ROLE OF HUMAN INTELLIGENCE AND INFORMATION TECHNOLOGY IN RETAINING INTELLECTUAL CAPITAL

K.Kumar¹

¹Asst. Prof, MCA Department, Veltech Dr.RR and Dr.SR Technical University,

ABSTRACT

The key strength comes of any organization is its human capital. It is the expertise of its employees which ensures that customers are acquired and retained, and the processes work efficiently to satisfy the customer's needs. That human capital is the basis for the creation of customer and structural capital. In the information technology (IT) industry, this research paper started examining the issues relating to the human capital of an organization. If people hold the key to prosperity anywhere, it is more so in the IT industry, which employs knowledge workers. Here, human capital is not merely one component of capital; it is the critical component that forms the basis for other forms of capital: People with their expertise are the sole creators of value to the customer and people through their effort are the key to the optimization of its process efficiency. Perhaps the natural corollary to this is the high attrition rate in the IT industry. So IT organizations have a critical need to know the value they would forego when they are about to lose a person. This knowledge is important in taking appropriate action, in making counter-offers, in keeping up a constant preventive effort to fine-tune the compensation structure. All these should always be in line with the value being pro-vided by the employees.

Keywords: Domain, Human Capital, Competencies, evaluation, revenue, training, Retention

I. INTRODUCTION

Competency mapping: An employee has a bundle of competencies, each of which needs to be valued. In the computer software field, classifying competencies under five major heads - domain, technology, project management, initiative and leadership. A software project attempts to computerize applications such as production scheduling in a manufacturing organization, trade settlement in a stock exchange or recoveries for an insurance company. An analyst[1] developing the requirements for the system must have expertise in the specific business area such as manufacturing, securities trading or insurance. We call this business knowledge the domain expertise. A software designer must be
knowledgeable about the technology that provides the platform for the system and makes it work. Similarly, project management is an essential area of expertise for a person leading a part or whole of a project, to ensure that resources are marshaled to yield effective results in the required time. Besides these, what makes a person valuable to the organization is the consummate acumen for enterprise and execution - the generation of ideas and the speed of implementation. These come under the umbrella of initiative.

The relationship between intellectual capital, human capital and structural capital is far too complex to be represented by a linear equation. The relationship[2] is better captured. Structural capital is the present value of the returns generated by the explicit knowledge, patents, trademarks etc. and their ownership resides with the firm. They are organizational assets. When people work for a firm they are compensated in the form of wages, incomes and benefits. Human capital is the value of the tacit knowledge the firm appropriates while the individual in the service of the firm. Firms invest in education, training and research to enable individuals to learn, grow and apply their knowledge to innovate and create. Firms would ideally like to capture the innovation capabilities[3], translate them into systems, procedures and processes and diffuse them throughout the firm. However, while developing systems and procedures may enhance organizational capabilities they can also serve to suppress creativity.

Firms are thus confronted with choices and dilemmas. Structural capital allows a firm to capture rents, gain competitive advantage and grow. But it can also limit its ability to retain creative talent, build human capital and move up the knowledge pyramid. It puts limits on innovative capabilities. Therefore, investments in human and structural capital require a balancing act. Firm strategy has to take a view on where exploration will end and exploitation will begin.

Finally comes the quality of being an inspiration to others: Is a person a thought leader? The ability to apply a new technology in ways unanticipated is one example of displaying thought leadership.

A person has a set of competencies and a value is assigned to each of these competencies. The sum total of it is the value of an employee and the sum total of the value of all employees is the human capital of the organization. This human capital, together with the customer and structural capital produces the revenue.

When an employee leaves, an organization loses that much of capital as determined by the valuation given above. The organization's response to this situation should be guided by the value being lost. Unfortunately, there may be no escalation when a valuable employee leaves. The senior management gets into the act only when a very experienced employee leaves, irrespective of whether he has a higher or lower value than a less experienced person. An organization needs to look for a system for the scientific computation of employee values, stored in a constantly updated database, and with triggers for intimation to top management based on employee valuation. Management can then be made to sit up and take notice whenever high-value employees leave, irrespective of the years of service. In fact, compensation across the board can be structured to be in line with this valuation system. The Process of recruiting the substitute person will also involve cost for the organization[4].

II. LITERATURE SURVEY

2.1 Knowledge Workers – Factors Affecting Retention

Recruiting and hiring
Training and Professional development
Work Space deployment
Compensation
Employee Friendly Workspace
Aligning employees performance expectation with competencies
Establishing valuable result oriented measures of individual and group
Providing rating and feedback that shows the difference between performers
Continuous learning and improvement
The culture and mind of managers towards their work force is constantly monitored
Job Process tools and mission support
Hire and retain people according to competencies
The finding of a self study report of employee support in software delivery and other areas in a software firm was studied are listed below.

**Table 1.1: Human resource accounting - Software Company**

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOFTWARE DELIVERY</strong></td>
<td>49495</td>
<td>43436</td>
</tr>
<tr>
<td><strong>SUPPORT</strong></td>
<td>3220</td>
<td>3301</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>52715</td>
<td>46637</td>
</tr>
</tbody>
</table>

**Table 1.2: Human resource accounting - Software Company**

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEE (NO.)</td>
<td>52715</td>
<td>35750</td>
</tr>
<tr>
<td>VALUE OF H.R.</td>
<td>46637</td>
<td>28334</td>
</tr>
<tr>
<td>SOFTWARE REVENUE</td>
<td>9521</td>
<td>7130</td>
</tr>
<tr>
<td>TOTAL EMP. COST</td>
<td>4851</td>
<td>3539</td>
</tr>
<tr>
<td>VALUE ADDED</td>
<td>8027</td>
<td>6053</td>
</tr>
<tr>
<td>N.P. V</td>
<td>2479</td>
<td>1846</td>
</tr>
</tbody>
</table>

A research on revenue generated by employee was done[5].
The result of the finding as per the value of Human resources was taken and not much key ratio was found[6]. Rather it was found that employee retention was not good. The reason was that employees were not identified as per the capability and not awarded accordingly.

Table 1.3: Key Ratios In H. R. A.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total software / H.R. value</td>
<td>0.20 (46637/9521)</td>
<td>0.25</td>
</tr>
<tr>
<td>Value added /H.R. Value</td>
<td>0.17</td>
<td>0.21</td>
</tr>
<tr>
<td>Value of H.R. Per Emp.</td>
<td>0.088</td>
<td>0.77</td>
</tr>
<tr>
<td>Emp. Cost/H.R. (%)</td>
<td>10.29%</td>
<td>12.49%</td>
</tr>
<tr>
<td>Return on H.R. Value (%)</td>
<td>5.32%</td>
<td>6.52%</td>
</tr>
</tbody>
</table>

III. THE REFINED MODEL

Revenue generated as per domain expert, software employees, software developers and other employees [7][8]. The working is given below.

Table IV: Key Ratios In H. R. A. – The Refined Model

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total software revenue / Domain expert</td>
<td>0.08</td>
<td>*</td>
</tr>
<tr>
<td>Total software revenue / software developer</td>
<td>0.06</td>
<td>*</td>
</tr>
<tr>
<td>Total software revenue / software analyst</td>
<td>0.02</td>
<td>*</td>
</tr>
<tr>
<td>Total software revenue / other employees</td>
<td>0.04</td>
<td>0.20</td>
</tr>
</tbody>
</table>

*Data on exact number of employees not available: Figures taken at random
Table V: Refined Model Improvisations – Performing a Competency Mapping

<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>TECHNOLOGY</th>
<th>PROJECT MANAGEMENT</th>
<th>INITIATIVE</th>
<th>LEADERSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software developer</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Domain expert</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Software analyst</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

3.1 Advantages of implementing this model

1. This will let the organization the role to be allotted for an individual[9].
2. This will increase the employee morale to achieve the top most level of role playing.
3. This will certainly tell us where the company needs to concentrate more for the better outcome.

IV. KEY FINDING OF THE ABOVE ANALYSIS

The factors, which play an important role in retention of knowledge workers
- Recruiting and hiring
- Training and Professional development
- Work Space deployment
- Compensation
- Employee Friendly Workspace
- Aligning employees performance expectation with competencies
- Establishing valuable result oriented measures of individual and group
- Providing rating and feedback that shows the difference between performers
- Continuous learning and improvement
- The culture and mind of managers towards their work force is constantly monitored
- Job Process tools and mission support: The jobs, tools and support are designed such that it always improves the performance of the employees.
- Hire and retain people according to competencies

V. CONCLUSION

Organizations are getting differentiated on the basis of the knowledge each possesses. In a world of constant technological changes, an organization prospers from the quality of its people. People who are relevant for today's work may not be able to meet the challenges of tomorrow. We need to get them to forget some aspects of today's competency and build the requirements of the future into them. Increasingly, the investment decisions of top management will not be restricted to the acquisition of brick-and-mortar assets, but of building additional competencies in people.

Human resources valuation has remained an academic exercise and largely ignored even in industries where the expertise of employees is the key differentiating factor. The process of valuation is complex and challenging.
REFERENCES


