Effectiveness of Human Resource Information System on HR Functions of the Organization—A Cross Sectional Study

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HRM (human resource management) is especially important in a knowledge-based economy, where ideas and expertise are greatly valued, and a creative and innovative workforce is necessary to meet the challenges of this new economy. Efficient and effective management of human capital is increasingly an imperative and complex process. As a result, there has been a considerable increase in the number of organizations gathering, storing, and analyzing information regarding their HRs through the use of a software which is HRIS (human resource information system). The growing importance of HRIS is due to the recognition of HR practitioners that IT (information technology) and IS (information system) should be a part of HR functions mainly to develop and use better HRM programmes. This adoption of HRIS by organizations combined with the increasing sophistication of this software, presents the HR function with new challenges which demands the HR professionals to participate and contribute fully to their companies, as true strategic business partners. This study attempts to identify the effectiveness and the importance of the use of HRIS on the HR functions of an organization. It includes the top management, managers, and executive of HR working in manufacturing, service and IT sectors. Results provide insights into HRIS practice, its effects, effectiveness and shows that HRIS is of direct significance verifies completeness of the HR function and also provides HR professionals with opportunities to enhance their contribution to the strategic direction of the firm.

Keywords: HRIS (human resource information system), HR functions, strategic partner

Introduction

Leading management thinkers suggested that, “It is not technology, but the art of human and humane management” that is continuing challenge for executives in the 21st century (Drucker, Dyson, Handy, Saffo, & Senge, 1997). Similarly, Smith and Kelly (1997) believed that future economic and strategic advantage will rest with the organizations that can most effectively attract, develop, and retain diverse group of the best and the brightest human talent in the market place. Many HR (human resource) executives and managers are so busy taking care of their daily duties, which are generally administrative, that they neglect to consider important issues that are coming down the road. This is a trap that any department can fall into, but it can be especially devastating for HR, which must battle decades of preconceived notions about the department’s ability to contribute to corporate planning. Thus, today with an increase in the number of organizations, HR is now viewed as a source of competitive advantage (Michael et al., 2012). It is necessary for firms to have highly skilled human capital to provide them with a competitive edge. So, an effective management of HR in a firm is to gain advantage in the...
marketplace which requires timely and accurate information on current employees and potential employees in the labor market. With the changing world and evolution of new technology, meeting this information requirement becomes important. HR managers need to be aware that the change in technology will not only increase the quality of employee information, but also will have a strong effect on the overall effectiveness of the organization.

To reduce the routine transaction and traditional HR activities and to deal with the complex transformational ones, the organizations began to electronically automate many of these processes by introducing specialized HRIS (human resource information system) or HRMS (human resource management system). HRIS refers to the systems and processes at the intersection between HRM (human resource management) and information technology. It is a system used to acquire, store, manipulate, analyze, retrieve, and distribute information regarding an organization's human resource. An integrated HRIS is a database shared by all HR functions that provide common language and integrates all HR services. A database nuclear containing information about the competency is required of jobs and competencies of people by all HR functions.

HRIS has increasingly transformed since it was first introduced at General Electric in the 1950s. HRIS has gone from a basic process to convert manual information-keeping systems into computerized systems. Because of the complexity and data intensiveness of the HRM function, it is one of the last management functions to be targeted for automation (Bussler & Davis, 2001/2002). This fact does not mean that HRIS is not important, it just indicates the difficulty of developing and implementing it compared with other business functions (e.g., billing and accounting system). Powered by information system and Internet, almost every process in the every function of HRM has been computerized today. Currently, HRMS encompass:

1. payroll;
2. time and attendance;
3. appraisal performance;
4. benefits administration;
5. HR management information system;
6. recruiting;
7. learning management;
8. training system;
9. performance record;
10. employee self-service;
11. scheduling;
12. absence management.

The design, selection, and use of HRIS are contestation as a range of meanings that are attached to the technology that either undermine or highlight its perceived value and significance and which impact on the extent to which it is to be used in a strategic or more administrative fashion. Recent debates about technology and organization have highlighted the importance of social context and sought to develop frameworks which acknowledge both the material and social character of technologies including HRIS (Dery, Hall, & Wailes, 2006). Accordingly, theories which can be considered as “social constructivist” can play an important role in the study of technology as they explicitly recognize that technologies, such as HRIS, cannot be evaluated and analyzed without having an explicit understanding of the context of individuals and groups which consequently
comprehend, interpret, use, and engage with the technology (Grint & Woolgar, 1997; Orlikowski & Barley, 2001; Williams & Edge, 1996). Sophisticated HRMS software— in the form of stand-alone products and ERP (enterprise resource planning) systems— gives HR departments the ability to effectively and efficiently administer data in areas ranging from benefits to regulatory compliance. Also important, however, is HRMS’s potential to transform HR from a cost center into, if not an outright profit center, a far less expensive department that can also function as a strategic advisor. The existing literature on HRIS suggests that they have different impacts on HR across organizations, but provides little explanation for this variation. It is early suggested that HRIS were used predominantly to automate routine tasks and “to replace filing cabinets” (Martinsons, 1994).

HR professionals began to see the possibility of new applications for the computer. The idea was to integrate many of the different HR functions. The result was the third generation of the computerized HRIS, a feature-rich, broad-based, and self-contained HRIS. The third generation took systems far beyond being mere data repositories and created tools with which HR professionals could do much more (Lloyd, Byars, Leslie, & Rue, 2004). It has the potential to assist the HR function in developing business strategy, and thus enhancing organization performance (Barney & Wright, 1998; Broderick & Boudreau, 1992; Gueutal, 2003; Lawler, Levenson, & Boudreau, 2004; Lengnick-Hall & Moritz, 2003). HRIS is used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding an organization’s human resources (Kavanagh, Gueutal, & Tannenbaum, 1990). It 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. HRIS provides an opportunity for HR to play a more strategic role, through their ability to generate metrics which can be used to support strategic decision-making (Lawler & Mohrman, 2003).

The current generation of HRIS automates and devolves routine administrative and compliance functions traditionally performed by corporate HR departments and can facilitate the outsourcing of HR. More recent research shows greater use of HRIS in support of strategic decision making by HR. With an appropriate HRIS, HR staff enables employees to do their own benefits updates and address changes, thus freeing HR staff for more strategic functions. Additionally, data necessary for employee management, knowledge development, career growth and development, and equal treatment are facilitated. Finally, managers can access the information they need to legally, ethically, and effectively support the success of their reporting employee.

Objective of the Study

Over the past two decades, there have been a number of studies on HRIS. These studies have focused on the type of applications that predominate in HRIS (De Sanctis, 1986; Broderick & Boudreau, 1992; Martinsons, 1994), the contexts necessary for the successful implementation of HRIS as well as the conditions that support successful HRIS. But there is very limited study on importance of HRIS in Indian organizations. The main objective of this study is to examine and analyze effect and effectiveness of HRIS on the HR function of the organizations. Thus this research paper involves three research questions that are:

(1) What is the effect and the effectiveness of HRIS on HR functions of the organization?
(2) Whether HRIS has created an impact on the HR activities?
(3) Has implementation of HRIS brought any changes or development in the working environment of HR department?
Methodology

A quantitative approach was used to enable the researchers to collect data. Permission was taken from the authorities concerned after explaining to them the purpose of the study. The criterion for participation in this study was all HR employees who were involved in HRIS of the company. It is a study based on self-administered questionnaire with the top management, managers, executive of HR working in the Department of HR in Karnataka (India). Twenty-one companies were taken purposively which included manufacturing, IT, and service industry. Thus there were a total of 104 respondents. Care was taken to ensure privacy and they were assured confidentiality of their identity. The data collected were tabulated and analyzed using the statistical package SPSS (Statistical Package for the Social Sciences). Findings were described using proportions and percentages.

Results and Discussions

Figure 1 clearly shows that out of 104 respondents, majority of the respondents (67%) are male and 33% of the participants are females. And Figure 1 clearly shows that out of 104 respondents, 21.15% were between the age group of 18−22, 15.38% were at 23−27, 13.47% were at 28−32, 25% were at 33−37, 7.69% were at 38−42, 9.62% were at 43−47, and 7.69% were above 48 years of age. Majority (67.3%) of the respondents who were a part of the study were working at 0−12 years, 21.14% at 13−20 years, and 11.53% were at 21−25 years. Out of 104 participants, majority (71.15%) of the respondents were post graduates, 25% of the participants were graduates, and 3.85% were holding doctoral degree; 11.53% of the respondents were from the top management HR, 7.69% were Sr. managers-HR, 19.23% were managers, and majority (61.55%) of participants were HR executive.

Figure 1. Baseline information.
When it came to the size of the organization, majority (69.23%) of participants mentioned that they have more than 1,000 employees working in their organization. Seventeen point three one percent had 500–999 employees working and 3.85% had between 50–499 employees working in their organization. More than half of the companies (61.53%) had 1–9 people working in their HR Departments, 17.31% had 10–12 people and 21.15% had more than 13 people working in the HR Department.

A Pearson chi-square test was done to see if there was a relationship between the number of employees in the HR Department and the decision to adopt HRIS in organizations. The Pearson chi-square value is significant, indicating that there is a relationship between the number of employees in the HR Department and the adoption of HRIS. One possible reason is that the use of IT helps to increase productivity among adopters which results in less staff needed for HR-related work.

![Figure 2. Baseline information on HRIS.](image)

Age of HRIS can be considered as the length of time an organization has been committed to IT in the HR Department, and it has been found to have a strong effect on the success of IT in an organization. As it can be seen from Figure 2, majority of organizations involved in the study, 80.77% have been using HRIS for the past 4–9 years, while a substantial percentage (34.62%) of organizations have also been using it for the past 7–9 years. This shows that HRIS have been in use for quite a while. The most common source of obtaining HRIS software is through vendors, majority (65.38%) have installed HRIS through vendors, followed by 13.36% developed in house and 11.54% from customized software. This finding is consistent with previous studies (De Sanctis, 1986) and is expected as very reliable.

Figure 2 clearly shows the annual expenditure of organizations on hardware, software, and training for
Majority of organizations involved for the study, 69.23% spend between 11,000–15,000Rs (around 330 dollars) annually on their hardware, software of HRIS. Majority (71.15%) spend between 1,000–5,000Rs (around 110 dollars) on training of HRIS system. This result is consistent with past research, which has indicated that some view HRIS training as an unnecessary expense and hence are unwilling to pay for the cost of training in addition to the cost of the system.

Figure 3 shows that, 71.15% of the participants highly agree and 28.85% agree that HRIS has helped in gathering, storing, and analyzing information on HR. Out of 104 respondents, 78.85% agree that HRIS has deliver of strategic competencies and increased administrative efficiency and 21.15% highly agree. It can be seen from Figure 3, 84.62% agree and 15.38% highly agree that HRIS has made work easier. A majority (78.85%) of the participants agree and 21.15% highly agree that HRIS has enhanced organizational performance.

There is an equal response (50%) highly agree and agree that HRIS has improved work environment. An equal (50%) of the respondents agree and highly agree that it has helped decision-making process. Terasen Pipelines moved its headquarters from Vancouver to Calgary to be closer to the oil and realized a major growth in employees. In the past, recording keeping was done on paper and with spread sheets. Managers at Terasen realized that there was a need to change to a more computerized system and introduced HRIS system. Terasen is now able to keep more accurate records as well as better prepare for future growth. Another company that saw the benefits of keeping up with new technology is work source Inc., to meet the challenge of handling 100 new employees, work source Inc. acquired Web-based HRIS.
Many organizations have gone beyond the traditional functions and developed HRIS which supports recruitment, selection, hiring, job placement, performance appraisals, employee benefit analysis, health, safety, and security. Figure 4 clearly states that 76.92% agree that HRIS helps in identifying potential candidate.

Majority (76.92%) highly agree with a substantial percentage (23.08%) of the respondents agreeing that HRIS helps the HR Department in staff planning, identifying, and retaining employee capabilities.

Majority (80.77%) agree that it helps in recruitment and tracing competent employees through the system. Nearly more than half of the respondents (76.92%) agree and 23.08% highly agree that the system of HRIS has helped in developing training modules, 88.46% agree it has improved payroll system, 63.46% agree that there has been an improvement in performance record with 28.85% highly agreeing. Seventy-five percent agree that it has improved absence management system.

Out of 104 participants, 59.62% agree that it has improved the scheduling system of HR, and 84.62% agree that HRIS helps to have a clear understanding of HR process. Studies have also reported that firms which have adopted HRIS have used it mainly for administrative purposes, rather than strategically (Martinsons, 1997).

Figure 4 clearly shows that majority (67.31%) of the participants agree that HRIS simply replaces manual processing to reduce cost. HRIS is used in a strategic fashion differs across organizations, with the vast majority of organizations continuing to use HRIS simply to replace manual processing and to reduce costs (F. Bee & R. Bee, 2002; Brown, 2002).

All the participants (100%) agree that HR cost is reduced after HRIS has been implemented. The efficiency of HR is able to produce more effective outcomes than that can be done in paper (Vincent, Huering, Harry, & Jordon, 2003). One such company is IBM. IBM has a paperless online enrolment plan for all of its
employees. Not only has the online enrolment saved the company 1.2 million per year on printing and mailing costs, the employees enjoy working with the online plan. So the company has been working to put in place a web-based enrolment system that employees and retirees can access from anywhere (Vincent et al., 2003).

More than half of the participants (78.85%) agree that HRIS helps in delivery of strategic competencies. There is an mixed opinion that agree (57.69%) and disagree (42.31%) that the complexity of the system is underestimated.

Out of 104 participants, a majority (76.92%) agrees and 19.23% highly agree that there is an ability to realize value from HRIS. Majority (76.92%) agree that HRIS align the needs associated with its range of operating system. There is a small percentage (3.85%) who disagree that HRIS has the ability to realize value and align the needs associated with its range of operating system. This point can be supported by earlier study that HRIS is sometimes complicated (Thompson et al., 2012).

Figure 5. Impact of HRIS on HR activities.

Figure 5 clearly shows that, out of 104 participants, majority (71.15%) agrees and 28.85% highly agree that HRIS has improved the structure of HR. All the respondents (100%) agree that HRIS takes stock, has improved the style, areas, growth, and changing role of HR. For the respondents, 71.15% agree and 28.85% highly agree that HRIS is complex and makes work difficult. The complexity associated with the new system has compelled the organization to implement it in a “big bang” manner (Thompson et al., 2012).

From Figure 5, it can be seen that out of 104 respondents, 69.23% agree, 19.23% highly agree, and 11.5% disagree that competency requirement has improved after HRIS has been implemented. A majority (67.31%) of the participants agree, 15.38% highly agree, and only 17.31% disagree that HRIS collects information on HR and identify areas that need improvement. This shows that the system of HRIS brings about development and makes HR Department more competent. Drawing on this vast information storehouse, sophisticated HRMS report generators allow managers companywide to create reports on an almost endless array of topics and to
compile data in ways that provide a solid underpinning for strategic planning.

**Summary and Conclusions**

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.

The study shows that the system 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, analyzed 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.

**References**


