Metrics for Human Assets: An Empirical Analysis of the Current Practice in Service Sector Organizations in India

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Human Asset Measurement can be defined as quantifying the contributions of all employees of an organization to produce value from their knowledge, skills, abilities, and other characteristics as well as the organizational processes, like recruitment, selection, training, etc., which are used to build and support these human assets. It involves the evaluation of the employees in the organization. The study was conducted to find the metrics on the basis of which the service sector organizations in India evaluate their employees and to find whether there is any significant difference that exists between the employees from different backgrounds. It was found that experience, Competency, Cost of people, Cost per hire, Educational level, Seniority, and Tenure were identified as being used mostly in a human asset evaluation measure by the organizations. Also, there is a significant difference between employees having different years of experience in the choice of parameters used for measurement of human asset in their organization.

Key Words: Human Asset, Evaluation of Human Asset, Parameters to evaluate employee, Metrics for human asset.

INTRODUCTION

In knowledge economy/society, human asset constitutes to be the focal point around which all economic activities rotate. A knowledge economy is one in which the generation and exploitation of knowledge play the predominant part in the creation of wealth (United Kingdom Department of Trade and Industry, 1998). In these types of economies, the service-oriented companies dominate the majority of economic activities. The major asset to these companies is thus the knowledge, experience, and skill of the workers who are responsible for everything that happens in the organization rather than machines. The fast growth of service organizations in various developed and developing countries shifts the focus of management towards skill empowerment of their employees. Despite the fact that service sector organizations are fast growing in the 21st century universally where intellectual capital is the most important asset, the system of measurement of human asset accounting has few evidences of its application.

Singh & Gupta (2008) by using the human resource valuation model (Singh, 2002) found that there was huge difference between the cost incurred on an employee by an organization and the value of their employees. Also, Singh & Gupta (2010) in their research study showed the importance of valuation of human asset by proving that the cost incurred on employees could not be used as a surrogate measure of their value. Also, the various Organizational and Environmental factors relating to human resource had an impact on Organization’s human resource value. Values calculated by using the human resource valuation model (Singh, 2002) provided the information for strategic decision making particularly relating to the human resource decision problems. Hence, HCIS (Human Capital Information System) can be used by the decision makers as Decision Support System (Singh, 1999).

Human Asset Accounting is all about developing a way of measuring and valuing that captures the very essence of a business - its people and reports their worth in such a way that net only shows the added worth that they make to the organization but allows for the continued development of this worth as well (Singh & Rastogi, 2000a & 2001b).

Human Asset Measurement by Organizations in India

Many studies have aimed at constructing a human resource or an intellectual capital statement or report along with traditional financial statements to provide them to the managers and external stakeholders (Edvinsson and Malone, 1997; Lev, 2001, Brookings, 1996; Roos et al., 1997, Singh & Gupta, 2010). It has been suggested by Hermanson (1964), Likert (1967), Likert and Pyle (1971), Lev & Schwartz (1971) that the inclusion of Human Resource Accounting Information might benefit the investors and it would be of immense use if information relating to human resource is presented so that the investors can evaluate properly assets and income.

In India, Human Resource Valuation until now has not been introduced as a system in most of the companies. So far as the statutory requirement is concerned, the Companies Act, 1956, requires the furnishing of little information about human resources in the annual reports of the companies. Sec. 217(2A) of the Companies Act 1956 requires the companies to give the particulars of some employees drawing salaries above a specified limit in the annual reports of the companies.

The statement to be included in Board’s report under subsection (2-A) of section 217 of the Companies Act, 1956 (1 of 1956), shall also contain the following particulars, namely:
   (a) Designation of the employee.
   (b) Remuneration received.
   (c) Nature of employment, whether contractual or otherwise.
   (d) Other terms and conditions.
   (e) Nature of duties of the employee.
   (f) Qualifications and experience of the employee.
   (g) Date of commencement of employment.
   (h) The age of the employee.
   (i) The last employment held by such employee before joining the company.
   (j) The percentage of equity shares held by the employee in the company within the meaning of sub-clause (ii) of clause (a) of sub-section (2A) of section 217 of the Act.

But this section is still silent about Measurement of Human Asset and the main focus is on emoluments received by employees which is basically cost to the company and is generally much lower than their value. No significant information about human asset is mandatory to be shown in the financial statements of the company.

Although, Institute of Chartered Accountants of India (ICAI) has issued accounting standards on most of the important areas in accounting and has ensured their implementation by making accounting standard mandatory, the most regrettable fact is that it has not issued any accounting standard for the measurement and reporting of the cost and value of human resources of an organization and the contribution made by them. Due to this fact, a very large number of organizations...
are following even to-day, the principles and practices of conventional accounting.

Under the 1956 Act, there is no mandate requiring companies to ensure compliance with accounting standards or generally accepted accounting principles while proposing the accounting treatment in a scheme. However, listed companies are required to ensure such compliance as the Equity Listing Agreement mandates such companies to obtain an auditor’s certificate regarding appropriateness of the accounting treatment proposed in the scheme of arrangement. The Companies Act 2013 Act requires all companies undertaking any compromise or arrangement to obtain an auditor’s certificate (section 230 and 232 of the 2013 Act). This requirement will help in streamlining the varied practices as well as ensuring appropriate accounting treatment.

So, an accounting standard should be there to evaluate human asset on different metrics.

There are few of the companies in India who do the valuation of human resources and disclose in their Annual report.

**Public Sector Enterprises**
- Cement Corporation of India Limited (CCIL)
- Hindustan Petroleum Corporation limited (HPCL)

**Private Sector Enterprises**
- Infosys Technologies Limited
- Reliance Industries Limited

Considering the fact that very few companies are valuing human resources in their annual report, the need was felt to conduct a study based on primary data with the following objectives and hypotheses.

**Objective of the study**

The study was conducted to find the parameters on the basis of which the service sector organizations in India evaluate their employees. The main objectives of the study are:

1. To find out the parameters those are currently used for measuring the value of human asset in the organization.
2. To find whether there is any significant difference between employees from different background viz., age, experience, qualifications, and service industry in the number of parameters used for measurement of human asset in their organization.

**Research Hypotheses of the study**

To achieve the objectives, following hypotheses have been formulated.

**Null Hypothesis H01**: There is no significant difference between employees of different age groups in the number of parameters used for measurement of human asset in their organization.

**Alternative Hypothesis Ha1**: There is a significant difference between employees of different age groups in the number of parameters used for measurement of human asset in their organization.

**Null Hypothesis H02**: There is no significant difference between employees having different years of experience in the number of parameters used for measurement of human asset in their organization.

**Alternative Hypothesis Ha2**: There is a significant difference between employees having different years of experience in the number of parameters used for measurement of human asset in their organization.

**Null Hypothesis H03**: There is no significant difference between employees having different educational qualifications in the number of parameters used for measurement of human asset in their organization.

**Alternative Hypothesis Ha3**: There is a significant difference between employees having different educational qualifications in the number of parameters used for measurement of human asset in their organization.

**Null Hypothesis H04**: There is no significant difference between employees from different service industry in the number of parameters used for measurement of human asset in their organization.

**Alternative Hypothesis Ha4**: There is no significant difference between employees from different service industry in the number of parameters used for measurement of human asset in their organization.

**Research Methodology**

For the purpose of the study, both primary and secondary data sources of information have been used. Published books, journals and periodicals, etc., along with manuals and reports of different companies in India constituted the secondary sources of data. Primary data is obtained using a structured questionnaire.

From a list of 33 potential human asset related measures as shown in Table 1 (Verma and Dew, 2006), respondents were asked to identify those measures that they are currently being used in their organizations on a three point scale ranging as mostly, moderately and least.

To meet out these objectives, the statistical treatment of the data obtained was carried out from a sample of 150 employees working in the service sector organizations namely Banking and Insurance, Finance, Information Technology, and Telecommunication.

The data have been analyzed with by using Microsoft Excel and Predictive Analytic Software (PASW). Statistical tools like Mean and Standard Deviation, and ANOVA have been used to analyze the data.

**Reliability of the Questionnaire**

In order to obtain a good estimate of the reliability of a questionnaire, Cronbach’s alpha is computed. Cronbach’s alpha computed as 0.896 shows high consistency.

**Analysis of the data**

Respondents were asked about the human resource measures that were utilized by their organizations. From a list of 33 measures, respondents were asked to identify which ones were used by their organizations. The measures included both

<table>
<thead>
<tr>
<th>Table 1: List of Possible Human Asset Evaluation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absenteeism rate</td>
</tr>
<tr>
<td>Accident frequency rate</td>
</tr>
<tr>
<td>Average age</td>
</tr>
<tr>
<td>Client satisfaction surveys</td>
</tr>
<tr>
<td>Competencies</td>
</tr>
<tr>
<td>Cost of people</td>
</tr>
<tr>
<td>Cost per hire</td>
</tr>
<tr>
<td>Cost-benefit analysis</td>
</tr>
<tr>
<td>Economic value added (EVA)</td>
</tr>
<tr>
<td>Educational level</td>
</tr>
<tr>
<td>Experience</td>
</tr>
</tbody>
</table>
measures, which might predominantly be used by the human resource function in an organization such as job satisfaction and organizational commitment and measures of wider interest such as economic value added and intellectual capital.

As shown in the Table 2, 63.1% respondents have agreed that experience as a human asset evaluation measure was used mostly by their organizations. Of the other measures, Client satisfaction surveys (58.7%), Competencies (51%), Cost of people (46.7), Cost per hire (40.9), Educational level (51%), Seniority (49.7%), and Tenure (47%) are identified as being used mostly as a human asset evaluation measure by the organizations.

Acidic frequency rate (45.3%), Average age (50%), Cost-benefit analysis (44%), Economic value added (EVA) (52.7%), HR costs/ investment (46%), HR ratio (51%), Leadership (46%), Return on investment (ROI) (51%), Return on training (51%), and Total shareholder return (TSR) (54.4%) were identified as being used moderately by the organizations.

More than 30% of the respondents have identified HR costs/ investment (34%), HR ratio (34.7), Innovation and Creativity Quotient (35.4%), Learning Quotient (29.7%), Return on investment in human capital (33.1%), Time to fill jobs (32%), Training lost (46.7), and Intellectual capital (30.9) as being least used in their organizations.

Thus, there is a range of measures that are least or not used by many organizations or used moderately. This supports the view that although Human Asset Metrics/ Measurement is an area of interest and importance in organizations, there are relatively few measures actually calculated by organizations in relation to the measurement of human assets.

To test the null hypothesis H01 that there is no significant difference between employees of different age groups in the number of parameters used for measurement of human asset in their organization, descriptive statistics, and ANOVA have been performed as given in Tables 3 and 4.
The next step is to conduct a test of significant differences to evaluate the null hypotheses. It shows that there is no significant difference among the employees under different groups of age (F= 1.439, p>0.05).

Thus, we accept the null hypothesis H0 1 that there is no significant difference between employees of different age groups in the number of parameters used for measurement of human asset in their organization.

To test the null hypothesis H02 that there is no significant difference between employees having different years of experience in the number of parameters used for measurement of human asset in their organization, descriptive statistics, and ANOVA have been performed as given in Tables 5 and 6.

Table 5 shows that employees having experience of 2-5 years perceive parameters used more for measurement of human asset in their organization (M=1.811, SD=0.0.335).

Table 6 shows whether there is any significant difference between the employees having different years of experience. As shown in the Table 6, there is a significant difference (F= 3.241, P< 0.05) among employees having different years of experience.

Table 7 shows the results of Tukey's HSD Test. Results of Tukey's HSD test (Table 7) shows that there is a significant difference in the means of employees having experience '2-5 years' and 'more than 10 years' (Mean Difference=0.199).

Thus, we reject the null hypothesis H02 and accept the alternative that there is a significant difference between employees having different years of experience in the number of parameters used for measurement of human asset in their organization.

To test the null hypothesis H03 that there is no significant difference between employees having different educational qualifications in the number of parameters used for measurement of human asset in their organization, descriptive statistics, and ANOVA have been performed as given in Tables 8 and 9.

Table 7 Summary of Tukey’s HSD (Honestly Significant Difference) Test of Employees having different Years of Work Experience in the number of Parameters used for Measurement of Human Asset in their Organization

<table>
<thead>
<tr>
<th>Experience (i)</th>
<th>Experience (j)</th>
<th>Mean Difference (i-j)</th>
<th>Standard Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 years</td>
<td>2-5 years</td>
<td>0.217</td>
<td>0.0649</td>
<td>0.002</td>
</tr>
<tr>
<td>2-5 years</td>
<td>6-10 years</td>
<td>0.055</td>
<td>0.0799</td>
<td>0.750</td>
</tr>
<tr>
<td>6-10 years</td>
<td>More than 10 years</td>
<td>0.018</td>
<td>0.0972</td>
<td>0.997</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>Less than 2 years</td>
<td>-0.217</td>
<td>0.0648</td>
<td>0.062</td>
</tr>
<tr>
<td>2-5 years</td>
<td>6-10 years</td>
<td>-0.131</td>
<td>0.0744</td>
<td>0.297</td>
</tr>
<tr>
<td>6-10 years</td>
<td>More than 10 years</td>
<td>-0.019*</td>
<td>0.0735</td>
<td>0.037</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>Less than 2 years</td>
<td>-0.086</td>
<td>0.0799</td>
<td>0.750</td>
</tr>
<tr>
<td>2-5 years</td>
<td>6-10 years</td>
<td>0.131</td>
<td>0.0744</td>
<td>0.297</td>
</tr>
<tr>
<td>6-10 years</td>
<td>More than 10 years</td>
<td>0.069</td>
<td>0.0752</td>
<td>0.796</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>Less than 2 years</td>
<td>0.018</td>
<td>0.0672</td>
<td>0.997</td>
</tr>
<tr>
<td>2-5 years</td>
<td>6-10 years</td>
<td>0.199*</td>
<td>0.0735</td>
<td>0.037</td>
</tr>
<tr>
<td>6-10 years</td>
<td>More than 10 years</td>
<td>0.069</td>
<td>0.0752</td>
<td>0.796</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.

Table 8 Comparisons of Mean Scores of Employees having different Educational Qualifications in the number of Parameters used for Measurement of Human Asset in their Organization

<table>
<thead>
<tr>
<th>Educational Qualification</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>1.965</td>
<td>0.323</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>1.965</td>
<td>0.393</td>
</tr>
<tr>
<td>Professional</td>
<td>1.871</td>
<td>0.304</td>
</tr>
<tr>
<td>Any Other</td>
<td>1.885</td>
<td>0.313</td>
</tr>
</tbody>
</table>

Table 9 Summary of significant F-test of Employees having different Educational Qualifications in the number of Parameters used for Measurement of Human Asset in their Organization

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1.129</td>
<td>0.376</td>
<td>3.241*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>16.955</td>
<td>0.116</td>
<td>Total</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

Table 8 shows that employees having Professional Qualifications perceive parameters used more for measurement of human asset in their organization (M=1.871, SD=0.304).

Table 9 shows whether there is any significant difference between the employees having different Educational Qualifications. As shown in the Table 9, there is no significant difference (F= 0.646, P >0.05) among employees having different Educational Qualifications.

Thus, we accept the null hypothesis H03 that there is no significant difference between employees having different educational qualifications in the number of parameters used for measurement of human asset in their organization.
To test the null hypothesis H04 that there is no significant difference between employees from different industries in service sector in the number of parameters used for measurement of human asset in their organization, descriptive statistics, and ANOVA have been performed as given in Tables 10 and 11.

Table 10 shows that employees from finance sector perceive parameters used more for measurement of human asset in their organization (M=1.807, SD=0.322) followed by IT sector (M=1.924, SD=0.281).

Table 11 shows whether there is any significant difference between the employees from different industries in service sector. As shown in the Table above, there is no significant difference (F=2.381, P=0.03) among employees from different industries in service sector.

Thus, we accept the null hypothesis H04 that there is no significant difference between employees from different industries in service sector in the number of parameters used for measurement of human asset in their organization.

CONCLUSION AND RECOMMENDATIONS

The research study set out to explore current practices in the area of measurement of human asset focusing on identifying current measures being used to measure human asset. On the basis of the results, it was found that experience, Client satisfaction surveys, Competencies, Cost of people, Cost per hire, Educational level, Seniority, and Tenure were identified as being used mostly as a human asset evaluation measure by the organizations. More than 30% of the respondents identified HR costs/investment, HR ratio, Innovation and Creativity Quotient, Learning Quotient, Return on investment in human capital, Time to fill jobs, Training lost, and Intellectual capital as being least used by the organizations. Verma & Dewe (2006) also found that a range of measures relating to human resources were calculated but only seven were used by more than 50% of respondents. These were absenteeism, accident rates, training and educational costs, turnover rate, cost of people, client satisfaction surveys, and competencies.

<table>
<thead>
<tr>
<th>Service Sector</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking and Insurance</td>
<td>2.003</td>
<td>0.342</td>
</tr>
<tr>
<td>Finance</td>
<td>1.807</td>
<td>0.222</td>
</tr>
<tr>
<td>Information Technology</td>
<td>1.924</td>
<td>0.281</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>1.991</td>
<td>0.450</td>
</tr>
</tbody>
</table>

It was also found that there is no significant difference between employees having different age groups, different educational qualification, and from different industries in service sector in the parameters used for measurement of human asset in their organization. Significant difference has been found between the employees having different experience. Since employees having experience of 10 years and more perceived that less number of parameters were used for measurement, it is recommended that management should design roles for them so that they will have more involvement in the measurement process.

It is apparent that the measurement of human asset will never be as straightforward as calculating the value of a tangible asset; there are simply too many variables involved to make this practical. But, major reason for using less number of measures to evaluate human asset is that there is no universally accepted model for measurement of human asset. Experts developed a number of models during last few decades but none got credit of convenience and objectivity. Therefore, there is a need to develop a model that is acceptable to all the companies. The Value of Human Asset for the Organisation should be perceived in terms of the contributions made by him/her to the Organisation which is useful for decision making (Singh & Gupta, 2008 & 2010).

<table>
<thead>
<tr>
<th>Parameters used for Measurement of Human Asset in their Organization</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>0.810</td>
<td>0.270</td>
<td>2.281</td>
<td>0.092</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17.274</td>
<td>0.118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18.084</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level*

REFERENCES


BIOGRAPHIES

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‘PRANJANA’ (1998-2002). He is also an expert member of UGC & AICTE. He has attended, conducted, and organized hundreds of training and development programs. He has 28 years of experience and his publications are 164 including 10 books, 1 International Monograph, 80 research papers, 12 articles, 11 case studies, 42 editorial reviews, 2 abstracts, and 6 book reviews published in leading national and international journals (Scientific Journal ACTA OPERATIVO OECOUMERICA, Slovak Republic, ACTA OECOUMERICA PRAGENSIA, Agricultural Economics Czech, Emerald, Inderscience, UK, International Journal of Business and Management Studies, Turkey, etc.) conference proceedings, etc. He has conducted various research projects (2 of them funded by UGC), training programs, delivered key note addresses, chaired technical sessions in conferences & seminars, acted as Chief Guest of several programs, presented more than 50 papers in international and national conferences (including two GOLD MEDALS for best paper awards, two best paper awards, two silver medal winning papers, and two 2nd best papers). 19 Ph.D. Scholars and 7 M. Phil. students have completed their theses/dissertations under his supervision. At present 10 Ph.D. Scholars including JRF are working under his supervision for their Ph.D. Degree.

He is the Member North Apex Body of Art of Living (Delhi NCR), member of American Accounting Association, Life member of ICA and Managing Trustee of ICA since Feb. 2010, IAA, NHRD, CSI, DET, DI, & GMDA. He has been awarded two gold medals in 2008 and has been conferred PRO FAKULTATE INTERNATIONAL Award by Szent Istvan University, Godollo, on June 24, 2009 at Hungary. Memorable Medal has been awarded by Dean – Faculty of Economics and Management, Slovak University of Agriculture in Nitra, Slovak Republic on Sept. 10, 2009 and Gold Medal was awarded by Rector of Slovak University of Agriculture in Nitra, Slovak Republic for cooperation and contribution in the fields of science and education on May 26, 2010 at Nitra, Slovak Republic. On June 2, 2011, Silver Medal of Faculty of Applied Economics and Rural Development, University of Debrecen, Hungary, was conferred on him which is the highest award of that faculty.

Nisha Gupta, Ph.D., is currently Assistant Professor, Delhi School of Professional Studies and Research. She did her Graduation from Shri Ram College of Commerce and post Graduation from Delhi School of Economics, University of Delhi, and was a merit holder in the University. She did her M.Phil., and Ph.D. from Delhi School of Economics, Univ. of Delhi in the areas of Human Asset Measurement.

She presented her Research Papers in National and International Conferences of repute. She is backed by teaching experience as an assistant professor in University of Delhi and other Private Institutes.