

## **Evaluation of Level of E- HRM in Indian Organizations**

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### **Abstract**

The role of HR function in few organizations are only limited to elementary HR interventions, day to day activities, time and labor management, salary and personal data administration, often named as operational (transactional) HRM. Organizations with sound and healthy HR function, having most of prevalent and relevant HR practices such as recruitment, training and development, performance appraisal, reward fully functional and duly focused HR department termed it as relational (traditional) HRM. Some of organizations have faith in employer brand, change management, knowledge management, enabling strategic capability to HR function named as transformational HRM. Three level of HR function has been identified but extent to its digitization varies from organization to organization. In an organization HR function may be at highest level i.e. transformational level but application of electronic tools may be limited to operational or relational level. This main aim of this paper is to identify the level to which electronic human resource management (e-HRM) is prevalent in Indian organizations, difference in level of e-HRM in context to private vis-a-vis public and manufacturing vis-a-vis services. Response has been sought after from employees of eight organizations using structured questionnaire as instrument. Factor analysis, one sample t- test and paired sample t- test has been used as statistical tool for data analysis and inferences. From factor analysis three factors have been extracted. Result depicts that e-HRM at operational level for all the attributes and there is significant difference in level of e-HRM for few attributes when compared private vis-a-vis public and manufacturing vis-a-vis services.

Keywords: Digitization, Factor Analysis Operational, Relational, Transformational,

### **Introduction**

The gradual penetration of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. ICT has led to rapid development of e-business and still emerging as a big force, therefore HR and HR professionals are faced with the challenge of performing in ways that are in line with the business. According to Wright and Dyer (2000), HR function becomes a critical partners in driving success, but to do so it require that HR changes its focus, its role, and its delivery systems. HRM has to act both proactively and reactively in response to the changing business environment and this is prevalent in the way that human resource management practices both within and outside the organisation is being conducted. New dynamic, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issue. In order to understand how e-HRM affects the work of human resource professionals and line managers, it is necessary to look at the various ways in which human resource management is conducted within organisations. Three main forms of e-HRM,

operational, relational, and transformational are very closely related to the way in which HRM practices develop within organisations. For the operational type of e-HRM, HRM activities that were offered face-to-face now are being offered through web-based technology. For relational e-HRM, most of HRM functions will have a support of internet technology rather using pen and paper. Transformational e-HRM creates a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. Different levels of e-HRM differ from organisation to organisation. Some of the organisations would use technology for initial level i.e. operation and others using technology to the advanced level named as transformational e-HRM and a part of the organisation in between at the relational level.

### **Literature Review**

Lepak and Snell (1998) make distinction in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a similar distinction in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Martin, Reddington and Alexander (2008) asserted that e-HRM can be classified according to three dimensions namely operational HRM, relational HRM and transformational HRM. Same was vindicated by Bondarouk and Ruël (2007) as well as Strohmeier (2007) and identified different types of e-HRM and refers to them as consequences. These consequences included operational, relational and transformational.

Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM develops through three main waves within an organisation. The most simplistic form of e-HRM is all about publishing information. The next higher level of e-HRM involves the automation of transactions, and the most complex level of e-HRM concerns the transformation of how human resource practices are conducted in the organisation

According to Bieasalski (2003) e- HRM offers the opportunity to automate administrative HR-work and to optimize value creating HR- activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR. The first level “web presence” means that parts of the e-HRM-solution are present. Web-enabled means that all parts of the e-HRM solution are present and can be accessed online. The third level describes more proactive e-HRM-solution that is fully implemented, can be accessed online and is used intensively by the employees.

As per Scott (2008), if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-enabled. In most of the non-transactional HR activities, a continuum of e-possibilities exists. The conservative point on the continuum would suggest that no electronic mechanisms should be used to replace “people” activities, while the radical view on the continuum would suggest that technology could replace all direct human interaction with the HR customer.

**TABLE-1 Levels of E-HRM**

| Researcher                     | year | Level 1          | Level 2     | Level 3          |
|--------------------------------|------|------------------|-------------|------------------|
| Lepak & Snell                  | 1998 | Operational      | Relational  | Transformational |
| Wright & Dyer                  | 2000 | Transactional    | Traditional | Transformational |
| Lengnick-Hall & Moritz         | 2003 | Publishing       | Automation  | Transformation   |
| Bieasalski                     | 2003 | Web-<br>presence | Web-enabled | Web-energized    |
| Bondarouk & Ruël               | 2006 | Operational      | Relational  | Transformational |
| Strohmeier                     | 2007 | Operational      | Relational  | Transformational |
| Martin, Reddington & Alexander | 2008 | Operational      | Relational  | Transformational |

From table -1 it is obvious that there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell (1998).

**Transactional/Operational / Publishing /Web-presence HRM-** As per Lepak and Snell (1998), operational human resource management is concerned with streamlining operations. It involves basic administrative HR activities such as capturing of personnel data payroll publishing of information, earlier face-to-face now offered through web-based technology. According to Bondarouk and Ruël, (2007) for operational HRM, the organisations needs to choose whether or not employees will keep their own personal information up to date through an HR website, or whether this will be done manually by administrators. As per Shane (2009) the one-way communication from the organisation to its staff is characteristic of the first form of e-HRM, which involves simply publishing information. Intranets are the primary information delivery medium for this and include generic content such as the organisation’s policies and procedures. This is often expanded to include more personalised information such as vacancies. This type of e-HRM is in itself extremely beneficial to organisations as it allows for more cost-effective dissemination of information by cutting down on printing costs. Changes to information can be updated as and when required so that users can access up-to-date, relevant information when needed.

**Traditional/Relational/ Automation/ Web-enabled HRM-** The relational HRM, deals with more advanced HRM activities is viewed as the second, more complex form of e-HRM. The emphasis here is not on administering, but on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards. According to Bondarouk & Ruël, (2007) with relational HRM, there is a choice of whether to conduct more complex HR practices, like recruitment and selection using e-HRM, or to use a more traditional paper-based approach such as newspaper advertisements and paper-based application form. According to Strohmeier, (2007) relational HRM concerns the interaction and networking of the various HRM stakeholders.

As per Lengnick-Hall & Moritz, (2003) relational e-HRM also involves the automation of transactions (internet in place of pen and paper) through the use of intranets and extranets, HR portals, employee self-service and manager self-service, and operates with several application programmes. These technologies facilitate relationships between users of the systems. As per Bondarouk & Ruël, (2007), the emphasis of relational HRM is not on the administration of HR processes, but rather on the manner in which HR tools support basic business processes such as performance management and recruitment and selection.

**Transformational /Web-energized HRM-** Transformational HRM is the highest-level and the most complex form of HRM. According to Lengnick-Hall & Moritz, (2003), HRM shifts from a transactional to a transformational focus, whereby the human resource functions are relieved of the operational tasks and redirected towards more strategic initiatives. These types of work include: strategic partnering with the business, creating centres of expertise and administration of service centres. According to Bondarouk & Ruël (2007) when using e-HRM for strategic, transformational purposes, “it is possible to create a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company’s strategic choices”.

**FIGURE- 1 Traditional Delivery of HR Services**

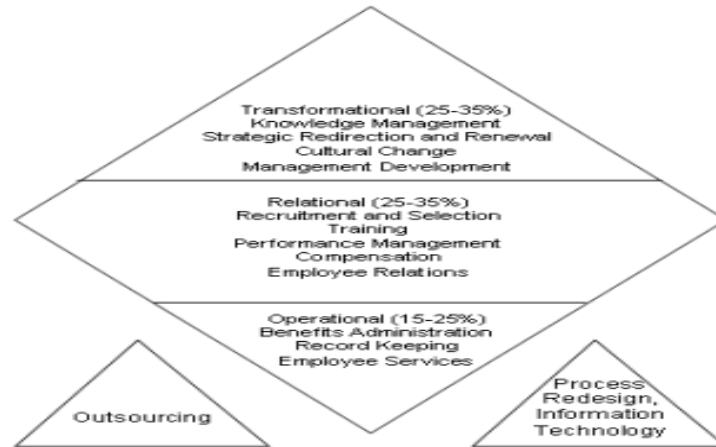


Source-Wright, P., and Dyer, L., (2000), “People in e-business: new challenges, new solutions”, *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. 00-11.

The figure 1 and figure 2 shows transition of HRM function in service delivery from traditional to strategic and time devoted in each level of HRM. From the figures it is quite clear as HRM function moves to strategic delivery approach, it devotes less time in operational or primitive level of HR function and maximum time on transformational or highest level. With strategic delivery approach organizations some time reengineer their HR function, opt for outsourcing, ride on electronic platform and in most cases applies all the three options simultaneously.

According to Wright & Dyer (2000). More recently, HR function has had to play a more strategic role in the organization. The only way to achieve this is to relieve much of the burden of transactional human resource activities in order to free up time so that HR can concentrate on traditional transformational HR activities. This is done either by outsourcing some of the human resource function, but what would be more relevant to this study, is to utilize information technology in the form of e-HRM (see Figure -2).

**FIGURE 2 Strategic Delivery of HR**



Source-Wright, P., and Dyer, L., (2000), “People in e-business: new challenges, new solutions”, *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. 00-11.

As per Wright & Dyer (2000), development and implementation of human resource-specific information technology systems is the first step in achieving this. In addition to this, new systems have been developed that allow management and employees to manage much of their own human resource activities, such as leave application and approval, personal data changes etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater focus on high-value strategic initiatives.

According to Ruël et al. (2004), an important factor to keep in mind, is that in actuality, a combination of these types of e-HRM are utilised. E-HRM development is not a step-by step process in reality. Different levels of e-HRM implementation are not a mutually exclusive activity but some time at the same time all the three levels are being implemented simultaneously. However, the authors comment that establishing a good transactional foundation is an important basis for relational e-HRM, and effective relational e-HRM should be in place for successful transformational e-HRM to be successful. According to Lengnick-Hall & Moritz ( 2003), while some organisations might take a developmental approach, building up from operational, to relational to transformational e-HRM in a step-by-step manner, other organisations will make more aggressive changes, moving straight from operational e-HRM to transformational, strategic e-HRM. It seems that the first step in successful e-HRM is ensuring that decision-makers buy into the fact that the benefits outweigh the costs. As per Shane (2009), three types of e-HRM are often used simultaneously.

Organizations will have elements from each of the types of e-HRM, but in an ideal world, each stage should be developed incrementally, that is, a strong operational foundation will enable better relational e-HRM, which in turn will be beneficial for meaningful transformational e-HRM

### **Research Objective**

Survey of literature raises some questions and remained unanswered, reveals there is no study or very little empirical study has been done to the related research questions, Present study is part of inquisitiveness of the questions which has been converted into research objectives.

- To evaluate the present level of e-HRM in Indian organizations?
- To examine difference of level of e-HRM between public and private organizations?
- To examine difference of level of e-HRM between manufacturing and service sector?

### **Research Hypothesis**

A) H0- It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value.

B) H0- It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero.

C) H0- It is hypothesized that difference in mean value of level of e-HRM between manufacturing and services organization is zero.

### **Research Methodology**

**Sample Unit and Sample Size** - The study consists of public and private organizations both from manufacturing sector and services sector in equal numbers. The researcher has selected eight organizations, National Thermal Power Corporation, Coal India Ltd, Life Insurance Corporation, State Bank of India, Moser Baer India Ltd, Tata Motors, HCL , ICICI Bank Ltd as sample organizations as these organizations have sound HR practices. Target respondents are supervisors and managers of these organizations. The sample size of the research consists of 307 employees.

**Data Collection**- Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is listed as.

1. To what extent e-HRM supports HR activities in administration area i.e. salary, personal data administration?
- 2 To what extent information technology supports time and labor management function in your organization?
- 3 To what extent HR services earlier offered face-to-face now offered through information technology?
- 4 To what extent e-HRM supports publishing of HR information?
- 5 To what extent HR function has web presence?
- 6 To what extent e-HRM performs operational HR function in your organization?



- 7 To what extent information technology supports human resource planning (HRP) function in your organization?
- 8 To what extent information technology supports job design and analysis function in your organization?
- 9 To what extent information technology supports recruitment function in your organization?
- 10 To what extent information technology supports selection function in your organization?
- 11 To what extent information technology supports training and development function in your organization?
- 12 To what extent information technology supports performance appraisal function in your organization?
- 13 To what extent information technology supports reward and compensation function in your organization?
- 14 To what extent HR services earlier offered by pen and paper now offered through information technology?
- 15 To what extent e-HRM supports automation of HR transactions in your organization?
- 16 To what extent e-HRM performs relational HR function?
- 17 To what extent HR services offered through integrated set of web based tools (SAP, ERP) in your organization?
- 18 To what extent e-HRM supports mutation of HR transactions?
- 19 To what extent HR functions are delivered electronically in your organization?
- 20 To what extent e-HRM plays a role in strategic HR task in your organization?
- 21 To what extent e-HRM performs transformational HR function?

The questionnaires were sent to the employees in soft copy and in some cases questionnaire in hard copy was also provided. Convenient sampling technique was adopted in order to choose the ultimate unit (respondents). Out of 148 questionnaires sent in softcopy, 26 respondents filled the questionnaire i.e. response rate of 17.56%. Rest 74 responses could be collected by seeking response from 159 respondents in hard copy format (total 100 responses). First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

### **Data Analysis and Interpretation**

The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) computer program for Windows, version 16.0. Factor analysis has been used as tool to categorize the questionnaire in different groups. One sample t-test had been used to test the hypothesis of A. Paired sample t-test has been used to test hypothesis B and C

**TABLE-2 Factor Analysis of E-HRM Attributes**

| <b>Attributes</b>      | <b>Operational</b> | <b>Relational</b> | <b>Transformational</b> |
|------------------------|--------------------|-------------------|-------------------------|
| Admin                  | .805               |                   |                         |
| Time and labour        | .768               |                   |                         |
| Face-to-face           | .722               |                   |                         |
| Publishing             | .636               |                   |                         |
| Web presence           | .596               |                   |                         |
| Operational            | .501               |                   |                         |
| HRP                    |                    | .773              |                         |
| Job design             |                    | .751              |                         |
| Recruitment            |                    | .727              |                         |
| Selection              |                    | .686              |                         |
| Training               |                    | .616              |                         |
| Per. appraisal         |                    | .600              |                         |
| Compensation           |                    | .539              |                         |
| Pen and paper          | .                  | .528              |                         |
| Transactions           | .                  | .524              |                         |
| Relational             | .                  | .515              |                         |
| Integrated set         |                    |                   | .743                    |
| Mutation               | .                  |                   | .724                    |
| Electronically         |                    |                   | .692                    |
| Strategic              |                    |                   | .631                    |
| Transformational       |                    |                   | .597                    |
| Eigen values           | 9.863              | 1.671             | 1.517                   |
| Percentage of variance | 46.966             | 7.957             | 7.223                   |
| Cumulative percent     | 46.966             | 54.923            | 62.146                  |

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .903, degree of freedom-210, significance-000, Cranach's Alpha of 0.948 shows questionnaire are reliable.

Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy (MSA) value of 0.903 reveals that the sample is adequate for conducting factor analysis as any value greater than 0.6 is good for conducting research in social science. The factor analysis executed with principal component analysis using Varimax rotation. Table 2 depicts, the rotated factor matrix comprising all 21 variables, the Eigen values 1 or more than 1 for all extracted factors, the percent of variance and cumulative percent of variance.



Total 3 factors are extracted out of 21 original variables with Eigen values 9.863, 1.671, 1.517. These 3 extracted factors explain 62.146 per cent of variance. It means information is able to economize as more than half of the information is retained to us and only 37.854 per cent of information is lost. The extracted factors as follows.

**Operational-** This is the most important factor explaining 46.966 of the total variance and retaining Eigen value of 9.863 and loading range from .501 to .805. The attributes covered here are publishing of information, web presence, administration area, time and labor, face-to-face, operational HR function. These are basic components of operational e-HRM.

**Relational-** This factor is concerned with the interaction and networking of the various HRM stakeholders. This factor has total variance of 7.957 and Eigen value of 1.671 and loading range from 0.515 to 0.773. The attributes covered are, human resource planning, job design and analysis, recruitment, selection, training and development, performance appraisal, reward and compensation, relational HR function, pen and paper and automation of HR transactions.

**Transformational-** The attributes covered are integrated set of web based tools, mutation of HR transactions, HR functions delivery electronically, transformational HR function and role in strategic HR task. These factors have total variance of 7.223 and Eigen value of 1.1571 and loading range from 0.59 to 0.743.

**Hypothesis Testing** - For testing the hypothesis “It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value” (hypothesis A), one sample T -test has been used using a hypothesised mean value of 3.5, as respondents were asked to use a scale 1-5 in responding the questions. Moreover it is assumed that a mean value less than 3.5 will offer support to the hypothesis A. The aim here is to compare the sample mean with hypothesised mean for probability estimation, that the sample mean is different by chance or random occurrence. As SPSS don't have a provision for one tailed t-test so the researcher has converted 2-tailed value in one tailed value by dividing it by 2.

**TABLE- 3 One-Sample Tests**

| <b>Test Value =<br/>3.5</b>                       | <b>Attributes</b> | <b>Mean</b> | <b>t</b> | <b>Sig.(2-tailed)</b> |
|---|-------------------|-------------|----------|-----------------------|
| <b>Operational<br/>Attributes<br/>case-1</b>      | Admin             | 4.2600      | 8.190    | 0.000*                |
|   | Time and labour   | 3.6600      | 6.086    | 0.023*                |
|   | Face-to-face      | 4.0000      | 5.365    | 0.000*                |
|   | Publishing        | 3.9900      | 5.056    | 0.000*                |
|   | Web presence      | 3.8800      | 4.321    | 0.000*                |
|   | Operational       | 3.7800      | 8.219    | 0.000*                |
|   | HRP               | 3.7400      | 2.205    | 0.030*                |
| <b>Relational<br/>Attributes<br/>case-2</b>       | Job design        | 3.4200      | -0.692   | 0.491                 |
|   | Recruitment       | 3.8000      | 2.846    | 0.005*                |
|   | Selection         | 3.8300      | 3.249    | 0.002*                |
|   | Training          | 4.0600      | 5.527    | 0.000*                |
|   | Per. appraisal    | 3.9500      | 4.180    | 0.000*                |
|   | Compensation      | 3.8000      | 2.681    | 0.009*                |
|   | Pen and paper     | 3.8800      | 3.663    | 0.000*                |
|   | Transactions      | 3.6700      | 1.691    | 0.094*                |
|   | Relational        | 3.6800      | 1.981    | 0.050*                |
| <b>Transformational<br/>attributes<br/>case-3</b> | Integrated set    | 3.6700      | 1.612    | 0.110                 |
|   | Mutation          | 3.6800      | 1.811    | 0.073*                |
|   | Electronically    | 3.7700      | 2.455    | 0.016*                |
|   | Strategic         | 3.7800      | 2.717    | 0.008*                |
|   | Transformational  | 3.8000      | 3.146    | 0.002*                |

Significance level with\*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 99, sig 5%)

**Case-1** All the attributes of operational level has low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. It can be concluded that e-HRM is operational level in Indian organizations.

**Case-2** Most of the attributes of relational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. For attributes transactions, and relational significance level is .094 and .050 respectively for two tailed test. For one tailed test its calculated significance level is .047 and .025 which is

below the .05 and rejects the null hypothesis. In case of attribute job design and analysis significance level is .491 for two tailed test. For one tailed test its calculated significance level is .245 and is much above 0.05, and accepts the null hypothesis. For this attribute there is no difference mean value and assumed test value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at relational level for all attributes in Indian organizations.

**Case-3** Most of the factors of transformational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. For attribute mutation, significance level is .073 for two tailed test. For one tailed test its calculated significance level is .037 which is below .05 and rejects the null hypothesis. In case of attribute integrated set, significance level is .110 for two tailed test. For one tailed test its calculated significance level is .055 and is above 0.05, and accepts the null hypothesis. For this factor there is no difference mean value and assumed value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at transformational level for all factors in Indian organizations.

**E-HRM Level (public vis-à-vis private)**-To test the hypothesis “It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero” (hypothesis - B) paired sample T test has been used as a statistical tool.

**TABLE – 4 Paired Sample Test (PUBLIC VIS-À-VIS PRIVATE)**

| <b>public vis-à-vis private</b> | <b>Pair</b> | <b>attributes</b> | <b>Mean</b> | <b>Std. Deviation</b> | <b>t</b> | <b>Sig. tailed) (2-</b> |
|---------------------------------|-------------|-------------------|-------------|-----------------------|----------|-------------------------|
| <b>Operational case-4</b>       | 1           | Admin             | 0.0652      | 1.372                 | 0.322    | 0.749                   |
|                                 | 2           | Time and labour   | -0.173      | 1.510                 | -0.781   | 0.439                   |
|                                 | 3           | Face-to-face      | -0.108      | 1.369                 | -0.538   | 0.593                   |
|                                 | 4           | Publishing        | -0.065      | 1.372                 | -0.322   | 0.749                   |
|                                 | 5           | Web presence      | 0.0869      | 1.244                 | 0.474    | 0.638                   |
|                                 | 6           | Operational       | -0.239      | 1.551                 | -1.04    | 0.302                   |
| <b>Relational case-5</b>        | 7           | HRP               | -0.304      | 1.774                 | -1.16    | 0.251                   |
|                                 | 8           | Job design        | -0.217      | 1.604                 | -0.919   | 0.363                   |
|                                 | 9           | Recruitment       | 0.260       | 1.718                 | 1.030    | 0.309                   |
|                                 | 10          | Selection         | -0.065      | 1.481                 | -0.299   | 0.767                   |
|                                 | 11          | Training          | -0.260      | 1.625                 | -1.08    | 0.282                   |
|                                 | 12          | Per. appraisal    | -0.043      | 1.429                 | -0.206   | 0.837                   |
|                                 | 13          | Compensation      | -0.108      | 1.608                 | -0.458   | 0.649                   |
|                                 | 14          | Pen and paper     | -0.152      | 1.548                 | -0.666   | 0.509                   |
|                                 | 15          | Transactions      | -0.173      | 1.465                 | -0.805   | 0.425                   |
|                                 | 16          | Relational        | -0.021      | 1.374                 | -0.107   | 0.915                   |
| <b>Transformational case-6</b>  | 17          | Integrated set    | -0.586      | 1.309                 | -3.040   | 0.004*                  |
|                                 | 18          | Mutation          | -0.326      | 1.334                 | -1.658   | 0.104                   |
|                                 | 19          | Electronically    | -0.391      | 1.584                 | -1.675   | 0.101                   |
|                                 | 20          | Strategic         | -0.347      | 1.580                 | -1.492   | 0.143                   |
|                                 | 21          | Transformational  | -0.173      | 1.338                 | -0.881   | 0.383                   |

Significance level with\*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 99, sig 5%)

**Case-4** Null hypothesis-B is accepted for all the attributes of operational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that difference in mean value of level of e-HRM between public and private organizations is zero.

**Case-5** Null hypothesis-B is accepted for all the attributes of relational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that the application that difference in mean value of level of e-HRM between public and private organizations is zero.

**Case-6** Null hypothesis-B is partially rejected as significance level of the attribute integrated set, is below 0.05. For all other four attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of transformational e-HRM.

**E-HRM Level (manufacturing vis-à-vis services)** -To test the hypothesis “It is hypothesized that difference in mean value of level of e-HRM between manufacturing/ mining and services organization is zero” (hypothesis C) paired sample T test has been used as a statistical tool.

**TABLE –5 Paired Sample Test (MANUFACTURING VIS-À-VIS SERVICES)**

| Manufacturing vis-à-vis services             | Pair | Attributes       | Mean   | Std. Deviation | T      | Sig. (2-tailed) |
|--|------|------------------|--------|----------------|--------|-----------------|
| Operational attributes<br><b>case-7</b>      | 1    | Admin            | -0.131 | 1.339          | -0.606 | 0.548           |
|  | 2    | Time and Labour  | 0.026  | 1.852          | 0.088  | 0.931           |
|  | 3    | Face-to-Face     | -0.447 | 1.266          | -2.17  | 0.036*          |
|  | 4    | Publishing       | -0.210 | 1.211          | -1.07  | 0.291           |
|  | 5    | Web Presence     | 0.052  | 1.089          | 0.298  | 0.767           |
|  | 6    | Operational      | -0.657 | 1.301          | -3.11  | 0.004*          |
| Relational attributes<br><b>case-8</b>       | 7    | HRP              | -0.526 | 1.623          | -1.99  | 0.047*          |
|  | 8    | Job design       | -0.236 | 1.618          | -0.902 | 0.373           |
|  | 9    | Recruitment      | -0.157 | 1.778          | -0.547 | 0.588           |
|  | 10   | Selection        | -0.210 | 1.544          | -0.840 | 0.406           |
|  | 11   | Training         | -0.447 | 1.427          | -1.99  | 0.048           |
|  | 12   | Per. appraisal   | -0.184 | 1.504          | -0.755 | 0.455           |
|  | 13   | Compensation     | -0.421 | 1.686          | -1.53  | 0.132           |
|  | 14   | Pen and paper    | -0.315 | 1.561          | -1.24  | 0.220           |
|  | 15   | Transactions     | -0.421 | 1.426          | -1.82  | 0.077           |
| Transformational attributes<br><b>case-9</b> | 16   | Relational       | -0.157 | 1.325          | -.734  | 0.468           |
|  | 17   | Integrated set   | -0.315 | 1.612          | -1.207 | 0.235           |
|  | 18   | Mutation         | -0.263 | 1.287          | -1.260 | 0.216           |
|  | 19   | Electronically   | -0.684 | 1.612          | -2.61  | 0.013*          |
|  | 20   | Strategic        | -0.526 | 1.606          | -2.02  | 0.041*          |
|  | 21   | Transformational | -0.447 | 1.408          | -1.958 | .058            |

Significance level with\*- Null hypothesis rejected or else accepted (Table value of  $t_{1.96, df 49, sig 5\%}$ )

**Case-7** Null hypothesis-C is partially rejected as significance level of two attributes face-to-face and operational is below 0.05. For all other four factors null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the factors of operational e-HRM.



**Case-8** Null hypothesis-C is partially rejected as significance level of two attributes of relational e-HRM, HRP and training and development is below 0.05. For all other eight attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of relational e-HRM.

**Case-9** Null hypothesis-C is partially rejected as significance level of two attributes of transformational e-HRM, electronically and strategic is below 0.05. For other three attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of transformational e-HRM.

### **Conclusion and Recommendations**

From factor analysis three factors are extracted out of 21 original variables. These three extracted factors widely discussed in the literature comprises of operational, relational, and transformational.

By examining the data, and testing the hypothesis it can be concluded that e-HRM at operational level but e-HRM is not at relational level and transformational level for all attributes. In other words it can be said that e-HRM is partially at relational and transformational level in Indian organization. In this case Indian organisation have not followed the proper hierarchy of e-HRM implementation rather than relational and transformational level has been implemented simultaneously .Indian organisation have to work on “job design and analysis” attributes of relational e-HRM and “integrated set of web based tools” attributes of transformational e-HRM. The result shows that level of “job design and analysis and analysis” attribute is below the test value, so it can be said it is not fully on electronic platform and in few organization still HR functions uses separate software for each function rather than using integrated set of web based tools.

Research statistics shows that there is no difference in mean values for all attributes of operational and relational e-HRM, but mean value of level of transformational e-HRM between public and private organization is not same for all attributes. Further analysis shows difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of operational relational and transformational e-HRM. So it can be concluded there exists a difference in level of e-HRM between manufacturing and services organization

From the result it can be concluded private sector has better mean value for the attribute integrated set , in the similar manner services has better mean value over manufacturing for the attributes face-to-face, operational, selection, electronically and strategic (negative sign of t value). Public sector organizations and manufacturing organization must learn lessons from their counterpart (Private and services), take a cue and harness the benefit of e-HRM and be competitive. Similarly Private organization and services should strive to raise their level.

E-HRM should actually be a deliberate step by Indian organizations to advance in the digital age, by freeing themselves from daily operational, monotonous requirements and ascending to newer level like relational and to highest level, transformational, making it more in tune with the decision making, understanding of

the employees, preparing change ready workforce, knowledge management, employee brand. For successful implementation of e-HRM organization must pay attention to culture of HR professionals, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, developmental needs, competencies of the work force. For making it successful HR professional has to support at system at every step.

Present research paves the way of further research which can be based on factors responsible for level of e-HRM or ways to improve the level of e-HRM and many more. Research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results. The study is based on non- probability sampling. Participants were selected based on judgmental and convenience sampling techniques.

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