Impact of Intellectual Capital on Financial Performance of Banks in Pakistan: Corporate Restructuring and Its Effect on Employee Morale and Performance

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Abstract

Human Resource (HR) activities, Structural Capital (SC) resources and relationship with different Stakeholders are the three most important aspects in undertaking study of an organization. The focus of this study is to check the significance of the intellectual capital on the financial performance of the Banks in the Pakistan. The back bone of this study is the secondary data comprised of financial statements of banks and literature review. The hypothesis shows that the intellectual capital has significant effect on the financial performance. We generated this hypothesis from the literature and we also prove our hypothesis from literature. Results also prove that the banks intellectual capital has significant impact on the financial performance. We collected the financial statements from 2007 to 2010 of the five banks of Pakistan. We used Pearson Correlation Method to check the relationship among different variables. We used the method VAIC™ to check the significance of the intellectual capital on financial performance. We also proved our hypothesis through empirical data however results are strongly based on literature review.

Keywords: HR activities, Structural Capital Resources (SCR), Relationship with stakeholders, intellectual Capital (IC), Value Added Intellectual Coefficient (VAIC™), Banking Sector, Financial Performance (FP), Return On assets (ROA).

1. Introduction

Nowadays firms are facing strong competition than of the past (CGAP, 2002; Adongo & Christopher, 2005). Financial performance is the main objective and the main goal of every entity. So every organization wants to increase its financial performance by different ways. By financial performance we mean that it is the monetary measuring of the results of firm’s processes and operations e.g. return on equity, assets, investment etc (Business Dictionary). To increase the financial performance every organization focuses on the physical assets of the organization but their intellectual capital inefficiency decreases their financial performance. In this paper we discuss how the intellectual capital increases the financial performance (Return on Assets) of the organizations. In Pakistan organizational performance especially their financial performance also decreases due to the intellectual capital inefficiency.

Intellectual capital includes all those resources of the organization that increases the value of the organization and those resources also increase the competence of the organization (Wikipedia). So this shows that managing intellectual capital in effective and efficient manner will increase the value and financial performance of the organization. Karmen Jelsis describes in his hand book of intellectual capital that the benefits of managing intellectual capital are that it increases the market value of organization, it improves better communication, optimal utilization of potential, increase value creation ability, better image, it will satisfied customers, value creating human capital, motivating employees, most efficient business processes. Managing the Intellectual capital also increases the financial performance of the organization.
Human Capital is also an important factor of the organization. The main focus of the studies in the twentieth century is on the efficiency of the human capital. Human capital increases the organizational financial performance of the organization as the past research shows that the HR practices and financial performance are dependent to each other (John W. Boudreau and Peter M. Ramstad (1996)). It shows that efficient human capital also increases the financial performance of the organization. In fact it is the human capabilities which increases or decreases the organizational performance especially the financial performance of the organizations. Leadership has an effect on the financial performance and the climate of the organizations (Bas A. S. Koene, Ad L. W. Vogelaar and Joseph L. Soeters (2002)).

A researcher said that the structural capital is the supportive infrastructure for the human resource. Structural capital remains in the organization when the employee leave the organization at the end of work and it includes the organizational processes patents, Research and Development (R&D), innovation, abilities, skills, etc (Reza Gharoe Ahangar, 2010). Research and development increases the innovation and motivation in the organization. This augments the growth, organizational performance, profit etc. R&D also gives competitive edge to the organization. So R & D is also the important factor of the intellectual capital that improves the financial performance of the organizations.

A good relationship with the stakeholders also gives the competitive edge to the organization. Business to business and business to customer relationship shows the relationship with customers and suppliers. A positive relationship with the customer and supplier also enhances the financial performance of the organizations. Researchers believe that the relationship-oriented behavior also favors the financial performance of the organization (Byeong Yong Kim, Haemoon Oh, Mary Gregoire (2006)).

So from the above, it shows that the intellectual capital has the significant relationship with the financial performance of the organization. In this paper we discuss how the different elements of the intellectual capital (Individuals Capabilities, Research & Development and the Relationship with Stakeholders) affect the organizational financial performance (Return on Assets and Return on Investment). The main problem statement of this study is the impact of intellectual capital on the financial performance in Pakistan.

2. Literature Review

Edvinsson and Malone in 1997 describe the intellectual capital as the knowledge that can be converted into the value. By this definition it shows that the intellectual capital increases/decreases the value of the organization. Intellectual capital consist of all those non-physical sources of value that are attached with the employees capabilities, organization’s resources and way of operating and the relationships with their stakeholders (Lönnqvist, 2004). The intellectual capital (IC) is very important for knowledge intensive companies (Stewart, 2001; Sveiby, 1997). So the intellectual capitals are all those intangible resources of the organization which creates value for the organization. Intellectual capital has three categories human, internal structural and relational capital (Martin Clarke et al, 2010). Human capital refers to the human capabilities, skills, professionalism etc. The internal structure capital consists of innovation produced by the research and development teams, policies, internal environment etc. (Guthrie & Petty, 2000). In this study we only take Research and Development as a structural capital of intellectual capital. And the third one is the relational capital, Bontis in 2001 said it includes the relationship with the third parties like suppliers and customers.
The role of human resource capabilities are increasing in making strategies and in all processes of the organization. Human capital is very important capital which creates value for the organization (Royal and O’Donnell, 2008). In past every organization treated the human resource capital as a cost but nowadays it is considered as the important capital of the organization and the important driver for achieving the organizational goal. As Kakabadse and Kakabadse in 2000 identified that human resource is the resource which is responsible for the organizational success. It is also very important tool and driver for improving the organizational effectiveness (Analoui, 1999; Analoui, 2002). So there is very important link between the utilization of human capital and the performance of the organization (Lahteenmaki et al, 1998; Baird And Meshoulan, 1998). Just like other intellectual capital the capabilities of the human resource or the strategic human resource cannot be seen on the balance sheet (Tomer, 1987; Analoui, 1998b). Human resource capital includes knowledge, skills, experience and relationship between employees etc (Wiig (2004). Therefore, the human capabilities include the knowledge, skills and other factors and their outcome depends on their knowledge, skills, abilities and the relationship with other employees.

Bontis et.al. (2000) explains that intellectual capital can be divided in to human capital and structural capital. A researcher found a significant relationship with the financial performance of the organization and the structurual capital in Malaysian firm and concluding that the investment in intellectual capital especially in the structural capital grows the competitive edge of that firm (Bontis et al., 2000). This shows that structural capital is also very important to get the competitive edge. Robert C Padgett and José I. Galán analyze the R&D intensity and corporate social responsibility because this perspective recognizes the importance of intangible resources in the organization. Organization’s Research and Development (R&D) capabilities which produced innovation and creativity are another important element of the intellectual capital that increases the value of the organization; it is also the important intangible asset of the organization. R & D and the marketing expense are the essential part of the organizational corporate strategy and manager must take into account (Bou-Wen Lin et al, 2006). Bou-Wen Lin et al also said that R&D and the marketing expense are the two important decisions that affect the financial performance of the organization. To get the competitive advantage, the organization must continuously creating innovation in the organization. Organizations that invest more on the R&D have more power competing on the basis of advancement in innovation and technology (O’Brien, 2003).

Literature shows that the firm’s good relationship with its stakeholders increases the performance of the organization especially the financial performance of the organization. An organization’s positive relationship with its various stakeholders increases the financial performance of the organization (Orlitzky, Schmidt, and Rynes, 2003; Roman, Hayibor, and Agle, 1999). The good relationship between organization and the supplier is also beneficial for the organization; it also enhances the Financial Performance (FP). Dyer and Singh in 1998 explained that the supplier wants knowledge sharing with firms. The relation of organization with customers also causes to affect the financial performance of the organization like that the customer involvement in organization creates competitive advantage (Shrivasta, 1995).

Performance is the important function of the organization to manage all the resources of the organization in different ways and to gain the competitive edge (Sri Iswati, Muslich Anshori, 2007). To convert the performance of the organization into monetary terms is called financial performance. Researcher defined intellectual capital as a knowledge that can establish the value of the organizations (Edvinsson and Malone, 1997).
There are so many methods to measure the intellectual capital and performance. VAIC™ provides standard measure of intellectual capital efficiency. We also used this method in this study. This method was used in different studies in different countries. So much literature is available which shows the significance relationship with VAIC™ and performance (Firer & Williams, 2003; Chen et al., 2005; Shiu, 2006a, 2006b; Chan, 2009a, 2009b; Ting & Lean, 2009). Shiu (2006b) in his study proves the significant relationship between VAIC™ and return on assets (ROA).

It is clear that factors related to intellectual capital should affect the financial performance (Productivity and profitability) (Paula Kujansivu; Antti Lönnqvist, 2005). It is proved that the intellectual capital has positive impact on the financial performance of the organizations. So the following are the hypothesis and the framework we developed from the above literature:

- H₁: HR Activities has significant impact on financial performance.
- H₂: A structural capital resource has significant impact on financial performance.
- H₃: Relationship with Stakeholders has significant impact on financial performance.
- H₄: Intellectual Capital has significant impact on financial performance.

### 3. Study Design and Research Methodology

As explained in the literature review, the hypothesis ‘intellectual capital has influence to the organization financial performance’. The data is collected through standardized quantitative measuring instrument. We used the quantitative data from different organizations focusing on the banks. In this phase our population is banking industry and sample are 5 banks. The secondary data was collected from the financial reports of these banks and the same fiscal period was used. We used the time period from 2007-2010, a four year data. To calculate the intellectual capital (Independent variables) we adopt the method of Value Added Intellectual coefficient (VAIC™). VAIC™ shows the efficiency of the intellectual capital. For the measurement of financial performance (Dependent variable) we use return on assets (ROA).

So it shows that the data is collected through standardized quantitative measuring instrument. To examine the hypothesis we used correlation. For the intellectual capital we use the method of VAIC™, which shows the efficiency of intellectual capital. This method is made by the Ante Pulic. This method is very simple. The first step is the value added (VA). we can calculate the VA by following method.

\[
VA = D + A + P + C
\]

D stands for the depreciation while A is for the amortization. C describes the costs of the employees e.g. salaries .etc and P is the operating profit of the company. These values can be obtained from the
financial statements of the companies. We get these values from the financial statements of the banks.

Value of Human capital (HC) was obtained from the total salaries of the banks and if we subtract the Human Capital from Value Added we get the Structural Capital (SC) of the banks. So SC= VA-HC.

CEE stands for the capital employed efficiency. It shows how much the capital employed is efficient. So if we divide the Value Added (VA) with the Capital Employed (CE) we get the Capital Employed Efficiency. CE= Total Assets – Current liabilities. So

\[ CEE = \frac{VA}{HC} \]

So in this way we can also calculate the human capital efficiency Stakeholder relationship Capital Efficiency and the structural capital efficiency in the following methods

Human Capital Efficiency (HCE) = \( \frac{Value\text{ added}}{Human\text{ capital}} \)

Structural Capital Efficiency (HCE) = \( \frac{Structural \text{ capital}}{Value\text{ added}} \)

By adding the human capital efficiency and the structural capital efficiency we can get the intellectual capital efficiency (ICE)

\[ Intellectual\text{ Capital Efficiency (ICE)} = \ HCE + SCE \]

At the end the Value Added Intellectual Capital Coefficient (VAICTM) is the total sum of the Intellectual Capital Efficiency and the Capital Employed Efficiency.

We use the Pearson correlation coefficient method to check the relationship between the Return on Assets (ROA), Capital Employed Efficiency (CEE), Intellectual Capital efficiency (ICE) and Value Added Intellectual Coefficient (VAICTM).

4. Results and Interpretation

The following table shows the performance of the banks in terms of VAICTM values. The following table shows that the ‘Bank 5’ has the highest VAICTM values. This bank has been up and down in the value but averagely this bank has the highest VAICTM value. Averagely the ‘Bank 2’ is second and ‘Bank 1’, ‘Bank 3’ and ‘Bank 4’ stands 3rd 4th and 5th respectively.

<table>
<thead>
<tr>
<th>VAICTM</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>0.477069</td>
<td>1.593145</td>
<td>3.388342</td>
<td>3.289659</td>
<td>2.187054</td>
</tr>
<tr>
<td>Bank 2</td>
<td>6.740994</td>
<td>5.826173</td>
<td>4.927261</td>
<td>4.316609</td>
<td>5.452759</td>
</tr>
<tr>
<td>Bank 3</td>
<td>1.487724</td>
<td>0.39357</td>
<td>1.419008</td>
<td>1.671093</td>
<td>1.242849</td>
</tr>
<tr>
<td>Bank 4</td>
<td>1.204888</td>
<td>0.250526</td>
<td>0.145374</td>
<td>2.11672</td>
<td>0.929377</td>
</tr>
</tbody>
</table>

In terms of human capital performance all the banks has higher human capital efficiency than the capital employed efficiency and Structural capital efficiency. ‘Bank 4’ has fifth position while ‘Bank 5’ has higher HCE value than the other banks and this bank is also averagely higher than other banks as shown in the below table:-

<table>
<thead>
<tr>
<th>HCE=VA/HC</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>0.175025</td>
<td>1.210851</td>
<td>2.41605</td>
<td>2.32093</td>
<td>1.530714</td>
</tr>
<tr>
<td>Bank 2</td>
<td>5.535845</td>
<td>4.625401</td>
<td>3.845121</td>
<td>3.30928</td>
<td>4.328912</td>
</tr>
<tr>
<td>Bank 3</td>
<td>1.187944</td>
<td>0.20922</td>
<td>1.216224</td>
<td>1.358775</td>
<td>0.993041</td>
</tr>
<tr>
<td>Bank 4</td>
<td>1.065003</td>
<td>0.068578</td>
<td>0.066474</td>
<td>1.067834</td>
<td>0.566972</td>
</tr>
</tbody>
</table>

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‘Bank 2’ is the number one bank in the terms of the structural capital efficiency. ‘Bank 1’ is the number two bank while from the remaining the ‘Bank 4’ is at number 5 in terms of the SCE.

\[
\text{SCE} = \frac{\text{SC}}{\text{VA}}
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>0.148954</td>
<td>0.174135</td>
<td>0.586101</td>
<td>0.569138</td>
<td>0.369582</td>
</tr>
<tr>
<td>Bank 2</td>
<td>0.819359</td>
<td>0.783803</td>
<td>0.73993</td>
<td>0.697819</td>
<td>0.760228</td>
</tr>
<tr>
<td>Bank 3</td>
<td>0.15821</td>
<td>0.173021</td>
<td>0.177783</td>
<td>0.264043</td>
<td>0.193264</td>
</tr>
<tr>
<td>Bank 4</td>
<td>0.061035</td>
<td>0.064177</td>
<td>0.06233</td>
<td>0.063525</td>
<td>0.062767</td>
</tr>
<tr>
<td>Bank 5</td>
<td>0.264887</td>
<td>0.297907</td>
<td>0.21464</td>
<td>0.201782</td>
<td>0.244804</td>
</tr>
</tbody>
</table>

The table about the capital employed efficiency CEE of five banks is described in the following table.

\[
\text{CEE} = \frac{\text{VA}}{\text{CE}}
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>0.15309</td>
<td>0.20816</td>
<td>0.38619</td>
<td>0.39959</td>
<td>0.286758</td>
</tr>
<tr>
<td>Bank 2</td>
<td>0.38579</td>
<td>0.41697</td>
<td>0.34221</td>
<td>0.30951</td>
<td>0.36362</td>
</tr>
<tr>
<td>Bank 3</td>
<td>0.14157</td>
<td>0.011329</td>
<td>0.025</td>
<td>0.048275</td>
<td>0.056544</td>
</tr>
<tr>
<td>Bank 4</td>
<td>0.07885</td>
<td>0.11777</td>
<td>0.01657</td>
<td>0.98536</td>
<td>0.299638</td>
</tr>
<tr>
<td>Bank 5</td>
<td>0.11528</td>
<td>0.1268</td>
<td>0.10144</td>
<td>0.10285</td>
<td>0.111593</td>
</tr>
</tbody>
</table>

The correlation coefficient related to the whole data between 2007 and 2010 of the five banks of Pakistan are described in the following table.

<table>
<thead>
<tr>
<th>ROA</th>
<th>VAIC</th>
<th>ICE</th>
<th>CEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAIC</td>
<td>0.905145</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ICE</td>
<td>0.908253</td>
<td>0.999827</td>
<td>1</td>
</tr>
<tr>
<td>CEE</td>
<td>0.414454</td>
<td>0.292719</td>
<td>0.310384</td>
</tr>
</tbody>
</table>

The above table shows that VAIC and ROA have strong positive relation. So the ROA and VAIC have correlation of 0.905145 and are significant to each other. Intellectual Capital Efficiency and Return on Assets also keep competitive correlation of 0.908253 and are significant for both of them. The correlation between Intellectual Capital Efficiency and Value Added Intellectual Coefficient (VAIC) is 0.999827. These two variables are also significant in relation to them. Capital Employed Efficiency and Return on Assets also has positive correlation of 0.414454 but it has less correlation of ICE and VAIC with Return on Assets. Capital Employed Efficiency (CEE) and VAIC also bear correlation of 0.292719. The correlation between CEE and VAIC is less than ICE and VAIC, thus ICE and VAIC are significant to one and other. The correlation between the Capital Employed Efficiency and the Intellectual Capital is 0.310384.

The result describes that the SCE and HCE values are more significant to VAIC and ROA than Capital Employed Efficiency (CEE) value of Banks in Pakistan.

5. Managerial Implications

This study is very helpful to the researchers and the managers of the organizations because in Pakistan research conducted on this topic is very rare in term of developing the strategy relating to Intellectual Capital. Intellectual Capital is very important factor in the organizational performance.
especially in the financial performance. From the above literature review and result, it is obvious that the efficiency of the Intellectual Capital increases the financial performance of the organizations. The organizations should focus proper attention to the Intellectual Capital. In organizations of developed countries Intellectual Capital is more important than the tangible capital because Intellectual Capital accelerates efficiency in the process, innovation and so on. As the hypothesis of this study is proved by our result and the literature review, the developing countries like Pakistan and under developed countries need focusing on the Intellectual Capital of the organization.

6. Conclusion
Intellectual Capital has significant impact on the organizational financial performance. Discussion of all the result proved that the hypothesis; $H_1$: HR Activities has significant impact on financial performance, $H_2$: a Structural capital resource has significant impact on financial performance, $H_3$: Relationship with Stakeholders has significant impact on financial performance, $H_4$: Intellectual Capital has significant impact on financial performance. All these factors affect positively on the financial performance of the organization. HR practices cause to create innovation in the organization which may be helpful in increasing the financial performance of the organization. Structural Capital resources also play significant role in the financial performance of the organizations. Structural capital includes the processes, software etc of the organization that also expands the performance of the organization. A good Relationship with different stakeholders also improves financial performance of the organization as shown in the literature review and the result. So this shows that the intellectual capital has significant positive relationship with the financial performance of the organization. The firm’s financial performance increases when the efficiency of intellectual capital increases and this is proved in this study.

7. Recommendations
In this study we reviewed lot of material related to variables, made hypothesis and proved them at the end. In the light of all the literature review and the results we came to the decision that organization should give proper attention to the intellectual resources, so that the financial performance of the organization improves. As such the intellectual capital is important capital of the organization because efficiency of intellectual capital improves its financial performance.

8. Future Study
In this study only the data of five banks were used. A researcher can increase the number of sample to reduce the error. The researcher can also choose the other industries like pharmaceutical, electronic industry etc. because there Intellectual Capital Efficiency is more than the banks. We only use the method of value of intellectual capital coefficient (VAIC™) in this study but there are also so many other methods for calculating the impact of Intellectual Capital, which can be used in the future studies.

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