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# A STUDY ON THE ROLE OF HUMAN RESOURCE INFORMATION SYSTEM IN HUMAN RESOURCE PLANNING IN INDIA

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## ABSTRACT

*A human resource information system (HRIS) is the system used to acquire, store, manipulate, analyse, retrieve, and distribute pertinent information regarding an Organization's human resources (Tannenbaum, et al). Entire management activity cycle revolves around human resource. The human factor enjoys the position of centrality amongst all the factors of production. The information resource, rightly used by and for this dynamic factor of production can enhance his efficiency and effectiveness. People through HRIS can help business to improve its operations, promote innovations, increase profitability and productivity and maximize satisfaction of its employees. It helps in developing and maintaining the integrated work culture and environment. HRIS supports the strategic, tactical and operational use of the human resource of an organization. To take an illustration, manpower planning and labour force tracking are many times, considered as strategic decisions of staffing. The labour cost analysis, budgeting and turnover analysis are tactical by nature; and recruiting, workforce planning and scheduling are the operational decisions of staffing area.*

**Keywords:** Human Resource Management, Strategic Human Resource Management, Human Resource Information Systems (HRIS), Strategic Human Resource Tasks, Technology Enabled HRIS, Human Resource Planning (HRP).

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## 1. INTRODUCTION

An organization gains competitive advantage by using its employees effectively, drawing on their expertise and ingenuity to meet clearly defined objectives. Torrington et al., (2005: 5) identified the role of the human resource functions with the key objectives. These four objectives are the corner stone of all HR activities. These include Staffing, Performance, Change-management and Administration. Staffing objective focuses on finding the appropriate pool of human resources needed to ensure fully and timely supply of work force. It therefore involves designing organizational structures, identifying working conditions for different groups of employees followed by recruiting, selecting and developing the personnel required to fill the roles. Performance objective aims at ensuring workforce motivation and commitment for effective performance. Consequently, employees training and development remain important.

Moreover, managing change effectively and efficiently remains one of the core objectives in almost every business. Key issues here include recruiting and/or developing people with the required leadership skills to drive the change process. Change agents are employed to encourage acceptance of change by coming out with reward systems associated with the change process. Employees' involvement is also paramount here and is encouraged. The aim is to avoid resistance to change, more especially where it involves cultural changes (attitude, philosophy or long-present organizational norms). Administration objective aims at facilitating the smooth running of the organization.

The goal of HRM is to maximize employee's contributions in order to achieve optimal productivity and effectiveness, while simultaneously attaining individual objectives and societal objectives Dessler et al., (1999: 2). To the authors, the function of HRM include assisting the organization in attracting the quality and quantity of candidates required with respect to the organization's strategy and operational goals, staffing needs, and desired culture. Helping to maintain performance standards and increase productivity through orientation, training, development, job design, effective communication, and performance appraisal. Helping to create a climate in which employees are encouraged to develop and utilize their skills to the fullest. Helping to establish and maintain cordial working relationship with employees. Helping to create and maintain safe and healthy work environment.

### 1.1. STRATEGIC HRM

In spite of the increasing attention paid to SHRM, the term remains unclear. Some scholars have described SHRM as an outcome, others have described it as a process, and others have considered it a combination of process and outcome. As an outcome, Wright and McMahan (1992) considered SHRM 'the pattern of planned HR deployments and activities intended to enable a firm to achieve its goals'. Similarly, Wright and Snell (1991) considered SHRM to be organizational systems designed to achieve sustainable competitive advantages through people. As a process, Ulrich and Lake (1991) described SHRM as a process of linking HR practices to business strategy. Moreover, Bamberger and Meshoulam (2000) argued that SHRM is a competency-based approach to personnel management that focuses on the development of durable, imperfectly imitable, and other non-tradable resources. Considering both process and outcome together, Truss and Gratton (1994) defined SHRM as the linkage of HR functions with strategic goals and organizational objectives to improve business performance and cultivate an organizational culture that fosters innovation and flexibility.

Torrington et al., (2005: 5) defines SHRM as means of accepting the HR function as a strategic partner in the formulation of the company's strategies as well as in the implementation of those strategies through HR activities such as recruiting, selecting, training

and rewarding personnel. Whereas strategic HR recognizes HR's partnership role in the strategizing process, the term HR Strategies refers to specific HR courses of action the company plans to achieve. The authors further presented three theoretical perspectives of strategic human resource management. The first was based on the 'one best way' concept of managing human resources to improve business performance. The second was the need to align employment policies and practices with the requirements of business strategy for successful business. This was on the assumption that different types of HR strategies are conducive for different types of business strategies. The third, which also happened to be the more recent approach to strategic HRM, was resource-based view of the firm, and the perceived value of human capital. The focus of this perspective was on the quality of the human resources available to the organization and ability to learn and adapt more quickly than competitors.

## **1.2. HUMAN RESOURCE INFORMATION SYSTEM (HRIS)**

The Human Resource Information Systems shape an integration between human resource management (HRM) and Information Technology. Even though these systems may rely on centralized hardware resources operationally, a small group of IS specialists residing within the personnel department increasingly manage, support, and maintain them. HRIS support planning, administration, decision-making, and control. The system supports applications such as employee selection and placement, payroll, pension and benefits management, intake and training projections, career-pathing, equity monitoring, and productivity evaluation. These information systems increase administrative efficiency and produce reports capable of improving decision-making (Gerardine DeSanctis, 1986: 15).

Tannenbaum (1990) defines HRIS as a technology-based system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding an organization's human resources. Kovach et al., (1999) defined HRIS as a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by organization about its human resources, personnel activities, and organization unit characteristics. Furthermore, HRIS shape an integration between human resource management (HRM) and Information Technology. It merges HRM as a discipline and in particular basic HR activities and processes with the information technology field (Gerardine DeSanctis, 1986: 15). As is the case with any complex organizational information system, an HRIS is not limited to the computer hardware and software applications that comprise the technical part of the system it also includes the people, policies, procedures, and data required to manage the HR function (Hendrickson, 2003).

The three major groups that make use of HRIS are HR professionals, managers in functional areas, and employees. While HR professionals rely on the HRIS in fulfilling job functions, managers rely on the HRIS's capabilities to provide superior data collection and analysis, especially for performance appraisal and performance management. Individual employees are the end users of many HRIS applications and complexities of job related issues have augmented the awareness of HRIS functionality among employees.

In addition to HRIS's integration function, HRIS enable effectiveness and efficiency, and ensure competitiveness among firms. However, along with the benefits are the costs involved in implementing and maintaining these systems. For example, hardware and software cost, time and other related costs. There are many software solution offers; the choice is however dependent on the decision of the user. Consequently, information validity, reliability and utility constitute a comprehensive HRIS, and should always be the pivot for every HRIS implementation.

## 2. LITERATURE REVIEW

The role of HRM has changed altogether from a traditional (popularly called personnel management) to a strategic one. Most medium and large scale organisations spend large amounts of money and reserves on HR software, but unfortunately many of them utilize it only for HR administrative purposes rather than for effective and efficient human resource planning (true HRP). This study aims to explore the extent of usage of a Human Resource Information System (HRIS) in mid to large sized organizations and the advantages they derive from the implementation of the same in the Human Resource Planning (HRP) sub functions. HRIS outline the integration between Human Resource Management (HRM) and Information Technology (Gerardine deSanctis, 1986). Primary data was collected by means of questionnaires from 50 senior and junior HR executives/managers in three organizations in Pune. It was found that the greatest uses of HRIS were its contribution to the efficiency and effectiveness of HR planning through HRIS skills' inventory, HRIS training needs analysis, HRIS succession planning and HRIS labour demand and supply analysis. Results showed that identification of unfilled job positions accurately is the most frequently accepted HRIS feature. Organisations can record good HR planning efficiency and effectiveness if HRIS aligns with information system strategy and HR strategy. Organisations need to integrate HRIS functions with other business functions. The study revealed that HRIS needs to offer more intelligent capabilities to increase the effectiveness of HR planning. (Asha Nagendra, Mohit Deshpande, 2014)

Information technology is expected to drive Human Resource (HR)'s transition from a focus on Human Resource Management (HRM) to Strategic Human Resource Management (SHRM). This strategic role not only adds a valuable dimension to the HR function, but also changes the competencies that define HR professional and practitioner success. The study aims at investigating what role if any do Human Resource Information Systems (HRIS) play in SHRM. It attempts to examine how HR professionals and managers in different organizations see the effects of HRIS on strategic HR tasks and job roles. It also tries to find out if there is any significant difference in the usage of HRIS between Small/Medium (SME) size and Large size companies. A survey questionnaire was sent to 170 companies and a response rate of 15.9% was received. The target group of the questionnaire was HR managers, HR directors, and HR professionals in companies based in Finland. The scope was widened to include both large and small/medium sized organizations across all the business sectors. The results of the survey reveal that HR professionals not only consider HRIS usage as a support for strategic HR tasks but also perceive it as an enabling technology. The study also indicates that large sized firms are most likely to experience considerable HRIS usage in support of strategic HR tasks. Moreover, there was no significant difference in proportion to the size of a company regarding HRIS usage in support of commitment management and managing trade union relations with organizations. Low response rate of this study makes generalization rather difficult however, future research would benefit from higher response rates for more generalized results. (Asafo-Adjei Agyenim Boateng, 2007)

Human resource information system (HRIS) is not new concept but it is recuperating day by day with changing environment. Its major role is in human resource planning (HRP) which itself a crucial activity in any organization. Ineffective HRP can lead to extra or fewer numbers of employees than needed. Both over and under number of employees can create crappy situations. HRIS helps in proper planning of human resources. This paper focuses on the role of HRIS in HRP. The research is empirical in nature as 127 respondents from top 7 IT companies (as per their market share) are taken to see the sights of the objectives. The survey is done with the assistance of the questionnaire. After investigation it is concluded that HRIS has various benefits but the foremost is HRIS stores ample data about the employees of the

organizations that helps in escalating the snail's pace of HRP. HRIS also helps in the strategic activities of HR managers and more in training and development, succession planning, applicant tracking in recruitment and selection and manpower planning. While analysing the overall contribution of HRIS in HRP it is concluded that HRIS identifies occupied and unoccupied positions in an organization very effectively and accurately. (Shikha N. Khera, Ms. Karishma Gulati, 2012)

Human Resource Information Systems are a one-stop-shop of employee information. Because they bundle in different functionalities of human resource departments — payroll and benefits administration, for example — they simplify overall people management skills. In 2016, Bersin by Deloitte examined the disruptions in HR technology they predicted for 2017. A few of the disruptions highlighted in the linked article included: pulse surveys and company culture assessment tools are becoming more and more important, tools now exist to automate performance management, and talent recruitment solutions need a massive overhaul to keep up with the brave new world of hiring processes. Common features of HRISs are Recruiting/applicant tracking system, Benefits administration and management, Employee and staff training, Self-service employee portal, Generates HR reports for employee reviews. (Jasmine Lee, 2018)

When 71% of CEOs believe that their employees are the most important factor in their company's economic success, it's easy to understand the importance of the human resource management planning process—the process by which organizations determine how to properly staff to meet business needs and customer demands. Despite the obvious need, many organizations do not have a strategic human resource planning process in place, with nearly a third of HR professionals saying their departments need to improve strategic alignment. If you've considered developing an HR planning process, you're in the right place. This article will explain what this process entails and how you can use Lucidchart to document your strategic plan. You'll be filling positions and growing as a company in no time. (Lucidchart Content Team, 2017)

### **3. RESEARCH OBJECTIVES**

The study has got two objectives. They are

- To study the role of HR Information System in Recruitment.
- To analyse the forecasting of Human Resource Planning.
- To analyse the role of HRIS in Human Resource Planning.

### **4. RESEARCH HYPOTHESES**

In order to achieve the objectives, the research study uses the following two working hypotheses:

H<sub>01</sub>: There is no significant difference of HRIS in Recruitment.

H<sub>02</sub>: There is no significant difference of HRIS in Human Resource Planning.

### **5. RESEARCH METHODOLOGY**

The study considered the HR executives who were working in various companies of different sizes and also who were working in various job capacities as the target population. The sample size was calculated based on the population size by using the sampling formula suggested by Cochran (1963) with 95% confidence level and ±5% precision, the sample size that was collected for the study is 185 and a sampling method of multi-stage sampling method was used to collect the data from the sampling frame.

The role of HRIS in Human Resource Planning were studied through factors such as the Role of HR Information System in Recruitment, Forecasting of HRP and Role of HRIS in HRP by using a five-point scale from 1 (strongly disagree) to 5 (strongly agree). The questionnaire designed for the evaluation of subjective perception of HRIS on Human Resource Planning. The Cronbach's alpha values were calculated to check the consistency and reliability of data collected through the survey.

## 6. DATA ANALYSIS

### 6.1. Demographic Data Analysis

The basic demographic factors such as Gender, Age of Respondents, Age of Organisation and Using Computer related to HR during office hours are represented in Table-1. It can be inferred that the 62% of the respondents belong to Male gender and 80% of them were in the age group of 40-50 years. 50% of the respondents' organisation is aged between 5 & 10 years and 49% of the respondents use the Computer related to HR activities during office hours. The descriptive statistics with the corresponding means and stand deviations of the demographic factors are given in Table-2.

**Table 1** Demographic Factors (n=185)

Demographic Factors	Frequency	Percentage
Gender		
Male	115	62
Female	70	38
<b>Age of Respondants</b>		
20 - 30	27	15
30 - 40	35	19
40 - 50	80	43
50 - 60	28	15
> 60	15	8
<b>Age of Organisation</b>		
< 5 years	52	28
5 - 10 years	92	50
10 - 15 years	26	14
> 15 years	15	8
<b>Using Computer related to HR during office hours</b>		
Once in a Week	22	12
Once in a Month	62	34
As and when required	90	49
Never	11	6

**Table 2** Descriptive Statistics

Background	n	Mean	Standard Deviation
Gender	185	1.03	0.174
Age of Respondents	185	2.16	1.011
Age of Organisation	185	2.38	1.376
Using Computer related to HR during office hours	185	3.14	1.109

The reliability and consistency of the constructs were tested by using Cronbach's alpha values and it is evident from Table-3 that the cronbach's alpha values are reasonably high and hence it can be inferred that the scales are consistent and reliable.

**Table 3** Cronbach's Alpha Values

Factors	Cronbach's Alpha
Role of HR Information System in Recruitment	0.86
Forecasting of HRP	0.89
Role of HRIS in HRP	0.91

## 6.2. ANOVA

One way ANOVA was conducted on the constructs such as the Role of HR Information System in Recruitment, Forecasting of HRP and Role of HRIS in HRP. The comprehensive results of one way ANOVA are presented in Table 4. It is evident that the p-values for all the factors with regard to the level of agreement to the statements based on the constructs are less than 0.05. This means that there are significant differences in the role of HRIS in Recruitment and Human Resource Planning.

**Table 4** One-way ANOVA for the role HRIS

Factors	F-Value	P-Value
<b>Role of HR Information System in Recruitment</b>		
HRIS help to reduce recruiting costs	6.23	0.012
HRIS evaluates the recruiting processes effectively.	6.54	0.001
HRIS performs comprehensive reporting and tracking of applicants efficiently.	6.60	0.005
HRIS analyses each job position and its job title in an organisation.	6.74	0.008
HRIS leverages employees' talent in the right place at the right time.	6.44	0.009
HRIS maintains relationship with individuals who register in a talent warehouse.	5.59	0.001
HRIS eliminates unsuitable applicants early and focuses on promising candidates.	5.92	0.005
HRIS create ideal job description and job specification	5.82	0.004
Organisation uses HRIS recruitment subsystem at an optimum level	5.90	0.007
HRIS help to reduce recruiting costs	6.45	0.011
<b>Forecasting of HRP</b>		
HRIS forecasts supply of human resources.	6.22	0.003
HRIS constantly analyses and matches the demand for human resources.	6.59	0.005
HRIS manages internal information within the organisation.	6.78	0.006
HRIS manages external information outside the organisation.	4.62	0.008
HRIS estimates future human resources requirement of the organisation.	5.72	0.012
HRIS identifies a logical progression path and the steps required for advancements.	4.75	0.004
Future supply and demand of labour can be forecast using What-If analysis function of HRIS.	5.75	0.005
Role of HRIS aligns with the organisations HR Strategy.	6.82	0.001
HRIS ensures organisation has right kind and numbers of employees at right place at right time.	6.72	0.008
HRIS have improved the Accuracy of planning.	6.71	0.004
<b>Role of HRIS in HRP</b>		
HRIS create environment of open communication between employees and management?	5.59	0.001
HRIS perceive the effectiveness and integrity of current communication culture	5.58	0.006
Employee submit feedback and suggested improvements to the HRIS	6.21	0.008
Automated leave management system help in smooth function of leave management	6.54	0.005
HRIS salary management system help in smooth function of payroll management	6.57	0.014
Salary slips can be generated from the HRIS of individual employee.	6.59	0.018
Experience letter and personal data can be generated from HRIS	6.33	0.013
HRIS create self-service in the organization.	5.52	0.012
HRIS make employee aware of the new joined, Retirement, birthday that create friendly environment	5.59	0.004
System being self-service there has been very few interaction between HR and the Employee	6.50	0.009

## 7. CONCLUSION

Most organisations have e-recruiting facility but they do not use it fully since they have more faith in traditional methods of recruiting. HRIS e-recruiting facility is used by only a minority of senior HR executives to recruit employees. Lack of top management support, funds, HR knowledge of system designers and HR solutions, are the main factors keeping organisations away from HRIS. Of all the HRIS subsystems used for recruitment and planning and training and development, the maximum and most useful contributions made by an HRIS system was when an HRIS is used to supplement the already existing functions in a positive manner. The results also show that identification of unfilled job positions accurately is the most frequently accepted HRIS feature. There is a high positive relation between HRIS job analysis and the effectiveness of HR planning. Most organisations observed the HRIS contribution to efficiency of HR planning through HRIS skill inventory. This study highlighted the role of HRIS in Human Resource Planning. The study revealed that the relationship between increased usage of HRIS results in an increase in both effectiveness and efficiency of the organization. Therefore, the overall contribution of HRIS to the recruitment and planning functions, as well as to training is beyond doubt. Research findings clearly show that senior HR executives are well aware that they can increase the efficiency of HR planning through HRIS, saving time and cost. Organisations should identify the strategic value and competitive advantage that they can gain through HRIS in HR planning.

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