Dynamics of Human Resources Information System in Performance of Employees in Zimbabwe State Universities

By

[1]Kajongwe, Collen, [2]Sibanda Ntombizodwa,[3]Mambo Ropafadzo & [4]Ndimutseyi Wellington
[1,2,374] Midlands State University
Email: kajongwec@staff.msu.ac.zw
Phone number: +263 77 4198 231

Abstract:

The aim of this paper is to highlight the importance of Human Resources Information System (HRIS) and to give a comprehensive insight of the subject in performance of employees in education sector in Zimbabwe. Findings of the study indicated that HRIS is if great use and improves in collecting, storing and preparing data for reports, simplifying and accelerating the processes and controlling the available data, reducing labour costs for Human Resources departments, and providing timely and diverse information to the management of the education system in Zimbabwe. The study recommends full implementation of HRIS in the education sector for improving service delivery.

Key Words: Zimbabwe, Human resource management, information systems, HRIS,

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Introduction and Background of the Study

HRIS Architecture of the early days of HR applications (in the 1970s) was based on mainframe computers built by International Business Machines (IBM). Accordingly, Ball (2001) asserted that these large systems hosted payroll applications for most enterprises. Users of the system, which mainly consisted of IT personnel and HRMS (human resource management system) administrators, executed large batch processes while directly logged onto the mainframe computer. Ball (2001) further posits that although access to the mainframe could be done via a desktop monitor, no processing was done locally. This architecture is commonly called a single-tier computing system user interface, application processing, and data storage resided on the mainframe. Kovach and Highes (2010 argue that during the 1980s, it was discovered that many typical HR functions (such as employee benefits and recruiting) did not require the high-powered and expensive processing available on the mainframe computers.

Kovach and Highes (2010) further pointed that with the advent of the personal computer (PC), many of these functions could be reallocated to the local processing power of the PC. By the end of the decade, HRIS software vendors such as PeopleSoft began using this power of PCs and created the client-server architecture. Shannak and Nasser (2012) also noted that the purpose of client-server architecture was to spread out low-powered processing capability to the dozens of PCs now being used across an organization.

Shannak and Nasser (2012) pointed that High-performance applications such as Payroll would still be run in a batch process on the mainframe computer or outsourced to vendors such as Automated Data Processing (ADP). But day-to-day processing could be implemented on the PC. In this case, an HR application logic or set of business rules would run on the local machine. Bussler and Davis (2011) accordingly postulated that such as having valid data entries for hiring dates, home addresses, and name formats would be checked instantly by the PC, that is, without looking up the business rule at the server on the mainframe. Even more complex checks such as term of employment and salary deduction calculations could be done on the local PC. In addition, software applications could apply the more graphics-oriented user interface of the Windows environment. Ease of computer usage was a major factor that enabled individuals with a relatively low level of technology experience to use the applications (Bussler & Davis (2011).

Shannak and Nasser (2012) therefore pointed that a human resource information system is a consolidated system that offers a reliable instrument for carrying out each function of human resources compared with the manual operations. Shannak and Nasser (2012) asserted that the system comes packed with proficiency and enhanced analyses. It is of paramount importance to appreciate that Human Resources Information System (HRIS) is very crucial in resolving work

problems. The prominence of the literature depicts how the system is a crucial component in improving and delivering the best quality service in Zimbabwe education sector. The system develops the commitment and capabilities of the personnel.

Furthermore, the system helps to improve the flexibility of global trend in enhancing the maximum key performance at the lowest cost of resources as this brings innovativeness and creativeness. HRIS according to Ball (2001) is basically an integration of human resources and information technology through human resources (HR) package. It therefore permits HR policies and procedures to occur by electronic means. On the other hand, HRIS can be viewed as a software for both big and small businesses to take care in a number of activities, such as those interrelated to human resources function for example accounting and payroll. Lengnick-Hall and Moritz (2003) avers that HRIS allows an organisation to effectively plan its HR costs, how to manage them and control without needing to apportion too many resources towards them. It is against this background that this study seeks to establish dynamics of HRIS in State Universities in the context of Zimbabwe.

A first step in achieving the pro-active decision making in human resources management comes from a well-planned HRIS. According to Shannak and Nasser (2012) the vital components of HRIS embraces a precise and efficient workforce record system talented of providing steadfast data on human resources demographics. Kovach and Hughes (2010) argue that the ability to tie human resources information with precise and modernized employment data systems is also the most vital aspect. Kovach and Highes (2010) asserted that this includes reliable information on the number of university personnel, their credentials and experience, academic qualifications, training and development programs and demographics profile can support organizations to precisely assess workforce needs and suitably allocate limited resources in order to satisfy the needs.

Bussler and Davis (2011) posits that it is a fundamental key issue that the availability of information to the relevant authority in position to initiate change in a university system is very crucial to a nation in order to deliver the best value service. Hence it is the chief objective of human resource function to create value through people. Also, the reliable information is then used to deliver service value and forecast the implementation of the nation's core strategy of providing an efficient and effective health system for the present and future needs. The reputation of HRIS come forth due to the appreciation of HR practitioners in partner with the information technology department to strategically partner and advance for the better use HRM programmers. This implementation of the system package by an organisation combine a lot with the growing complexity. Thus, it imposes HR function with new challenges which therefore demands the HR experts to play a part and contribute to the organisation, as strategic business partners (Maund, 2012).

Statement of the Problem

Labour-intensive filing systems and paper records managing are no longer benefiting universities. There is a lot of missing files, slow data retrieval, erroneous data on human resources and lack of evidence-based decision making in terms of staff deployment and planning

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as well as lack of storage space which have caused serious setbacks on quality service delivery. This has necessitated for well-organized and effective Human Resources Information Management Systems that enhance service delivery. Material access and sharing in the global village requires a state-of-the-art paperless system to network global partners and other government ministries and departments as well as professional regulatory bodies. However, there is dearth of information on the efficacy of HRIS in state universities which this study seeks to establish in the context of Zimbabwe.
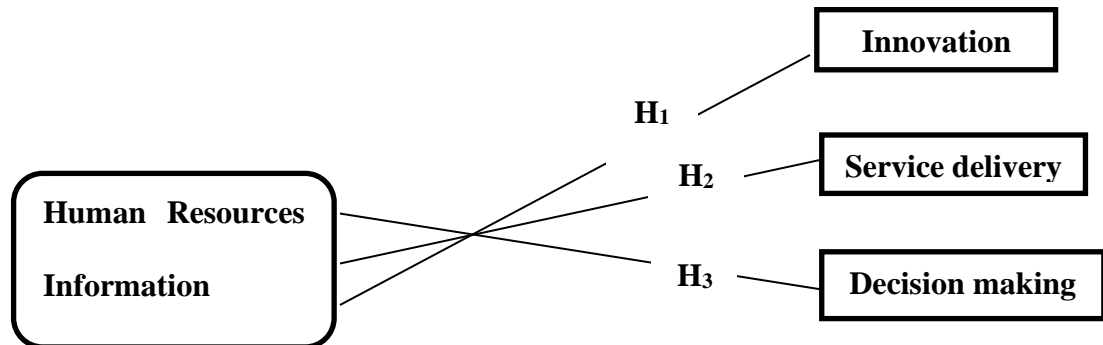
Objectives

To assess the effects of HRIS in state universities in Zimbabwe.

Hypotheses

H1: HRIS positively improves innovation of employees in Zimbabwe state universities.
H2: HRIS positively improves service delivery of employees in Zimbabwe state universities.
H3: HRIS positively improves decision making of employees in Zimbabwe state universities.

Conceptual Framework

Methods
The study was guided by the positivism research philosophy, which embraces the adoption of pluralistic approaches in research (Cresswell et al., 2003). The cross-sectional survey research design was adopted. Therefore, quantitative research method was adopted. The study's population was made up of 5 state universities in Zimbabwe. Convenient sampling techniques were used to select 100 Human Resources Officers. A structured questionnaire was used to collect quantitative data.

Quantitative Data Analysis
Data was analysed using descriptive statistics and correlations. A 3-point Likert Scale was also used to establish the extent to which HRIS impact on performance of employees in universities.

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Microsoft Excel was used to assign weights to the factors using the Relative Importance Index (RII). The weighted RII scores were subsequently used to rank the factors in order of importance. The following formula was used in determining the RII:

$$RII = \sum \frac{W}{A*N}$$

Where w is the weight assigned by each respondent on a scale of 1 to 3, with 1 implying the least and 3 the highest. A is the highest weight (3 in this study), whilst N is the total number in the sample. Five important levels were transformed from the RII values: high (0.80 to 1) (H); high-medium (0.60 to 0.79) (H-M); medium (0.40 to 0.59) (M); medium-low (0.20 to 0.39) (M-L); and low (0 to 0.19) (L). RII analysis was chosen in this study because it allows the identification of the most important criteria based on participants' responses, and it is also regarded as a suitable tool to prioritize indicators rated on Likert Scales. Therefore, the RII allowed the researcher in this study to identify the most important factors of HRIS impacting to state universities in Zimbabwe. Results were presented on a table.

Theoretical Framework

Various theoretical lenses were used to analyse the importance of HRIS in organisations but this study is underpinned by Wazu and Desouza (2003) technological theory of change. Wazu and Desouza (2003) asserted that an appropriate implementation of HRIS applications would lead to less people needed to perform administrative tasks such a keeping record. Meanwhile, more time would become available so that HR managers can assist their employees by providing data on a strategic level. Many of these researchers believe that the future will be bright for HRIS as it creates new paths for human resources and for the organizations that effectively use HRIS. HRIS also provides HR professionals with opportunities to enhance their contribution to the strategic direction of the firm. First, by automating and devolving many routine HR tasks to line management, HRIS provides HR professionals with the time needed to direct their attention towards more business critical and strategic level tasks, such as leadership development and talent management.

Literature Review

2. The effects of HRIS in organisations

HRIS reduces the workload on HR professionals. This is supported by Pinsonneault & Kraemer (1993) as they allude that main benefit to system of government using internet in HRM is the issue to do away with the freeing of HR personnel from intermediate duties so that they are able to focus more on tactical planning in human resource organization and development. Similarly, Broderick &Boudreau (1992) concurs that internet can program repetitive tasks for examples benefits administration such that HR experts are unrestricted to concentrate more on strategic

matters for example boosting the morale of the internal customer. In a nutshell human resources can enhance business goals thus improved performance and enable participation in interior consultancy activities (Bussler &Davis, 2001).

In their 2002, HRIS survey, Watson Wyatt found that the top four metrics used in formal business cases supporting HRIS were improved productivity within HR organization, cost reductions, return on investment, and enhanced employee communications HRIS contribute to cost reductions, quality/customer satisfaction, and innovation (Broderick and Boudreau, 1992). David et al. (2010) analyzed the main traits of efficient firms and the main sources of firm's efficiency through samples of Catalan firms. Firms' efficiency shows a significant improvement when advanced ICT uses are combined with human resource practices. Furthermore, the two sides of the equation are unequivocal. While it may be possible to pinpoint many of the relevant costs (software and hardware), it is a lot more difficult to identify the intangible benefits which can be derived from implementing HRIS systems (Boateng, 2007).Planning, organizing, leading and controlling of resources are the main aspects of organizational management to achieve the general objectives of the firm. Organizational management includes most activities that can be done using HRIS which has to do with the organizing, leading, planning and monitoring resources in the organization.

The HR databases should apprehend and store info on labour force size, practice settings and regulatory environments and also trends in supply, demographics and education according to (Torrington and Hall, 2011). Hence it records material taken through broadcasting according to specifications from districts, professional regulatory and licensing bodies, and educational institutions. Torrington and Hall (2011), alludes that database includes unique identifiers for tracking professionals through time as they move from one location to another. The data also is used by governments, academic investigators and professional associations for human resource planning.

Sadri and Chatterjee (2003) argued that the computerization of functions through applying HRIS led to faster decision making of matters related to the development, planning and administration of HR; this was justified by claiming that data became easily stored, updated, classified and analysed not to mention the role that HRIS plays in strengthening the organization's character. Kettley and Reilly (2003) argue that the potential benefits of HRIS can be divided into three areas: Operational efficiency – Reducing overhead costs, enhancing the accuracy of data, eliminating the costs of printing and disseminating information, minimizing IT infrastructure costs by moving towards a common HR service platform and enhancing the ability to distribute HR information and services globally Relational impact – Change the nature of the relationship between HR, line managers and employees.

According to HITRAC (2016) HRIS is designed to engage in compliance and to defend life-threatening information and regulate admission to information at all levels. The package system also integrates system edits to reduce the risk of incorrect input and eradicate replication. A well centrally-managed HRIS permits an organisation to define guidelines to ensure the quality of data entered into the system. Hendrickson (2003) put emphasis on the notion of HRIS which, in his view, is seen as crucial to any organizational information system having many

facets. In such view, HRIS is not only represented by computer-based tasks or HR-related programs; rather it comprehensively involves people, structures, strategies, processes and information. HRIS provides information and guidelines for the operation of HR functions, HRM is still a caretaker of employee records, however, the existence of an HRIS makes this information readily available and useful for managerial decision making. The system is able to produce more effective and faster outcome than that can be done on papers. HRIS can acquire and track almost any type of data. Some of the effects of HRIS are that it has brought about an improvement in the overall HR functions of the organization not only in administration work. HRIS can be one of the powerful levels of change for the HR Department in any organization.

Sadri and Chatterjee (2003) argue that HRIS is sometimes complicated and difficult to work, but it has helped to align the HR practices with the organizational strategy, identify improvement areas, and keep abreast with the current practices. It allows an organization to assess and evaluate any gaps or potential risks and increase the commitment of HR professionals to continuous improvement. On the whole, HRIS, increases the efficiency of HR function, has helped to contribute the potentials of HR Department towards the organization, developed the structure, payroll, time, and attendance, appraisal performance, recruiting, learning management, training system, performance record, employee self-service, scheduling, absence management, systems, styles, reduced HR cost, increased motivation of the HR personnel, analysed the problems and solved them smoothly, provided and developed sound performance appraisal systems, systematic job analysis, and smooth adoption of the changing mind-set. A follow-up study can be done to see if more organizations have adopted HRIS, if the extent of HRIS adoption is greater or if the HRIS is used for more strategic purposes. By making the HRIS a part of the organization, the HR Department can transform itself to be a strategic business partner.

The main concept that drives the HR package system tool is the enhancement of effective and efficient use of employees in the best manner that bring about organisation capabilities of achieving the overall goals, Evans & Davis (2005) stipulates that the HRIS model is designed in an organic mechanism (flexibility) that is capable of transforming over time since it is characterized by feedback loops of goal accomplishment. The integrated system work hand in glove with all HR components that helps to deliver the best service utility. The system provides a unique resource-based view. In as much as competitors might try to imitate it is difficult to blend in with the contextual framework and it therefore gives precedence to lead the market. Lastly the HRIS and the HR program assessment results in terms of HR metrics, and cost-benefit analysis (value added and ROI) are in continual interaction.

Torrington and Hall (2011) argue that the main purpose of maintaining HRIS system is to gather, classify, process, record and disseminates the information required for efficient and effective management of human resources in the organisation. Torrington and Hall (2011) further posit that the various uses of HRIS in an organisation can be used in Personnel Administration: It encompasses personal information of an employee. These may include name, address, date of birth, marital status, and the date of joining the organisation. It also contains the name and address of next kin of the employee concern. This information describes the employee. HRIS can be used for salary administration through providing a report containing information

like present salary, benefits, last pay increase and proposed increase in future. HRIS is also used to control leave or absence of employees. This is done by maintaining a leave history of each employee. Every employee can be issued an identity card writing every employee's token number coded on it. Employee's entry and exit from the organisation should be recorded on the identity card. This reduces chances for malpractice or oversight in calculating wages for each employee. Sadri and Chatterjee (2003) asserted that HRIS can be used in skills inventory. Recording employee skills and monitoring a skill data base is yet another use of the HRIS. Such a skill record helps identify employees with the necessary skill for certain positions or jobs in an organisation. The HRIS is also used to maintain occupational health data required for industrial safety purposes, accident monitoring, and so on.

David et al. (2010) alluded that in order to form a comprehensive overview about an employee, HRIS maintains performance appraisal data such as the due date of the appraisal, potential for promotion, scores of each performance criteria and alike. The textual information can be combined with the factual data obtained from the HRIS and the combination of information can be used for imparting training and affecting employee mobility in the form of transfer and promotion. Hill (2010) postulated that HRIS is also used for manpower planning. HRIS keeps information of organisational requirements in terms of positions. HRIS connects employees to the required positions in the organisation. It is also used to identify vacancies and establish employees thereon.

Wazu and Desouza (2003) asserted that HRIS can also help identify a logical progression path and the steps to be taken for employee progress or advancement. Wazu and Desouza (2003) further posits that HRIS helps in the recruitment process in a big way by recording the details of activities involved in employee recruitment. These may include cost and method of recruitment and time taken to fill the positions level wise, for example in career planning by providing necessary information such as which employees have been earmarked for which positions, HRIS facilitates positional advancement of employees. Cassion (2012) was of the opinion that HRIS helps in planning for succession. Cassio (2012 further argue that through a computer terminal HRIS can provide up-to-date relevant and required information, facts and figures and, thus, can facilitate collective bargaining. In the same manner, HRIS can also help maintain better human relations in the organisation.

Findings and Discussion

Response Rate Analysis

Of the two hundred questionnaires administered to human resources officers one hundred and seventy were returned whilst twenty questionnaires were not attended to. Impliedly this means that (85%) response rate percentage was attained whilst (15%) failed to respond. High response rate was attributed to self-administering of questionnaires by the researcher and also an assumption of the importance accorded the study by respondents.
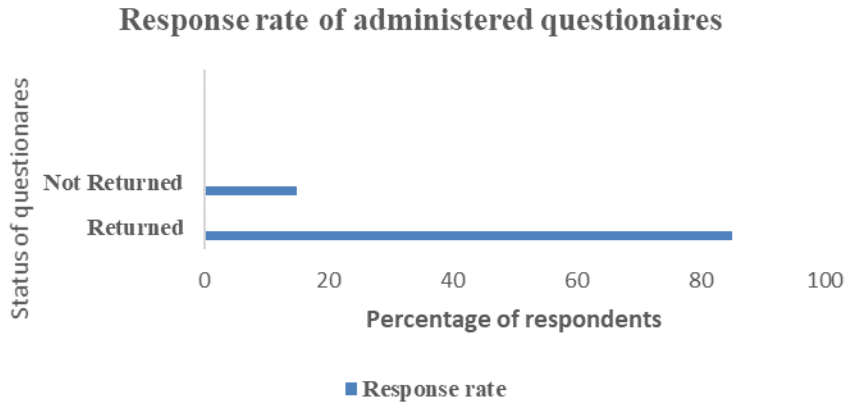
Figure 1: Response rate of administered questionnaires

Mean Ranking of the value of HRIS in State Universities

Table 1: Ranking of the value of HRIS in State Universities in Zimbabwe

FACTORS	RELATIVE IMPORTANCE INDEX (RII)	IMPORTANCE LEVEL
Service delivery	1	H
Innovation	1	H
Motivation	1	H
Accurate figures	1	H
Personnel administration	1	H
Control leave absence	0.95	H
Skills inventory	0.95	H
Occupational health safety	0.86	H
Imparting training	0.81	H
Salary administration	0.76	H-M
Performance appraisal	0.67	H-M
Recruitment and selection	0.57	M

Source: Primary Data (2019)

Key to Table 1:

	High importance (0.80 - 1)
	High-Medium importance (0.60 - 0.79)
	Medium importance (0.40 - 0.59)
	Medium-Low importance (0.20 - 0.49)

All the respondents considered Service delivery, innovation, motivation, accurate figures, personnel administration, control leave absence, skills inventory, occupational health safety, imparting training, salary administration, performance appraisal and recruitment and selection as factors impacting on HRIS in State Universities. These factors received the highest scores on the 3-point Likert Scale by all respondents and consequently attained the highest RII rank of 1. Inference is made to literature that the function of human resources (HR) departments is administrative and common to all organizations (Armstrong, 2012). Organizations may have formalized selection, evaluation, and payroll processes. Management of human capital progressed to an imperative and complex process. Dawson (2012) asserted that the HR function consists of tracking existing employee data which traditionally includes personal histories, skills, capabilities, accomplishments and salary. Bititcti (2015) alluded that to reduce the manual workload of these administrative activities, organizations began to electronically automate many of these processes by introducing specialized human resource management systems. HR executives rely on internal or external IT professionals to develop and maintain an integrated HRMS. Table 2 show the relationship between HRIS and performance of State Universities in Zimbabwe.

The relationship between HRIS and performance of State Universities in Zimbabwe

Table 2 show correlations between HRIS and performance of State Universities in Zimbabwe. In this study HRIS is correlated to innovation (r= 0.710, p=0.000), HRIS is correlated to innovation (r=0.722, p=0.000) and HRIS is correlated to decision making (r=0.489, p=0.000).

Table 2: The relationship between HRIS and performance of State Universities in Zimbabwe

Variable 1	Variable 2	Correlation (r)	P-Value
HRIS	Innovation	0.710[**]	0.000[**]
HRIS	Service delivery	0.722[**]	0.000[**]
HRIS	Decision making	0.489[**]	0.000[**]

Source: Field Survey, 2020
*Significant at 0.05 level.
**Highly Significant at 0.01 levels.

The study results signify the importance of HRIS in steering universities to realise their goals and objectives in the contemporary world of technology. Inference is made to literature that with the changing world and constant new technology that is available, managers need to be aware of the technology that will increase effectiveness in their company. Human resource information systems (HRIS) have increasingly transformed since it was first introduced at General Electric in the 1950s. Bititcti (2015) alluded that HRIS has gone from a basic process to convert manual information keeping systems into computerized systems, to the HR Information Systems that are used today. Human resource professionals began to see the possibility of new applications for the computer. The idea was to integrate many of the different human resource functions (Bititcti, 2015). Many companies have seen a need to transform the way Human Resource operations are performed in order to keep up with new technology and increasing numbers of employees. The study results show that there is a considerable evidence that HRIS are correlated to performance of State Universities. Table 3 show Chi-Square test of the relationship between HRIS and performance of State Universities in Zimbabwe.

Table3: Chi-Square test of relationship between HRIS and performance of State Universities

Variable 1	Variable 2	Chi-square (x^2) Value	DF	P-Value
HRIS	Innovation	3.484	3	0.000[**]
HRIS	Service Delivery	4.359	3	0.012[**]
HRIS	Decision making	3.442	3	0.013[**]

Source: Field Survey, 2020
[*]*Significant at 0.05 level*
[**]*Highly significant at 0.01 level*
DF=Degrees of Freedom

Chi-square tests revealed that there is a positive relationship between HRIS and innovation (X^2=3.484, DF=3, p=0.000) at 95% confidence level as shown in Table 3. The results also indicate that there is evidence to suggest that HRIS is positively related to service delivery by State Universities in Zimbabwe (X^2=4.359, DF=3, p=0.112) at 95% confidence level as shown in Table 3.Study results also indicate that HRIS is positively related to decision making (X^2=4.442, DF=3, p=0.113) at 95% confidence level as shown in Table 3. This implies that it merges HRM as a discipline and in particular its basic HR activities and processes with the information technology field facilitates growth and development in institutions of higher learning in Zimbabwe through planning and programming of data processing systems into standardised routines and packages of enterprise resource planning.

Hypothesis Testing: Chi-square tests of goodness of Fit

H$_1$: HRIS positively improves innovation of State Universities in Zimbabwe

Chi-square tests revealed that there is a positive relationship between HRIS and innovation (X^2=3.484, DF=3, p=0.000) at 95% confidence level as shown in Table 3.

H$_2$: HRIS positively improves service delivery of State Universities in Zimbabwe

The results also indicate that there is evidence to suggest that HRIS is positively related to service delivery by State Universities in Zimbabwe (X^2=4.359, DF=3, p=0.112) at 95% confidence level as shown in Table 3.

H$_3$: HRIS positively improves decision making in Zimbabwe State Universities

Study results also indicate that HRIS is positively related to decision making (X^2=4.442, DF=3, p=0.113) at 95% confidence level as shown in Table 3.

With the aforementioned evidence from the chi-square tests, this study therefore rejects the null hypothesis that there is no significant relationship between HRIS and performance of State Universities in Zimbabwe and adopts the alternative hypothesis that there is a positive relationship between HRIS and performance of State Universities in Zimbabwe.

Conclusions and Recommendations

HRIS systems come in a variety of software configurations and is crucial in Zimbabwe State Universities. Some systems are hard-coded for local installation on a computer or network at the business' location. Other systems conduct business online as a Software as a Service (SaaS) system, usually over the Internet via web sites or Intranet systems. The Analytics module in HRIS enables organizations to extend the value of an HRMS implementation by extracting HR related data for use with other business intelligence platforms.

For example, organizations combine HR metrics with other business data to identify trends and anomalies in headcount in order to better predict the impact of employee turnover on future output. The payroll module automates the pay process by gathering data on employee time and attendance, calculating various deductions and taxes, and generating periodic pay cheques and employee tax reports. Data is generally fed from the human resources and time keeping modules to calculate automatic deposit and manual cheque writing capabilities. This module can encompass all employee-related transactions as well as integrate with existing financial management systems. The time and attendance module gather standardized time and work-related efforts. The most advanced modules provide broad flexibility in data collection methods, labour distribution capabilities and data analysis features.

Cost analysis and efficiency metrics are the primary functions. The benefits administration module provides a system for organizations to administer and track employee participation in benefits programs A follow-up study can be done to see if more organizations

have adopted HRIS, if the extent of HRIS adoption is greater or if the HRIS is used for more strategic purposes. By making the HRIS a part of the organization, the HR Department can transform itself to be a strategic business partner. The computerization of functions through applying HRIS led to faster decision making of matters related to the development, planning and administration of HR; this was justified by claiming that data became easily stored, updated, classified and analyzed not to mention the role that HRIS plays in strengthening the organization's character.

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