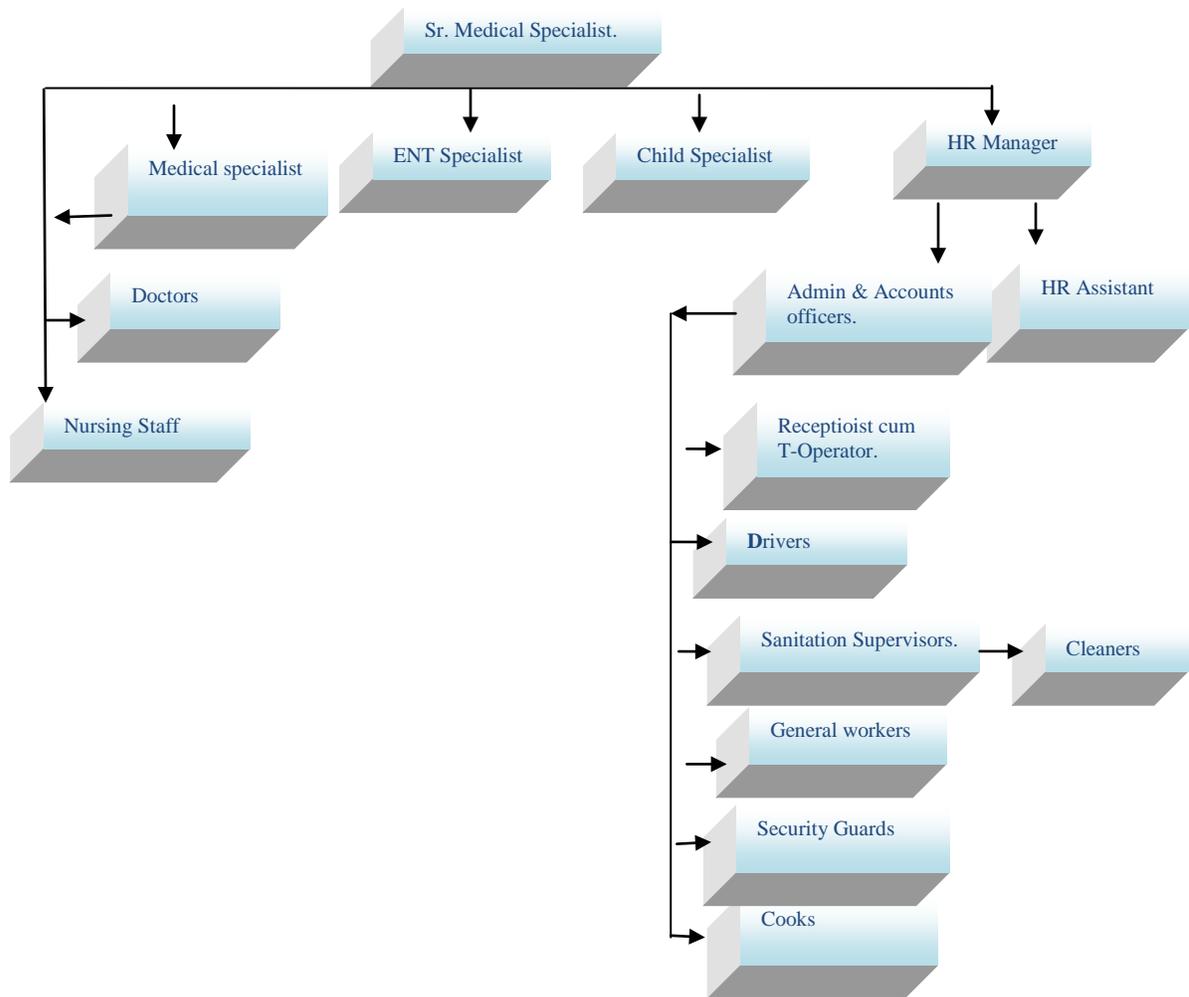


Figure 1. Showing the staff hierarchy of the Medicare Hospital

Being a busy hospital, Medicare Hospital has the staff strength of 60. The breakup is as follows:

Serial No.	Job title	Head count.
01	Specialists	07
02	HR Manager	01
03	HR Assistant	01
04	Doctors	07
05	Nurses	10
06	Admin and Accounts Officer	01
07	Sanitation Supervisor	01
08	Cleaners	10
09	General workers	06
10	Receptionist cum Telephone operator	04
11	Cooks	04
12	Drivers	04
13	Security Guards	04

3.2.1.2 Present HRM Scenario with its dispersed `knowledge base`

- The Organization documentation and reporting is based on manual records.
- In the computer, information is mainly collected in the form of lists in MS Excel as well as in word processors, like MS Word.
- Job descriptions are kept in paper files and not updated regularly,
- Manual system for making duty rosters basically based on hit and trial method,
- Staff attendance system kept on register which is not authentic.
- Employee data maintained manually on paper and in files. Most of the items are duplicated. For every little detail, all items in all files are to be considered. It makes the whole process tedious so they are consulted only when very necessary. Thus the importance of maintaining these files is also undermined.
- No authentic leave record,
- Appraisals are also done as a formality as they are just filed. Hence, there is no emphasis on setting goals and follow up on their achievements and especially training related issues.
- Promotions are done only when it strikes the boss's mind.
- Vacancies remembered only when the operations suffer.

3.2.1.3 Current faulty `Organizational knowledge Management scenario ase Management's cause of concern

- Even though computer software packages like Excel, MS Access are being used for data input, the process of information retrieval is largely haphazard.
- There is lot of input duplication, resulting in lots of wasted man hours.
- Major focus is on hiring and firing function only.
- Staff thinks that there is no system to keep a track of their performance and their potential is not recognized so they put in bare minimum efforts and go home.
- Only doing the clerical work was difficult enough so emphasis on employees' benefits and motivational techniques was neglected.

3.2.2. Recommendations:

- A software developer to be hired on contract to develop an Information System for effective HR Operations to streamline the `Knowledge Management system of the Hospital, for better coordination among different organizations locations (HR operations, Operations Management, Administrative as well as Accounts operations etc.).
- Saving of all Job Descriptions in the System.
- Transfer of all employees' personal and admin. data from registers and personal files to the HRIS.
- Automated Duty Rosters according to the flow of work.
- Records of salaries and subsequent changes.
- Feeding of Appraisal scores in the software,
- Training Needs and Compliance Record,
- Employee Attendance and Work Hour Record in the software,
- Employee hiring and Exit Record with necessary details,
- Employee vacancy Intimation System,
- Due Promotion Intimation System,
- Record of leaves. Warning on crossing a certain number of leaves,
- Records of incentives,
- Record of disciplinary Actions.

3.2.3 Desired Outcomes

It is expected that with this proposed HRIS the Hospitals' management will be able to achieve the following:

- ✓ Implanting intelligent medium for organizational `Knowledge Management` in the work place that offers strong knowledge bondage among all the other related departments (HR, Admin, Accounts, Operations etc.) and minimize the duplication of data at different locations of the same Organization (i.e., Hospital)
- ✓ More efficiency in record keeping, access and utilization,
- ✓ Better controls on all HR related issues,
- ✓ Better Time Management and work planning for the staff,
- ✓ Improve employee productivity and motivation through a more reliable system,

- ✓ More time and energy for the management to plan for employee benefits,
- ✓ More emphasis on primary responsibilities

Before a decision to switch to a full-fledged HRIS (Human Resource Information System) is taken, it is prudent to have a look into the significance of the HRIS, justification of switching to the system, as well as the decision to Buy or have it built (Customization in accordance with the Organizational needs). Lastly, the costs involved in the HRIS should not be underestimated. These concepts are discussed briefly hereunder.

3.2.4 Justification for Human Resource Information System (HRIS) – A Value Added approach

A **value added approach** requires the HRIS project team to think in business terms, and find out how a new or upgraded system will help the organization perform better. This value added approach focuses on the strategic contribution the system will make to achieve business objectives through the 'Knowledge base' it provides. It recognizes vital role of HR as an active business partner with the organization's management and a critical service provider to the business units or organizational locations. As an active partner executive management, HRIS helps define solutions to problems of organizational workforce utilization, organizational development, performance measurement, and adaptation to evolving business demands. As a critical provider of internal services, HRIS delivers a wide range of information (Knowledge) services that enables the business units to acquire, develop, deploy and reward the skill sets and competencies necessary for achieving the organizations business goals. A comprehensive base of accurate, up-to-date HR information that is readily accessible to decision makers throughout the organization is absolutely essential to HR's ability to perform its key roles. However, the essential question to ask about building this information (knowledge) base is how to document its money value to justify its high cost. The value-added approach tackles the cost justification issue by linking the capabilities of the HRIS to the organizations key business strategies. Using that approach, the human resource systems manager first identifies the way the comprehensive workforce information (Knowledge) supports the organization's business goals and makes achieving them easier. The manger (s) then develops an HRIS architecture and deployment strategy tailored to support those goals. The Value-added or strategic justification recognizes the business value of employee information (knowledge). Using this approach, the HRIS manager can define a pyramid o value to the organization, with each level of the pyramid supporting the levels above it. The pyramid is defined from the top-down, because the manger(s) must know and state the requirements of each level in order to define the requirements for supporting it.

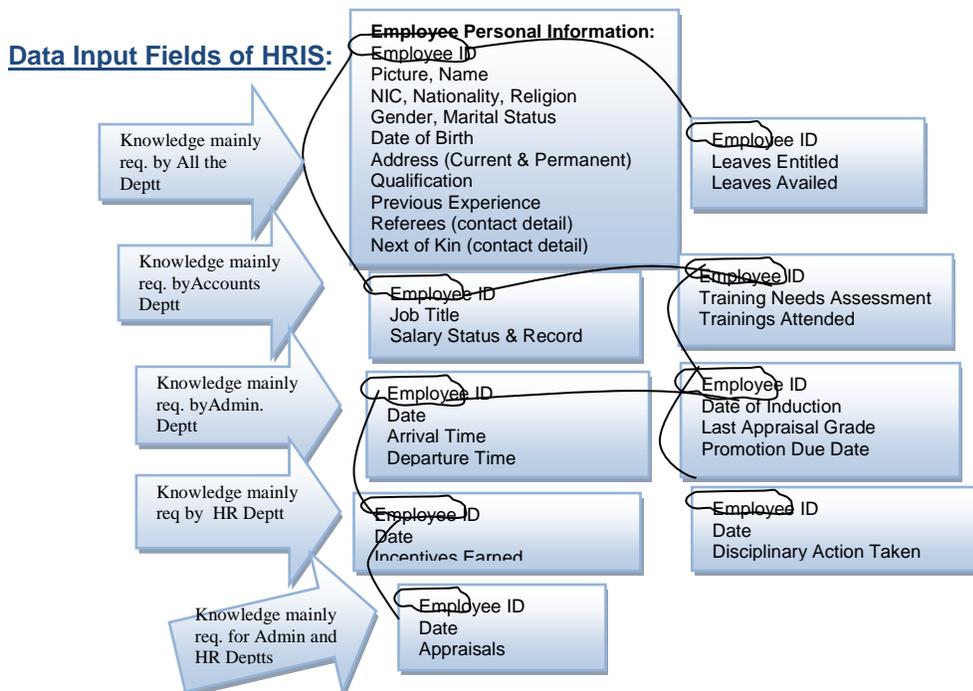


Fig. 2 showing One Application i.e., HRIS, managing Knowledge for Different Organizational Locations, Departments

3.2.5 Working down the Pyramid

The pyramid of value allows the manager to identify a strategic justification based on the follows items, in this order:

3.2.5.1 Key business strategies

At the top of the pyramid are the organization's key business strategies often articulated in a mission statement or similar document, then confirmed and amplified through discussions with senior executives. Those strategies define the organization's business direction and often include initiatives such as expansion to global markets, growth by acquisition, or development of new lines of businesses as well as products. The key strategies also serve as measures for determining the organization's success or failure.

3.2.5.2 HR strategies to support key business strategies

Once HR leaders understand the key business strategies, they can define the implications those strategies have for the organization's workforce, and for the HR function. Human resource information systems based knowledge support is the function and capability to provide accurate, efficient and effective support to the organization's business direction. For example, expansion into new lines of business may call for new competencies and skill sets that must be acquired either by hiring new people or by retaining and timely developing the existing workforce. HR strategies are articulated by senior HR executives and include a comprehensive statement of what the department must contribute to achieve the organization's key business aims.

3.2.5.3 Information technology (IT) strategies to support key business strategies

Like the HR strategy, the IT strategy is derived from the organization's strategic business statement and defines the information technology environment necessary to accomplish the organization's business goals. The IT strategy generally takes the form of an information architecture statement describing the data and communication capabilities needed to support business goals.

3.2.5.6 Implications for HR information (Knowledge) management inherent in HR and IT strategies

HR information management is where the organization's workforce management and information technology directions intersect. The HRIS manager must understand both HR and IT strategies before attempting to define an appropriate system platform, because the HRIS must support the strategic directions of both the HR and IS. For example, an HR initiative to empower line managers to make decisions at lower levels of the organization, along with information system's (i.e., knowledge based system) architecture that provides organization-wide connections through a linked set of local areas networks, will dictate an HR information management solution that permits wide access to employee data.

3.2.6 High-level HRIS requirements derived from knowledge management implications

The specific functional requirements of an effective HRIS are also determined by knowledge of the Organization's strategic business direction. Any requirement should be stated in terms of its support of some element of the organization's business strategy.

3.2.7 Potential HRIS solutions that satisfy the high level HRIS requirements

By understanding the business requirements of an HR information system along with the business, HR and IT strategies that it must support, an organization can define a set of solutions that satisfy those needs. The key to identifying potential solutions is to keep in mind the directions and strategies that must be supported. For example, an organization trying to provide greater autonomy to individual business units and line managers would be better served by a solution that calls or decentralized maintenance of employee data.

3.2.8 Platforms to support the HRIS solutions

At this point, the HRIS project team should identify specific software; hardware and service providers who can provide solution that support the HR `knowledge management strategy`. Of course, that strategy and specific decisions about selecting HRIS products are valid only if they support the organization's strategic business direction.

3.2.9 An implementation approach for optimum return

Just as support for strategic initiatives drives vendor selection decisions, it also should define the approach to implementation. The schedule for implementing specific capabilities of a new system should be driven by support

for strategic business initiatives, with those features and products that provide the greatest business value to the organization being put in place first.

3.2.10 Benefits of the strategy

Using the value-added approach to justify the HRIS expenditure links the system with the key business directions of the organization, and makes apparent the critical value of HR knowledge base to business success. The HRIS becomes not just a way to reduce administrative costs but an enabler of the key business strategies. In addition to providing a framework for justifying HRIS expenditures as a strategic investment, the value-added approach emphasizes the role of HR as an active partner in achieving the organizations strategic business objectives.

3.2.11 Organizational `Knowledge Management` based required Organizational Management reports:

Sr. No	Name of Report	Frequency
1	Individual Employee Profile	Anytime
2	Head Count report	Anytime
3	Contact details of all employees	Anytime
4	Master list of due Appraisals	Anytime
5	Letter Generation(from templates)	Anytime
6	Incentive Report	Monthly
7	Disciplinary Action report	Monthly
8	Training Need Assessment Report	Monthly
9	Automated Training Plan	Monthly
10	Attendance of Training Report	As per Training Plan
11	Automated Duty Roster	Daily/ weekly
12	Employee Attendance Record	Daily/ weekly
13	Absentee Late arrival List	Daily/ weekly
14	Employee´s Salary/ Perks Certificate	Monthly/As per requirement
15	Any other Report if required specially	As per requirement.

4. Impact of Implementing Organizational `Knowledge Management` based Application – HRIS

HR information System (HRIS) has a profound effect on firms that implement them. Most often these firms are replacing several related systems, such as a personnel database, payroll system, and benefit systems, with one HRIS that does it all. Many people focus on the improved reporting and processing that will be realized from the new system, and those are the reasons most firms choose to implement a new HRIS. But what many people do not focus on is that the new HRIS will most likely effect the company much more deeply – it will change the operating structure and principles of all the HR – related departments. An integrated HRIS results in a drastically different environment than a cluster of related but separate systems. The core concept of a centralized data store inherent with an HRIS demands integrated work processes or consistently managing that store. The two attributes- centralized data storage and integrated work processes- will affect the company in ways most managers do not expect. The HRIS System will offer a unified platform for different departmental operations and help reduce the repetitions and redundant activities (e.g. similar staff information can be shared through a single network in the form of centralized data instead of processing the same data at different departmental locations.)



Figure 3. Reflection of HRIS's main screen showing the unified HR data, required by different departments i.e, HR, Admin,Fin. etc.

The screenshot shows the 'Employee Profile' form with the following fields:

- Personal Info 1: Name, ID No, Date of Birth, Religion, Gender, Marital Status.
- Personal Info 2: Current Address, Permanent Address, Phone No.
- Other: Photograph.

Fig 4: Basic Employee Information jointly shared by different Depts.

Employee	Position	From	To	

Figure-5: Reveals the HR data shared by Dept.s like HR, Admin; Operations, or for the Higher management knowledge reports

Type	Entitled	Availed	Balance

Figure 6: HR data related to HR , Administrative, Fin. or the management Operations

The screenshot displays several data sections:

- Training Needs Assessed:** Table with columns Date, Topic, Grade.
- Training Attended:** Table with columns Date, Topic, Grade.
- Incentive Earned:** Table with columns Description.
- Promotional Due on:** Table with columns Description.

Figure 7: HR data shared among, HR, Training, Admin, Fin. or the Management Operations

Employee	Date	Arrival	Departure

Figure 8: HR data related to Employee Arrival and Exit, jointly shared among different Departments

The screenshot shows a summary of HR data sections:

- Employee Profile:** Employee ID, Job Title, Employee Name.
- Employee Salaries:** Employee ID, Employee Name, Employee Grade.
- Appraisals:** Employee ID, Employee Name, Appraisal Alert.
- Promotion Record:** Employee ID, Employee Name, Appraisal Alert.
- Other sections:** Employee Work Hours, Employee Overtime Data, Training Needs, Incentive/Disciplinary Action, Employee ID, Employee Name, Employee Qualifications.

Figure 9: Employee data related to Appraisals and Promotions, jointly shared by different Departments

In the case `Medicare Hospital` (our assumed test organization) there will be a parallel run of both new and old documentation systems for a period of 2 months. During which time, small exercises will be run on the new HRIS system to check its error checking capability and reliability. Specialists and Admin officer will be the ones using the HRIS, hence they need to be trained accordingly. It is understandable and foreseeable that initially there will be some difficulties while the staff is switching over to the new system. There can be some reporting delays and (possibly) an initial drop in productivity deliberately and otherwise. Proper orientation and briefing will be organized to apprise them of the new system and its advantages, both to the Hospital and to themselves.

5. Final Discussion

Through the implementation of a smart knowledge management technique i.e., HRIS, the aim here was to target for the advantage of smooth `Knowledge sharing` among different locations of the Organization at the time when the management require it the most. The whole case presented here in the form of introduction of HRIS in a Hospital scenario was an effort to justify that how the management of an organization can organize the data in a manner that it can be sure of the fact that the required information can be used at the real time of need and in the best form and speed. `Medicare Hospital` will go through process of comparing and evaluating several HRIS packages using a team of analysts or managers from different departments affected- HR, Payroll, Benefits, Employee Relations, Training, Accounts, Operations and so on. As this team prepares its evaluation criteria and reviews HRIS features, much is learned about the goals and values of the various departments. The HR department is looking for improved reporting of employee data, Payroll is concerned with the system's paycheck calculations and regulatory reporting, while Benefits may be looking for a more streamlined enrollment process. As this team drives deeper into the selection criteria, the members learn more about each other and may start to see the emergence of really messy business processes. It can be a bittersweet process. The hiring process is a good example. As a person is recruited, hired and paid each department may have its own specialized system and process for managing the employee data.

As the HRIS evaluation team discovers redundant processing and data storage, its members start to see ways to make the process more efficient by aligning their part of the hiring process with the requirements of the other departments. The team members are excited to the better a way to get the work done, but scared by the ramifications of closer ties to other departments. They think: `If we improve the efficiency of the process (have HR enter the w-4 at the time of hire), we would not need as many people as much as we have in our department (we would not need to key W-4s anymore) and we might lose control of some piece of data that is crucial to our business function (how do we need that HR will key the W-4 correctly?).`

As the team evaluates an HRIS software package, it begins to get a better grasp on what the entire company's business processes are, and therefore what the company might require in an HRIS. The team will most likely find that none of the packages are an exact fit and that sub sequential effort is required to modify or integrate the chosen HRIS. Or if not enough due diligence and research have been done, the team may be facing this effort and not be aware of it. This gap in planning will show itself later in the implementation phase when the project team realizes that there are not enough resources- time, people and money- to implement the HRIS. Perhaps the most critical results of the HRIS evaluation process are that the evaluation team set correct expectations for the project and gain executive management commitment. With correct or at least realistic expectations and an executive management team that seriously supports the team's efforts; an HRIS implementation project has a much greater chance to succeed. Most often the HRIS evaluation team members spend most of their efforts building selection criteria and choosing an HRIS, instead of setting expectations and building executive support.

There are three primary activities in an HRIS implementation-

1. Configuring the HRIS for the firm's business processes and policies,
2. Interfacing data with other systems and converting historical data into the HRIS,
3. And preparing the organization for the new HRIS scenario.

An HRIS comes with built-in processes for most HR activities, but firms will need to customize the system to process according to their specific needs. For example : Every HRIS supports the process of benefits open enrollment, but the system does not come delivered with a firm's specific benefit providers and eligibility rules. Customizing the HRIS for this, typically does not involve programming, the common activity is to enter specific data into control tables that then direct how the HRIS operates. The customizing or configuration tasks then become a process of understanding the firm's business processes well enough to encode that logic into the HRIS.

Firm's management may find that the internal resource people assigned to the project do not have the skills or capabilities needed for the job, sometimes training can resolve this, but other times the people lack basic analytical skills required for the implementation. One of the key requirements for a person to be successful on an HRIS

implementation project is that he/she has excellent analytical skills. However, whatever the case may be, with sophisticated and smart Knowledge Management (KM) Tools like HRIS, management of any Organization can be fully assured that they may have the best control over the internal Organizational knowledge base, though scattered through different organizational locations, and can obtain the required material or information whenever required effectively as well as efficiently.

6. Conclusion

The paper once again confirmed the corporate efforts to strategically streamline and create smart hold over the organizational knowledge scatter so to utilize the existing knowledge treasure at the time of need with less effort, ultimate speed and maximum accuracy. The author tried to establish the significance of Human Resource Information System (HRIS) through prototyping an assumed organizational scenario (i.e., Medicare Hospital). The Human Resource Information System (HRIS) process description provided evidences that how organizational knowledge scatter can be managed systematically and smartly for providing the best support to not only the various departments but to the higher management for timely knowledge access and the best utilization for the organizational sustainability.

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