

# A PERCEPTUAL STUDY OF HUMAN RESOURCE INFORMATION SYSTEM IN INDIAN ORGANISATIONS

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**Abstract** *Human Resources is considered as most valuable asset for any organisation. In this age of information and technology, it has become imperative to manage data related to human resource. In this background, Human Resource Management System has come to limelight. The present paper provides perceptual understanding of Human Resource Information System in Indian organisations. Paper successfully highlights poor awareness and availability of HRIS in Indian scenario. Further, hypotheses and cross tabulation of data provides in-depth understanding of variations based on gender, sector and nature of organisations. And lastly, scopes for future researches have also been discussed.*

**Keywords:** *Human Resource Information System, Gender, Serving sector*

## INTRODUCTION

Twenty-first century is known to be a century of information and technology. The same trend could also be observed in the field of study of human resources also. All major functions of HRM inscribe use of technology. Usage of IT has increased the effectiveness and efficiency of all tenets like planning, human resource accounting, training and development etc. of human resource management (HRM). Similarly with the passage of time, human resource information system (HRIS) has become an inseparable part of modern organisations (Kapoor, 2012). It has become one of the most vital components of modern MIS system. The purpose of HRIS is to provide information to all stakeholders of an organisation that includes management, government, clients, customers etc. The utility of human resource database may vary from one organisation to another. But most common purpose of HRIS is to develop a relational database that stores and categorizes the personal and professional information of every employee in separate data files. One can accrue any desired information by simply inputting employees' ID number. It thus helps in better planning and controlling of various HR functions of an organisation. HR Information System does not provide enough information to streamline support activities such as identifying potential employees, maintaining complete records on existing employees but the system also helps in creating programs to develop employees' talent and skills. HR systems help senior management to identify the manpower requirements in order to meet the organisation's long term business plans and strategic goals. The present paper presents an extensive

picture of status of Human Resource Information System in Indian organisations. To cover all aspects associated with information system previous studies have been studied in great detail.

## LITERATURE REVIEW

In modern firms human resource managers are responsible for collection and organisation of information of personnel activities like recruitment, selection, performance appraisal, promotion etc. (Hendrickson, 2003). Apart from knowledge and expertise of human resource functions an HR manager is required to deal with a huge collection of data related with personnel and related activities. This task is being done manually with the help of sub-ordinate staff, but accruing appropriate information from a heap of data always remained a challenge. In this scenario technology has come out as a permanent remedy. Human resource information system has become a buzz-word around the globe with more and more companies opting for technological solution for its data management. Growing number of companies have started to use HRIS to actively support both their HR management and their business management (Lepak et al., 2007). Egan (2005) concluded that Human Resource Information Systems (HRIS) have become a major MIS sub-function within the personnel areas of corporations.

An HRIS performs various tasks like acquiring, storing, manipulating, analyzing, retrieving, and distributing most appropriate information regarding an organisation's human resources to various stakeholders of the company (Tannenbaum, 1990). Further elaborating various functions

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included in HRIS, Ngai and Wat (2006) explain that nowadays HRIS includes corporate communication, recruitment, selection, training, employee attitude survey, compensation, payroll services and employee reference etc. Kovach *et al.* (2002) conclude that HRIS is the only way to achieve both administrative and strategic potential advantages associated with a new activity inducted in an organisation. As HRIS provides real time and appropriate information about aspirations and needs of the personnel of an organisation. And consequently personal aspirations could easily be synchronized with organisational needs.

Countless number of previous researches are available that tends to highlight benefits associated with human resource information system. Haines and Petit (1997) categorised these benefits into four major heads. These are Human Resource Planning, Benefit Administration, Performance Appraisal, and Staff Development and Regulatory Compliance. HRIS provides enough information about individuals' qualification, skills, experience, career aspirations etc. and hence helps in assuring right people at right place in right number at right time. Further HRIS helps an HR manager to take care of promotion, increment, incentive pay, merit based compensation. Information system helps to align present pay scale with that of employees' aspiration and to align in line with competitive industries. Moreover human resource information system helps to set up performance standard differently for different level of employees. Then information data base register current level of performance of the employee. And consequently current level of performance could be compared with standard performance and hence facilitates performance appraisal. Further employees' training and development needs are also highlighted in HRIS. Any deviation in statutory conditions like pay scale also comes to the notice of management through HRIS. Thus HRIS could help to accrue maximum benefit out of HR functions.

Further Haines and Petit (1997) highlighted various conditions that would facilitate effective implementation of HRIS. They explained eleven conditions that a company needs to adopt. These are involvement of employees, training of HR personnel in HRIS functions, support of management, documentation, application development, dependence, on-line facility, access to information from all department, applications, and ease of use of software and hardware facilities. In this background HRIS seems to have acquired an important position in overall HR functions of an organisations. Thus the present paper seeks to explore perception of employees regarding this revolutionary practice that synchronizes both HR function and technology. In this pursuit following objectives and methodology has been defined as follows.

## OBJECTIVES AND METHODOLOGY

The prime objective of the present research has been to study employees' perception for human resource information system. The incidental objectives of the present research were as under:

- To examine the awareness level of employees' for HRIS.
- To explore employees' perception regarding availability and effectiveness of human resource information system specifically in Indian organisations.
- To study the gender, organisational and sectoral variations in employees' perception for HRIS.

The present study is based upon exploratory-cum-descriptive research design and has used primary data. For data collection, a structured questionnaire has been drafted which seeks employees' response regarding their awareness, availability and effectiveness of HRIS. Stratified random sampling has been used to collect data from Indian industries. The industries mainly included banking, insurance, textile, BPO, sugar, shoe, consultancy, cold drink, rice etc. Sample size is 350. The sample consists of 192 male and 158 female employees. One-third of employees (32%) were below 30 years and nearly half (49%) were in the age group of 31-50 years. And rests of the employees were above 50 years. Further approximately equal proportions of employees were taken from public (48%) and private sector (52%). A higher percentage of service sector employees (62%) were approached. The questionnaire used has been designed on a five-point scale ranging from 'Unaware' (1) to 'Strongly Aware' (5), 'Ineffective' (1) to 'Highly Effective' (5) and 'Unavailable' (1) to 'Highly Available' (5). Employees were taken from top and middle level as they are more likely to encounter HRIS. For analysis purpose, it has been strictly supervised that an array of manufacturing, service, private, public companies are approached. Further while administering questionnaire to employees, it has been ensured that data comes from all category like male, female, highly experienced to less experienced one, aged personnel to fresh recruits etc. Reliability of data is checked using Cronbach's alpha. The reliability values are 0.832 for awareness scale, 0.819 for availability scale and 0.865 for effectiveness scale. The reliability values of all three scales are high for researches in social sciences (Kalayc, 2005). Data have been cross-tabulated to give deep-insight into various aspects of variable dynamics. Factorial design has been used to discuss the interaction effect of more than two variables and the significance of these interactions has been adjudged with the help of ANOVA.

**Table1: Description of Awareness, Availability and Effectiveness Level of HRIS**

MEAN				
Variable	Category	Awareness Level	Availability Level	Effectiveness Level
Gender	Male	2.58	2.03	3.04
	Female	2.30	1.77	3.04
Sector	Public	2.02	1.44	2.54
	Private	2.86	2.36	3.54
Organisation	Mfg	2.33	1.84	2.96
	Service	2.55	1.96	3.12
Overall		2.44	1.90	3.04

## RESULTS AND DISCUSSION

### Awareness, Availability and Effectiveness of HRIS

Many research studies have proved that awareness of any practice or phenomenon is of utmost importance as this leads to its proper implementation and facilitation of the practice (Hussein, 2011). When the employees are aware of these practices they will resort to innovative work practices which will ultimately affect the individual and organisational performance in an affirmative way. Apart from awareness perception also plays an important role in effective implementation of a practice. Differently perceived practices may lead to contrasting results and the same fact is also true in the case of human resource information system too. Further employee's perception regarding effectiveness of a practice defines its utility and value for an organisation, as in case if any practice is not regarded as effective by employees then the employees will not participate whole heartedly and hence the very essence of practice gets defeated. Positive perception for a practice not only implies effective implementation of practice but it also ensures effective participation of employees too and this participation leads to innovation and cost effectiveness. In this light various aspects of HRIS have been taken into the study and have been discussed in Table 1.

Table1 gives an elaborated description of employees' perception for human resource information system. Here overall means of awareness, availability and effectiveness is rated on five-point scale (0-1 for unaware, Ineffective and Unavailable, 1-2 for Partially, 2-3 for Fairly, 3-4 for Aware, Available and effective, 4-5 for Highly category). Overall awareness level of the employees comes out to be 2.44 and hence falls in 'Fairly Aware' category of five-point rating scale. Employees' perception regarding availability of HRIS comes out to be a matter of concern with a mean value of 1.90 and lies in 'Partial Available' category. Further perception of employees regarding effectiveness has maximum mean value of 3.04 and it states that employee perceive human

resource information system as 'Effective' in enhancing performance of the employees. The above discussion highlights a lacuna in Indian organisations as employees' awareness and perception regarding availability is quite low and on contrary perception regarding effectiveness is quite good. In simple words HRIS is considered as effective by employees but the system is not widely available or utilized in Indian firms. It reflects an acute need to institutionalize HRIS is highlighted here.

Further male employees have higher mean for awareness and availability level than female employees but mean is same for perception regarding effectiveness (mean=3.04). Further it is interesting to find out that employees of private sector rated higher in all three parameters than employees of public sector employees. Thus tabulated value signifies the relatively poor status of HRIS in public sector organisations. PSUs are required to upgrade their employee data management system. Table 1 highlights another interesting point i.e. means of three perceptual level i.e. awareness, availability and effectiveness is higher for service organisations than that of manufacturing organisations.

In nutshell the table signifies that status of HRIS is not so encouraging in Indian organisations. In this background whole hearted implementation of HRIS could help Indian firms to accrue maximum benefit out of their respective human resource. Further significance of the perceptual differences is discussed through hypothesis testing.

## HYPOTHESIS TESTING

### Significance of Gender Differences

Modern age witnessed an exponential growth of women participation at work place. This phenomenal increase in workforce gender diversity has fascinated both researchers and practitioners. A large number of studies (Gilbert *et al.*, 2010; Hambrick, 1996; Humbert and Drew, 2010) were subjected to discuss the implications of gender diversity on organisation's performance. Thus it becomes imperative to explore gender based variations for HRIS also. Data

depicted in Table1 also highlight the perceptual differences among genders. Thus below three hypotheses are framed to elicit significance of such differences.

#### Hypothesis 1

**Ho (Null hypothesis):** There is no variation in the awareness of male and female employees for HRIS.

**H1 (Alternate Hypothesis):** Awareness of male and female employees differs significantly. Here two-tailed test would be used.

#### Hypothesis 2

**Ho (Null hypothesis):** There is no variation in the perception regarding availability among male and female employees.

**H1 (Alternate Hypothesis):** Perception regarding availability of HRIS varies significantly for male and female employees.

#### Hypothesis 3

**Ho (Null hypothesis):** Both male and female employees perceive human resource information system equally effective in enhancing performance.

**H1 (Alternate Hypothesis):** There exists significant difference in perception of genders for effectiveness of HRIS.

Table2 states that all three null hypotheses are accepted and hence difference in perception of male and females comes out to be insignificant for all three parameters taken in the study. Thus perceptual difference among gender is discarded herewith. It means that no separate treatment is required for male and female employees for institutionalising such practices in the organisations.

## Significance of Sectoral Differences

There are visible differences in the performance of the public and private sector organisations. Private sector organisations are generally attributed with manifold turnover and profits over a period of time. However, after 1991 tenants of professionalism, management, innovation and customer orientation gets imbibed into working culture of public sector organisations. It has diminished an ominous gap between two sectors but still researchers highlight significant differences. Further information derived from Table1 also directs to check perceptual variations among two sectors, thus following three hypotheses are derived.

#### Hypothesis 4

**Ho (Null hypothesis):** There is no variation in the awareness of employees of public and private sector for HRIS.

**H1 (Alternate Hypothesis):** Awareness of public and private sector employees differs significantly. Here also two-tailed test would be used.

#### Hypothesis 5

**Ho (Null hypothesis):** There is no variation in the perception regarding availability among public and private sector employees.

**H1 (Alternate Hypothesis):** Perception for availability of human resource information system varies significantly among employees of public and private sector.

#### Hypothesis 6

**Ho (Null hypothesis):** Employees of both sectors perceive HRIS equally effective in enhancing performance of the organisations.

**Table2: Hypothesis Testing (Gender-Male and Female)**

Hypothesis	Z Value	Critical Value*	Result
Hypothesis-1	1.52	1.96	Accepted
Hypothesis-2	1.87	1.96	Accepted
Hypothesis-3	0.98	1.96	Accepted

**Table3: Hypothesis Testing (Sector- Public and Private)**

Hypothesis	Z Value	Critical Value*	Result
Hypothesis-4	4.23	1.96	Rejected
Hypothesis-5	3.20	1.96	Rejected
Hypothesis-5	8.99	1.96	Rejected



**H1 (Alternate Hypothesis):** There exists significant difference in perception of employees of two sectors regarding effectiveness of human information system.

Table 3 depicts that all three null hypotheses are rejected and hence all three alternate hypotheses are accepted. It signifies that employees' perception regarding awareness, availability and effectiveness of HRIS differs significantly for two sectors. Lower mean value for public sector employees highlights potential of adoption of such practices in public sector. It highlights that public sector is way behind private sector in terms of publicizing and implementation of HRIS.

### Significance of Differences based on Organisations

Previous researches have also highlighted the differences in procedures, attitudes, perceptions among employees of manufacturing and service organisations. The following hypotheses explore the perceptual variations among two types of organisations and thus discuss any differences in treatment of employees' perception for HRIS.

Hypothesis 7

**Ho (Null hypothesis):** There is no variation in the awareness of employees of manufacturing and service organisations for HRIS.

**H1 (Alternate Hypothesis):** Awareness of employees manufacturing and service organisation differs significantly.

Hypothesis 8

**Ho (Null hypothesis):** There is no variation in the perception regarding availability among employees of manufacturing and service organisation.

**H1 (Alternate Hypothesis):** Perception for availability of HRIS varies significantly among employees of manufacturing and service organisation.

Hypothesis 9

**Ho (Null hypothesis):** Employees of both types of organisations perceive information system equally effective in enhancing performance.

**H1 (Alternate Hypothesis):** There exists significant difference in perception of employees of two types of organisations regarding effectiveness of human resource management system.

**Table 4: Hypothesis Testing (Organisations- Manufacturing and Service)**

Hypothesis	Z Value	Critical Value*	Result
Hypothesis-1	5.11	1.96	Rejected
Hypothesis-2	1.99	1.96	Rejected
Hypothesis-3	1.67	1.96	Accepted

**Table 5: Cross Tabulation (Awareness Level)**

Variable	Gender		Sector		Organisation	
	Male	Female	Public	Private	Manufacturing	Service
Male	2.58	----	2.16	3.00	2.42	2.74
Female	----	2.30	1.88	2.72	2.24	2.36
Public	2.16	1.88	2.02	----	1.95	2.07
Private	3.00	2.72	----	2.86	2.38	3.03
Manufacturing	2.42	2.24	1.95	2.38	2.33	----
Service	2.74	2.36	2.07	3.03	----	2.55

**Table 6: Significance in Factorial Design (Awareness Level)**

S. No	Independent Variable 1	Independent Variable 2	Sig. Value
1	Gender-Male and Female	Sector-Public and Private	0.014
2	Gender-Male and Female	Organisations-Manufacturing and Service	0.442
3	Sector-Public and Private	Organisations -Manufacturing and Service	0.040

Here first two null hypotheses are rejected and third one is accepted. It implies that awareness and perception regarding availability of human resource information system differ significantly among employees of manufacturing and service organisations. Again mean value is higher for service organisations, it highlights growing need of equipping manufacturing organisations with such practices. An elaborated description of perceptual outlook for demographic variables has been done through cross tabulation of data.

### Cross-Tabulated Description of Employees' Perception

Above mentioned hypotheses discussed variation in awareness level across gender, sector and organisations. Now data have been cross-tabulated to give deep insight into interaction effect of these three parameters of the study. Further significance of interaction effect is also discussed with the help of ANOVA. In this sequence employees' awareness data has been cross tabulated herewith.

Table 5 provides an extensive picture of awareness for human resource management system among all three parameters of the study. Male employees of private sector (mean=3.00) are more aware than male employees of public sector (mean=2.16) and on the same front female employees of private sector (mean=2.72) are more aware than female employees of public sector (mean=1.88). Interestingly same is true in the case of manufacturing and service organisations with male employees clearly having higher awareness level. Further awareness level comes out to be maximum for employees of private service organisations. The significance of perceptual differences is discussed herewith.

Table 6 states that two factorial designs i.e. Gender-Sector and Sector-Organisations have significant value less than .05 which implies that interaction effect of gender and sector and that of sector and organisations is significant. It means gender and sector in combination will produce perceptual differences and similarly employees' awareness will vary due to interaction effect of sector and organisation. Interaction effect in rest of the factorial design is i.e. between gender and organisation is found to be insignificant, which means

**Table 7: Cross Tabulation (Availability Level)**

Variable	Gender		Sector		Organisation	
	Male	Female	Public	Private	Manufacturing	Service
Male	2.03	----	1.60	2.46	1.87	2.19
Female	----	1.77	1.28	2.26	1.81	1.79
Public	1.60	1.28	1.44	----	1.32	1.56
Private	2.46	2.26	----	2.36	2.32	2.40
Manufacturing	1.87	1.81	1.32	2.32	1.84	----
Service	2.19	1.79	1.56	2.40	----	1.96

**Table 8: Significance in Factorial Design (Availability Level)**

S. No	Independent Variable 1	Independent Variable 2	Sig. Value
1	Gender-Male and Female	Sector-Public and Private	0.039
2	Gender-Male and Female	Organisations-Manufacturing and Service	0.001
3	Sector-Public and Private	Organisations -Manufacturing and Service	0.028

**Table 9: Cross Tabulation (Effectiveness Level)**

Variable	Gender		Sector		Organisation	
	Male	Female	Public	Private	Manufacturing	Service
Male	3.04	----	4.05	3.81	3.88	3.98
Female	----	3.04	3.97	3.69	3.72	3.94
Public	3.17	2.17	2.54	----	3.99	3.93
Private	2.91	3.69	----	3.54	3.65	3.95
Manufacturing	3.88	3.72	3.99	3.65	2.96	----
Service	3.98	3.94	3.93	3.95	----	3.12

**Table10: Significance in Factorial Design (Effectiveness Level)**

S. No	Independent Variable 1	Independent Variable 2	Sig. Value
1	Gender-Male and Female	Sector-Public and Private	0.040
2	Gender-Male and Female	Organisations-Manufacturing and Service	0.115
3	Sector-Public and Private	Organisations -Manufacturing and Service	0.056

perception of male or female employees does not vary in two different types of organisations.

Table 7 gives elaborated description of employees' perception regarding availability of human resource information system. Here male employees of private sector (mean=2.46) perceive HRIS as more available than male employees of public sector (mean=1.60). Further data of Table 7 correspond to data of Table 5 with private sector rating being higher than public sector organisation for both genders. Again private service organisation shows maximum availability of information management systems. Significance of these perceptual differences is discussed herewith.

Table 8 depicts that all three factorial designs are significant which means interaction effect between all three parameters of the study are significant and have a bearing on employees' perception. In simple words male employees across different sector or across different organisations would have different perception regarding availability of HRIS. Same is also true for employees of fairer sex.

Employees' perception regarding effectiveness of human resource information system does not vary greatly among two genders in manufacturing and service organisations. But employees' perception seems to be on opposite poles for male and female employees of public and private sector. Male employees of public sector have a mean value of 3.17 while corresponding value for female employees comes out to be 2.17. Significance of perceptual differences is discussed through Table 10.

As shown in Table 10, only one factorial design is found to be significant. Interaction effect between gender and sector is significant. Thus male of two different sectors is supposed to have different set of perception regarding effectiveness of HRIS. While the interaction effect between remaining two designs are found to be insignificant.

## CONCLUSION

Perception is unique and personal to every individual. It is very difficult to find two different individuals who have absolutely similar opinion on a specific subject matter. The present paper explores status and variations in the perception of the employees for human resource information system.

HRIS has acquired a distinction among high performance practices with its unique virtue of quantification of human resources. The paper highlights that poor status of HRIS in Indian organisations, with poor awareness and availability level. However there appears to be many takers of HRIS as perception regarding effectiveness is quite encouraging. Greater concern is for manufacturing and public sector organisations. Further cross-tabulation of data provides deep insight into perceptual differences among gender, sector and organisations. The paper can act as a mirror for so called modern Indian organisations as they lack in adapting newer means of human capital data management. Future researchers can explore the various reasons for acute shortage of HRIS in Indian organisations. Moreover perceptual difference across two sectors could also be a matter of investigation. A correlation analysis between awareness level and perception regarding availability and effectiveness could also be explored with a greater zeal. However the present paper has discussed HRIS as a whole but the system consists of a number of constructs. The awareness, availability and effectiveness of these constructs could have given a wider and comprehensive picture of HRIS. Further present paper discusses variation based on gender only while other demographical variables like age, experience, qualifications have not been considered herewith.

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