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Human Resource Information Systems (HRIS) in the 21st Century: A Critical Appraisal

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Abstract

The paper offers an insight on the concept of human resource information systems (HRIS) in the contemporary era. The article provides detailed information on the accelerated attention of organizations on the need and vitality of HRIS. The article offers information on the key features of HRIS, followed by the significance of HR information systems for the HR function itself. Furthermore, the article also provides information on the growing market size of HRIS, the design and development of HR information systems and their applicability. Towards the end, the paper also provides an insight on the challenges and barriers to implementing an effective HRIS in the 21st century.

Keywords

HRIS, Human Resource Information Systems, HR Technology, HRM

1. Introduction

The major use of technological improvement in business has sparked changes in working methods, requirements, and styles. When work productivity and effectiveness are improved, following time management plans and being devoted to punctuality standards, there are greater benefits for the employees, the best use of the resources available, and a successful deal with other businesses. All of the elements in the business system are referred to as the human resource management system (HRMS) or human resource information system (HRIS). The process used by HRMS combines more advanced technological advancement with traditional methods of the human resource mode of practice. The structures and processes between information technology and human resource management

(HRM) are known as a human resource information system (HRIS) or HR system. The institution of HRM maintains a balance between information technology and its fundamental HR goals and processes. Human Resource Information System (HRIS) is defined as a system that is used to obtain, retain, alter, evaluate, extract, and share content on an organization's human resources (M S., M L., S S., & K S., 2022). HRIS is a well-designed method for obtaining, storing, maintaining, and recovering information that businesses need to know about their human resources, workers' activities, and organizational aspects (Vulpen, 2022).

As a result, HR specialists may achieve HR goals with the use of HR information systems. Systems for managing human resources provide businesses with quick access to information, discussion of information, and anticipated benefit. The field of human resource management and daily life in businesses are being transformed by HRIS, the Internet, and associated communication technologies today (Arora & Siradhana, 2022). Even if they are becoming more sophisticated and multidimensional, human resource information systems can be simple or complex, computerized or not (Nixon, 2019, p. 269).

Technological advancements involving software and minicomputers had a significant impact on how evidence was used when managing human resources. Supercomputers were historically only used in human resources to manage compensation and benefits, such as payroll (Yorks et al, 2022). However, new advancements in microprocessor technology have made it possible to compile vast volumes of data on employees' PCs and do numerical analysis, which was previously only possible with massive mainframe computer processors (Ahmed, Zin, & Majid, 2016). HRIS can therefore be used to analyze and appraise programs or policies, to support and carry out daily operational issues, to prevent litigation, and to assist and maintain tactical and strategic decision-making. The type of human resource information system used must be chosen according to the particular needs of the enterprises. Any development that may be as unique, complex, and time-consuming as the addition or progress of an HRIS requires careful planning and scheduling.

The following elements should be considered before implementing an appropriate HRIS (Gallivan, 2021):

2. HRIS features

Some of the key HRIS features are discussed in this section. The applicant tracking system, or ATS, should be included in your program for the finest HRIS experience possible. All of the applications, information, resumes, and candidate questionnaires will be kept in one handy area. You need to ensure that your payroll staff has access to automatic payroll functionality through the HRIS. A small sliding mistake or lost decimal might cost you hundreds of dollars when you do it yourself. You may enter banking details and pay rates using this function, and the payroll system will handle the rest. Employee self-service is such a broad topic, your HRIS experience must include it. Being able to use software solutions that assist every

work thanks to HR technology is providing managers more time. You may enable employees to request time off and monitor their sick and paid time off. Make sure your HRIS experience enables you to simply enroll your workers in benefits (in the event they don't sign up themselves) and check the perks they have chosen to have against which ones they have declined. Too many workers will try to exploit your company by fabricating clock-in and clock-out hours to increase their income. This can be made essentially impossible by using the right HRIS system.

2.1 Technology requirements

Because the HRIS systems are nearly entirely cloud-based, there is no longer a need for newer technology, and expenses are reduced for the company. Businesses should ensure that the HRIS they select is simple to integrate with any other systems they may have to decrease the effect of technological changes. They must also examine the vendor's security protocols, determine whether the HRIS will communicate with other internal and external business systems, and enquire about internal controls as well as security audit information and procedures due to the volume of sensitive data that will be stored in the vendor's database.

2.2 The overall cost of the HRIS implementation

Business expenses will be greater when more functionality is added and cheaper for simpler systems. Once a business has established which features are necessary for its operations, it should contact the suppliers to see how much the system would cost. Therefore, companies must study the required functionalities to estimate the overall cost of the HRIS implementation.

2.3 Support after implementation

The most essential thing is to choose a flexible supplier who will add HRIS features in the order that they are relevant to the need of the company. The service providers should work with the business to ensure that it is making the best use of the automation offered by an HRIS to reduce more of the everyday manual tasks performed by the organization.

2.4 Scalability

The business must assess the HRIS system's current design to ensure that it can work with both cloud-based platforms and developing technologies if it is to continue serving the firm as it grows. As their business expands, they should make sure that the chosen HRIS system is adequately exploited because it can present new opportunities.

An information system that uses computers to monitor, manage and influence human movement from the moment a person indicates their desire to join up with a commercial institution until they are isolated from it after linking up

is called a computerized HRIS. Human resource administrators and shareholders put the data produced by human resource information systems into effect and rely on it. Systems for managing human resources tend to be comprehensive and integrated with an organization's planning, recruitment, and development goals and objectives. Figure 1 details the key elements of HRIS.



Figure 1: HRIS

3. Importance of HRIS to HR

An HRIS, or human resource information system, provides features to support an HR department across a range of tasks, from finding and hiring employees to manage an entire organization. A human resource information system (HRIS) is a software or web-based solution that meets data input, data tracking, and data insight needs of HR, payroll, managerial, and accounting functions in business (Heathfield, 2021). HRIS, or human resources information system, is software designed to help businesses address basic HR needs and increase the productivity of both managers and employees. A human resources information system (HRS) is software that provides a central storehouse for the master data about employees, which is needed by a group in HRM (Human Resources Management) to carry out the basic HR processes (core HR). An HRIS is a management system designed to provide managers specifically with information for making human resources decisions (Silva et al, 2017).

Companies of all sizes and types use an HRIS to help manage their HR resources and to provide a central place to store employee data. HRIS platforms capture and store all of an employee's information, which can then be accessed for a variety of tasks. HRIS captures employee information during the hiring and provides a central storehouse for employee information for managers, HR professionals, IT teams, administrators, and anyone else that needs to have access (KBI, 2022). An effective HRIS provides information about almost everything the business needs to monitor and analyze its employees, past employees, and candidates. Operational HRIS systems capture and communicate HR data, such as employee records, location details, and performance evaluation information. HRIS stores, processes, and manages employee data, such as names, addresses, national identification numbers or Social Security numbers, information on visas or work permits, and information on dependents (Sachs, 2022).

These systems comprise a central repository storing the primary employee data, which provides immediate access, including names, addresses, Social Security numbers, and dependents, together with functions for hiring, candidate tracking, time-and-attendance functions, performance appraisals, and benefits, with access by employees for personal benefits information, etc. These systems securely store core data to allow for full-stack access to the entire spectrum of HR functions. As a comprehensive system, HRIS (also known as human resources management systems, or HRMS) software organizes all types of worker-related data points, including sensitive identifying information such as an employee's age, sex, and address; employee workplace information such as the employees' job title, salary scale, and departments; benefits they have opted into; and timecards, and so forth. The difference between an HRIS and an HRMS: the exact definitions for an HRIS and human resource management system (HRMS) differ, but many experts believe an HRMS offers more features, adding the options for talent management and human capital management (HCM) into human resources information systems (Martins, 2020).

According to (KBI, 2022) organizations want a system that helps keep track of employees' data, from their demographics and contact information to payroll data, years of service, and organizational structures. Strategic HRIS systems can assist in awareness regarding the workforce's available resources and the right labor scheduling, managing data such as market intelligence and operating budgets. Types of data HR professionals gather in the database include pay histories, emergency contact information, and performance reviews. All this is resulting in growing usage and attractiveness of organizations towards using human resource information systems. Table 1 provides a future outlook on the market size of HR information systems and how rapidly it has been growing over the past few years.

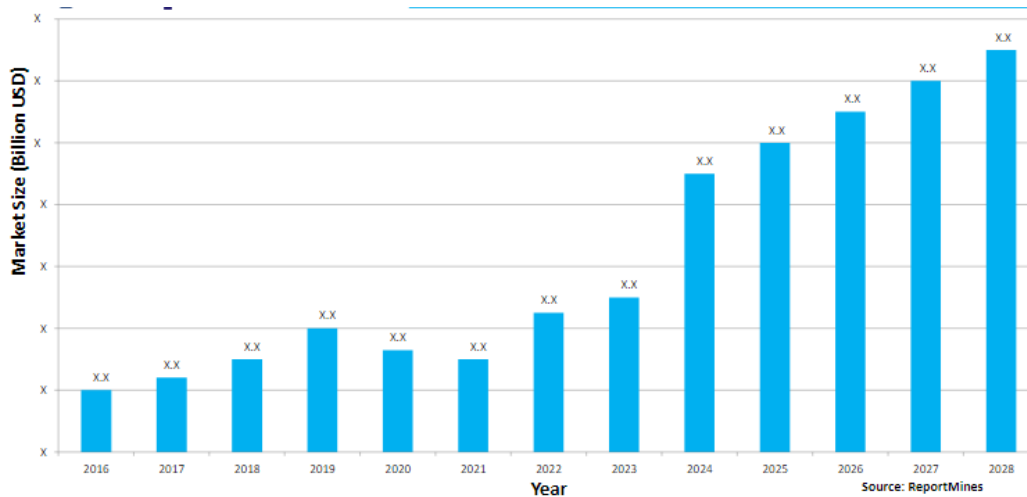


Table 1: HRIS Market Size

4. Designing an HRIS

For the successful implementation of any HR information systems (HRI) system design requirements must be given the highest priority, and should be allowed to be customized according to end-user requirements. HRIS, or Human Resource Information System, is a software designed to assist businesses in meeting basic HR needs and improving the performance of managers as well as employees. Both HRIS and HRMS can help employers manage different aspects of HR, such as payroll, benefits administration, and compliance (Management Study Guide, 2022). Companies that need assistance managing the complexities of a changing workforce typically employ HRIS. Small to medium-sized businesses that are using forms and paper to handle their performance-management processes, as well as enterprises that are using self-contained systems to conduct evaluations, should look for an HRIS that comes with a robust performance-management module. An HRIS with a dedicated talent management system would help an organization better care for its employees (Kissflow, 2022).

For example, the performance management system informs decisions on whether an employee is not challenged enough and should advance within the organization, or if he needs additional support, such as mentorship or training. No matter what functions(s) the business is targeting through limited-function HRIS, the employee information system is there in its heart. HRIS systems function by consolidating different HR functions in one single system, which shares data and reports that are emitted throughout the entire platform (Hansen, 2022). For larger businesses, using an integrated HRIS makes sense because it integrates data from all three types of function systems. IT helps understand system intricacies, and HRM helps to understand processes supported by the HRIS. HR needs to be well-informed about the current recordkeeping systems of the HR department, and current data requirements, and identify how those same data will be recorded, tracked and extracted using a new HRIS (Hansen & Vulpen, 2022).

By listing various areas you will have to cover when working with

employees, and using general HR best practices, you can build a custom system to fit the particular needs of your business. If you cannot afford to hire an experienced, dedicated HR Director, or to contract with an established HR firm to manage your staffing needs, you can still succeed by designing your HR system (Milano, 2022). Build out a system for your payroll, including gathering new employees' information to add them to the system, handling deductions, paying employees, or interviewing payroll vendors to hire one to manage your payroll.

Ironically, within the HR field, technological advances are creating an opportunity to change HRIS from a non-personal system for managing human data into one that builds more human-like experiences within a workplace. The design and development of HR management systems (HRMS) is an urgent need, to make corporate human resources management more scientific and effective, improve levels of corporate information technology and market competitiveness, and better retain and attract talent (Wang, Li, & Li, 2021). HRMS is the system used for collecting and storing data such as name, address, age, salary, benefits, hours, attendance, performance appraisal, etc., about an organization's employees.

5. Application of HRIS

HRIS (Human Resource Information System) is a type of enterprise application that allows companies to store employee information, handle general HR functions, and perform key HR activities, such as processing paychecks and benefits administration (ADP, 2022). HRIS, or Human Resource Information System, provides features that support an HR department across a range of tasks, from finding and hiring employees to managing an entire organization. An HRIS, or human resources information system, is a piece of software designed to help businesses address basic human resources needs and increase the productivity of managers and employees alike. HRIS helps with HR processes and hiring because it combines data about employees in one source. The features of HRIS applications include an employee self-service portal, payroll, workforce management, recruiting and hiring, benefits administration, and talent management. Both HRIS and HRMS can assist employers in managing different aspects of human resources, such as payroll, benefits administration, and compliance (GOMATHY, 2022).

HR functions and managers have tools available to them thanks to an HR information system, which makes it easier to hire for, optimize performance for, and perform better with, various employees, by identifying training needs ahead of time, e.g. Through HRIS, managers can monitor employee hours and attendance, and employees can use the system to check-in and check-out, request paid leave, and monitor their pay. Through these components, an HRIS app can thus enhance the HR department's ability to monitor employees' hours as well as their overall attendance rates. (Dokodemo, 2022)

In addition, HRIS applications also provide various helpful data which can be used for employee efficiency evaluations and reports (Ganeson, 2019). It is also important to know that, generally speaking, HRIS systems also feature functions

that support HR administration, such as managing employee attendance & leaves, performing employee evaluations, administering arrangements regarding employee benefits or salaries, and more. Just like any HR software, a proper HRIS system will also provide support for HR managers, but also employees, recruits, new hires, and long-time team members.

A robust HRIS will allow the organization to manage employees' data more effectively, which will also promote the employees' growth and development. A good HRIS will immediately become apparent for any recruit, as the platform can assist with the process of acquiring talent and onboarding, and existing employees will be able to more easily manage their timecards and request leave time via the system (Martins, 2020). An HRIS can send out the paperwork automatically to a new employee, encourage the new employee to create logins for the required sites or applications, and gather tax and salary information.

For instance, it includes every aspect of managing an employee database and directory, tracking job applicants, benefits administration, payroll processes, work schedules, time and attendance, vacation checks, electronic signatures, compliance protocols, custom insights reports, employee self-service, performance management, and HR processes are taken care of in a mobile app. With data made transparent and available for everyone, and employees made accountable for processes such as onboarding, managing requests for leaves, and attendance, they feel empowered (Ghosh, 2021).

6. Features of the effectiveness of HRIS

HRIS will offer governance solutions since it provides a single system that avoids the grievances of data sharing and it simplifies the reports since it is a self-service program. Ultimately this will improve the satisfaction of the employees since it also provides certain benefits like being a self-service software makes it more effective. An HRIS with a proprietary talent management system would help any business to better manage its employees (IceHrm, 2020)

With an HRIS, HR teams can hire, onboard, manage, and retain employees all in one, unified solution. With HRIS, teams can work more effortlessly toward common goals, while also cultivating sync between processes throughout the company. A modern HR Information System also continually updates solutions, depending on feedback or changes to business rules, to meet evolving needs for HR teams, employees, and employers--with performance and effectiveness front and center of every HRIS (Uysal, 2022)

As a result, the number of organizations gathering, storing, and analyzing information about their HR has increased significantly, thanks to software HRIS (Human Resource Information System). commonly described as HR management systems, can in the current scenario, act as an integral tool to give an organization a competitive edge. As a comprehensive system, the HRIS (also known as Human Resource Management System, or HRMS) software organises all kinds of employee-related data points, including confidential identifying information such as a worker's

age, gender, and address; employees work location information such as his/her title, salary range, and division; benefits that they have signed up for; and his/her timecards and leave requests (Martins, 2020).

When an employee is employed, the majority of his data may be gathered and placed into an HRIS software, and the system should make it simple for anybody to make adjustments or add new information to the employees' files. With an HRIS for the storage and management of all of your employees' data, any information is readily available for any audits or legal matters. By giving employees the ability to access and manage their personal information (profile, vacation, benefits, or salary), HR staff's time spent in the daily work of their offices can be reduced (Martins, 2020).

With multichannel HRIS access, employees can review, edit, and pull up any job-related information right from their cell phones. With all of this software for human resources management solutions in an HR database, analytics, time tracking, enhanced employee benefits, employee engagement, workflow, HR support, training management, and all other human resources functions would be automated. The benefits to the HR department from improving HR efficiency, decreasing reliance on manual work and handling employee data/information, providing standardization to the critical processes, decreasing redundancy, and turning the HR department into an active department (Pani, 2022)

7. Challenges and barriers to implementing an effective HRIS

Understanding some of the main challenges of implementing an HRIS, and how you should approach those challenges, can lead to greater success in the implementation. Being willing to address the potential obstacles and challenges during HRIS implementation is crucial in getting your desired results (Gosnell, 2021). Whatever your choice, working through software adoption challenges is critical in achieving your HRIS implementation success (Matchr, 2022). HRIS implementation projects must adhere to core principles of change management using a staff-centric approach. Because benefits and how HRIS will be used can differ across departments, HR should also consider tailored communications and implementations for HRIS across departments (Chohan, 2020).

Implementing an HRIS system without adequate training can end up affecting HR, managers, learning and development, finance, and employees themselves. The skills of employees within an organization present an enormous challenge to successfully implementing HRIS; skills, in this case, include both technical skills (how to use the HRIS) and communications skills (decisions about adopting the HRIS are discussed at senior levels alone, with lower-level managers not included (Ahmed, Kura, Umrani & Pahi, 2020; Chabani, 2020). Moreover, some organizations support environments so complex and so reliant on the individual departments, that implementing a new HRIS system becomes an important time issue for guaranteeing the quality implementation and rollout of the HRIS software packages. Many HRIS initiatives fail because organizations fail to dedicate the

necessary time or resources to ensure successful deployment and continuous deployment. According to Silingard and Trottier (2022), to get the most out of HRIS, HR professionals must thoroughly plan out how they are going to roll out HRIS in their organizations, so a seamless transition is made with as little interruption as possible to an organization's daily operations.

Chabani (2020) explores, acquiring and implementing a new HRIS software solution can be exciting, with companies and their employees considering all of the ways that a new solution will benefit their day-to-day lives and savings (Tang et al., 2022). Many researchers have studied HRIS adoption within organizations, as well as explored the challenges these organizations have faced to implement such systems. However, since the style of management is different for public companies compared with private companies, managers can experience varying challenges to implement an HRIS.

Researchers attest to the fact that top-level support from the management has a critical role in overcoming the possible internal resistance following HRIS adoption. This result supports the previous studies which identified the influential environmental factors which are necessary to guide management decisions to successfully adopt any technological innovation (Alam & Miasum, 2016).

Both limited-scope and comprehensive HRIS solutions may contain varying amounts and types of data, which can be located in the three different types of quality information systems. These systems are typically slightly more comprehensive than HRIS systems, including most elements of HRIS systems, but also have extra features, such as workforce management. Within the scope of human resources, tactical human resources information systems involve hiring decisions, job analysis, and design decisions, training and development, and also staff compensation plans (Hansen, 2022).

8. Conclusion

HRIS, or Human Resource Information Systems, is a type of software designed to assist businesses in meeting basic human resources needs as well as improving productivity for both managers and employees. As explained above, a human resource information system (HRIS) is software that provides a central storehouse for the master data about employees, which is needed by a group in HR (Human Resources Management) to carry out the basic HR processes (core HR). As a comprehensive system, HRIS software (also known as human resources management systems, or HRMS) organizes all types of worker-related data points, including sensitive identifying information such as the workers' age, gender, and address; the employees' workplace information such as his or her title, salary range, and departments; benefits that they have opted into; and his or her timecards and requests for leave (Martins, 2020). Most of this information can be collected and entered into an HRIS program when the employee is hired, and the system should make it easy for anyone to make changes or add new data to the employees' files. Employees may access the HRIS system to make changes in data

(such as changing addresses), while managers and supervisors can access the system to input data (such as a performance appraisal) or retrieve data without troubling HR. A tactical HRIS typically provides data that helps make decisions related to the allocation of resources to hiring, job design, workplace analytics, training and development, employee recognition, etc (Arun, 2021; Martins, 2020)

In brief, HR information systems are applications used for gathering information related to the entire HR in the organization, for example, recruiting and hiring, creating training activities, and developing which would spur innovation on an operational level. Before the present century, and before the Second World War, personnel functions (the precursor of HRM) were mostly functions for maintaining records on employees, and this was the philosophy called scientific management at the time. As the 21st-century advances, human resources management role within the organization will shift and include greater accountability to employees (Azmal Ali Quaosar, 2021; Punthung & Krivart, 2022)

Organizations will lean on HR professionals as strong leaders that can help employers and employees manage 21st Century workplace challenges. This has led to the necessary transformation of business HR teams, which are now forced to navigate new technologies, manage expectations from employees, and ensure the organization has a productive, happy workforce. There is a need for HR to evolve and change to better manage the hiring processes (Fahed-Sreih, 2018; Ramjee, 2021). As such, HR became less predictable, and there were more opportunities available for employees compared to the past. When reviewing the readiness of your organization to meet the challenges presented by managing human capital in the 21st century, you must leverage every resource that you can draw upon to assess and calibrate your situation (Fahed-Sreih, 2018; Leigh, 2020).

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