

Periodic Research

A Comparative Analysis of Performance of Commercial Banks in India

Abstract

Intellectual capital is significant factor of the future and is an organization's most important asset. Intellectual capital includes the basic three elements like human capital, structural capital and customer capital which are used to establish and enhance the organizational performance. The organizations which will learn to manage human resources effectively will realize accelerated performance and achieve the ultimate competitive advantage. Therefore, the aim of this paper is to examine the efficiency level of intellectual capital among commercial banks and its impact on their banking industry's value added. For this, study used a model introduced by Pulic (1998) to evaluate value added intellectual Capital (VAIC); the study found that with the increase in level of intellectual capital in commercial banks there is an increase in banks' performance. Apart from this, banking industry's value added is highly related to the amount of capital employed as compared to other variables.

Keywords: Intellectual Capital, Human Capital, VAIC And Capital Employed.

Introduction

Nowadays, with the expansion of industrial world leads to an era where economic growth depends highly on knowledge. There has been an exponential growth in the capabilities of information technology during the last twenty years. It has increased international competition, and strengthened the need for continuous innovation. There has also been an incredible growth in the services sector. More of what is produced and consumed today is intangible. These days, information technology skills, customer relationship skills and personal skills are given more emphasis than manual skills. Such skills provide a competitive advantage to the firms. In the past, raw materials, capital, land and machinery were considered to be the only valuable resources. Today, other resources such as brand, corporate routines, skills and creativity are considered no less important as these give a competitive advantage. Intellectual capital is a package of useful knowledge which includes organization processes, technological patents, employees' skills and information about customers, suppliers and stakeholders. It deals with particular, reasonable, knowledgeable and substantial fruits of the mind (Kok, 2007). It comprises basic three components such as human capital, structural capital and customer capital. Human capital includes experience, know-how, capabilities, skills and expertise of the human members of the organization. Structural capital is the supportive infrastructure that enables human capital to function and includes the systems, networks, policies, culture, distribution channels. Customer capital is the strength and loyalty of customer relations and includes customer satisfaction, repeat business, financial wellbeing and price sensitivity, market share and so on. Intellectual capital significantly affects the performance of an organization. It has not only contributed in the creation of whole new types of business, but also provided various other ways of doing business. In fact, many companies such as those in the software field rely wholly on intellectual capital for generating revenue (Luthy, 2000).

Indian banking industry plays a dominant role in the financial sector of India. Banks constitute the backbone of a nation's financial system, performing manifold functions like liquidity, maturity and risk transformation. Indeed, it needs no gainsaying that the health of the economy is, in a way, the mirror reflection of the banking system, especially in bank-based financial systems such as ours.

Objectives of the Study

The main focus of the paper is to analyze in detail, the efficiency level of intellectual capital in commercial banks in India. Therefore, the

Deepak Kumar
Assistant Professor,
Department of Economics,
SGGSW University,
Fatehgarh, Sahib,
Punjab

intellectual capital efficiency level of commercial banks in India since 1991 has been studied in the present paper. More specifically the objectives of the present papers are:

1. To study the comparative performance of human capital efficiency level in commercial banks since 1991-2013.
2. To analyze capital employed efficiency level and value added intellectual coefficient of commercial banks since 1991-2013.

Review of Literature

Rehman et al. (2013) investigated the intellectual capital performance of insurance sector. Insurance sector has a significant role to play in the development process of an economy. The insurance sector in Pakistan is facing business uncertainty due to poor business conditions. More than 40 insurance companies are operating in Pakistan. The years 2008 and 2009 have been quite difficult for insurance industry due to contraction in investment income and increase in operating cost. Human capital, structural capital and relational capital are the components of intellectual capital. Three hypotheses have been formulated for the study; firstly, there is a positive relationship between value added and performance indicators (ROE, ROA and EPS); secondly, there is a positive relationship between VAIC and financial performance indicators (ROE, ROA and EPS); and thirdly, there is a positive relationship between VAIC components (HCE, SCE and CEE) and financial performance indicators (ROE, ROA and EPS). The data collected for the purpose of this study relates to 24 insurance companies, out of which 21 are general insurance (non-life insurance) companies and remaining 3 belong to life insurance sector. The data has been collected from audited annual reports, relevant websites and Insurance Association of Pakistan for the period 2006-10. Value added and value added intellectual coefficient model have been used to measure the intellectual capital performance of insurance sector. An attempt has also been made to find the impact of intellectual capital performance on financial returns of both life and non-life insurance sectors. The study analyzes the empirical relationship of value added, VAIC and its performance components with performance indicators of insurance sector.

The study establishes a positive relationship between the two approaches, value added and VAIC and financial performance indicators. As far as the existence of relationship between the performance components of VAIC and financial performance indicators is concerned, earning per share is positively related to human capital efficiency. A negative relationship has emerged between capital employed efficiency and returns on investment.

Shaban and Kavida (2013) studied intellectual capital to find its impact on financial sector banks in India. VAIC model has been used for the purpose the variables such as human capital efficiency, capital employed efficiency, and structural capital efficiency were considered. Performance has been measured by returns on assets. It provides a

measure to assess the overall efficiency with which firm assets are used to produce net income from operations. The study applies two regression models; one model examines the relationship between financial performance measured by ROA and the aggregate measure of value added, VAIC, while the other examines the association between financial performance measured by ROA and VAIC components. The authors have found that IC and financial performance in private sector banks are positively related to each other. When VAIC is separated into three components, viz. capital employed efficiency, structural capital efficiency and human capital efficiency it has been observed that financial performance is significantly associated with capital employed efficiency and structural capital efficiency, but negatively associated with human capital efficiency.

Haq et al. (2014) have examined the intellectual efficiency of commercial banks in Pakistan. They have also studied the relationship between IC and financial performance (profitability and productivity) of these banks. Intellectual capital has three components, i.e., human capital, structural capital and customer capital. The abilities, skills, experience and specialties of the members of an organization constitute human capital. It is the basic source of innovation. Structural capital plays a supportive role for the human capital in organizations. It converts the individual know-how to the group property. It enables the employees to get maximum intellectual performance which ultimately leads to better organizational performance. Customer capital includes both the individual and organizational level relations with the society or other stakeholders. The IC efficiency and capital employed efficiency have been measured by using the VAIC tool. The data required for the study has been collected from 21 commercial banks working in Pakistan. The model ascertains how much and how efficiently IC and capital employed add to value. The regression analysis provides that there is a significant relationship between intellectual capital and organizational performance. But the banks under study are not utilizing their intellectual capital optimally. It has also been observed that in the case of public owned banks VAIC has a positive impact over profitability (ROA and ROE), but there is no relationship between VAIC and productivity (ATO). At the same time, for the private owned banks VAIC have a significant relationship; and it affects both the profitability and productivity.

Rezaei and Mousavi (2015) examined the three elements of intellectual capital, viz. human capital, structural capital and customer capital; and their internal relations in the Islamic banking industry. They also focused on finding the impact of intellectual capital on the performance of Islamic banking. Intellectual capital has an important role to play in the successful development an organization. Most of the organizations and banks in Islamic countries and Iran have started to shift in practicing intellectual capital after knowing about its importance. Intellectual capital

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includes intangible assets such as technology, customer information, brand name, reputation and corporate culture. In the present business scenario, intellectual capital is considered as the most significant strategic asset for the success of an organization. Intellectual capital ensures the success of knowledge intensive organizations. Banking sector appears under this category. Therefore, there is a dire need to nourish the concept and applications of intellectual capital in banking sector. The banking in Islamic countries depends highly on conventional banking sector and Islamic banking sector. The study revealed that most of the studies on intellectual capital have their focus on three dimensions, i.e. human, structural capital and customer-centered capital, while performance of the companies has been examined on the basis of three factors, viz. profitability, productivity and market value to book value. Due to underdevelopment of the banking system in most of the Muslim countries, and the lack of competition with global banking, there is a wide scope for progress which can be achieved through work and efforts. Thus, intellectual capital is highly related to organizational performance of Islamic banking industry. The dimensions such as human capital, structural capital and customer capital affect the intellectual capital of an organization significantly.

Data and Methodology

This study focuses on the intellectual capital efficiency of commercial banks in India. The annual reports of the banks from the publications of 'Indian Banks' Association' like special issues, annual publications on 'Performance Highlights of all banks for the year 1990-91 to 2012-13 were chosen for this study. The data obtained from secondary sources have been used to derive value added intellectual coefficient (VAIC). VAIC measures the intellectual capability and performance of the organization. A higher value for VAIC implies a greater efficiency in the use of firm capital, since VAIC is calculated as the sum of human capital efficiency and capital employed efficiency. Intellectual capital in banks is measured through value added intellectual coefficient.

Analysis and Conclusion

Bank Group-wise Human Capital Efficiency (HCE)

Bank group-wise human capital efficiency in India is presented in table no. 1. During the new policy regime, the human capital efficiency has grown at a compound annual growth rate of 8.75 percent per annum for the total banking industry. The growth of HCE has been the highest (11.83 percent per annum)

in SBI and its Associates followed by nationalized banks (5.57 percent per annum, private banks (4.69 percent per annum) and foreign banks (2.61 percent per annum), in order. In case of new private banks, the growth of HCE has been -7.00 percent per annum. So the public sector banks, historically burdened with overstaffing have continuously strengthened the human capital side to improve the performance. The new private banks and to some extent the foreign banks are facing a retardation or slowdown in the human capital efficiency. Public sector banks and the private sector banks have been able to improve sharply due to their size and scale advantage; which new private or foreign banks could not do.

If we compare the temporal average human capital efficiency, the banking industry benchmark for the same comes to be 0.52 in India. The new private banking group has average HCE to the tune of 2.72 which is more than the five times total banking benchmark. The foreign banks have average HCE to the tune of 1.23 which more than the double of national benchmark of banking industry. The average HCE of SBI and its Associates and nationalized banks has been slightly lower than the national average benchmark. Private sector banks have registered the average as 0.66 which is slightly better than national benchmark. The variation on the basis of coefficient of variation has been the highest in SBI and its Associates followed by foreign banks, new private sector banks, nationalized banks and private sector banks in order.

The temporal average level of human capital efficiency read with its growth profile shows that new private banks and foreign banks started with a new human resource setup required by the new regime. In terms of HCE these banks were at a higher pedestal since their incorporation and they had the first starter advantage in terms of automation and computerization. Public sector banks (both SBI and its Associates and nationalized banks) and private banks were at disadvantage in terms of HCE due to their structure, organization and objectives. But over a period of time, these banks have been able to pick up in terms of HCE. *In terms of HCE, in India, the model of efficiency set up by foreign and new private banks in early 1990s decade was followed by private and public sector banks in decade of 2000s to sustain and compete in the new environment. Further, in terms of HCE all the banking groups are tending to converge to an average value over a period of time.*

Table No.1: Bank Group-wise Human Capital Efficiency in India during the years 1990-91 to 2012-13

| Year | Human Capital Efficiency | | | | | |
|-----------|----------------------------|--------------------|---------------|-------------------|---------------|-------|
| | SBI & Its Associates Banks | Nationalized Banks | Private Banks | New Private Banks | Foreign Banks | Total |
| 1990-1991 | 0.09 | 0.09 | 0.11 | - | 1.63 | 0.14 |
| 1991-1992 | 0.18 | 0.12 | 0.31 | - | 2.13 | 0.23 |
| 1992-1993 | -0.93 | 0.12 | 0.19 | - | -4.21 | -0.61 |
| 1993-1994 | -1.10 | 0.14 | 0.35 | - | 1.79 | -0.50 |
| 1994-1995 | 0.05 | 0.25 | 0.75 | - | 1.87 | 0.22 |
| 1995-1996 | -0.17 | 0.18 | 0.60 | 6.68 | 1.49 | 0.07 |
| 1996-1997 | 0.20 | 0.38 | 0.61 | 5.79 | 1.13 | 0.35 |
| 1997-1998 | 0.32 | 0.52 | 0.58 | 4.98 | 1.02 | 0.46 |
| 1998-1999 | 0.19 | 0.27 | 0.34 | 3.51 | 0.99 | 0.28 |
| 1999-2000 | 0.23 | 0.45 | 0.61 | 3.49 | 1.20 | 0.40 |
| 2000-2001 | 0.16 | 0.28 | 0.50 | 2.57 | 1.04 | 0.28 |
| 2001-2002 | 0.39 | 0.51 | 0.87 | 2.05 | 1.33 | 0.54 |
| 2002-2003 | 0.60 | 0.61 | 0.95 | 2.08 | 1.75 | 0.72 |
| 2003-2004 | 0.78 | 0.67 | 1.01 | 2.65 | 1.96 | 0.88 |
| 2004-2005 | 0.63 | 0.63 | 0.21 | 2.28 | 1.47 | 0.73 |
| 2005-2006 | 0.63 | 0.56 | 0.45 | 1.83 | 1.55 | 0.73 |
| 2006-2007 | 0.77 | 0.63 | 0.65 | 1.52 | 1.49 | 0.86 |
| 2007-2008 | 0.97 | 0.87 | 1.10 | 1.42 | 1.60 | 1.08 |
| 2008-2009 | 1.00 | 0.96 | 1.08 | 1.34 | 1.54 | 1.09 |
| 2009-2010 | 1.04 | 0.80 | 0.83 | 1.61 | 1.01 | 1.03 |
| 2010-2011 | 0.90 | 0.62 | 0.91 | 1.64 | 1.42 | 0.96 |
| 2011-2012 | 0.92 | 0.72 | 1.04 | 1.71 | 1.64 | 1.04 |
| 2012-2013 | 0.79 | 0.76 | 1.13 | 1.88 | 1.94 | 1.04 |
| Mean | 0.38 | 0.48 | 0.66 | 2.72 | 1.25 | 0.52 |
| SD | 0.56 | 0.26 | 0.32 | 1.58 | 1.23 | 0.48 |
| CV | 149.82 | 54.12 | 48.10 | 58.02 | 98.65 | 91.29 |
| CAGR* | 11.83 | 5.57 | 4.69 | -7.00 | 2.61 | 8.75 |

Source: Calculated

Bank Group-wise Capital Employed Efficiency (CEE)

Bank group-wise capital employed efficiency (CEE) is given in table no.2. Analysis of the table is indicative of the fact that temporal CEE average for total banking is 0.09 and it has grown at the compound annual growth rate of 1.72 percent per annum. Bank group-wise the temporal average is the

* Calculated for 1996-97 onwards period

same (0.15) for all bank groups except that of SBI and its Associates. For SBI and its Associates the temporal average CEE comes out to be 0.07 which is almost half of all other bank groups in India. In terms of growth, the CEE has grown at the growth rate of 5.87 percent per annum in case of SBI and its Associates and its growth rate is negative in all other banking groups.

Table No. 2: Bank Group-wise Capital Employed Efficiency in India during 1990-91 to 2012-13

| Year | Capital Employed Efficiency | | | | | |
|-----------|-----------------------------|--------------------|---------------|-------------------|---------------|--------|
| | SBI & Its Associates Banks | Nationalized Banks | Private Banks | New Private Banks | Foreign Banks | Total |
| 1990-1991 | 0.06 | 0.09 | 0.14 | - | 1.09 | 0.11 |
| 1991-1992 | 0.10 | 0.13 | 0.30 | - | 0.42 | 0.15 |
| 1992-1993 | -0.48 | 0.13 | 0.14 | - | -0.50 | -0.35 |
| 1993-1994 | -0.33 | 0.07 | 0.19 | - | 0.19 | -0.17 |
| 1994-1995 | 0.01 | 0.15 | 0.30 | - | 0.17 | 0.07 |
| 1995-1996 | -0.05 | 0.11 | 0.18 | 0.15 | 0.14 | 0.02 |
| 1996-1997 | 0.06 | 0.17 | 0.16 | 0.25 | 0.10 | 0.10 |
| 1997-1998 | 0.09 | 0.20 | 0.14 | 0.33 | 0.08 | 0.12 |
| 1998-1999 | 0.06 | 0.11 | 0.09 | 0.17 | 0.10 | 0.09 |
| 1999-2000 | 0.08 | 0.17 | 0.15 | 0.15 | 0.13 | 0.12 |
| 2000-2001 | 0.06 | 0.13 | 0.11 | 0.15 | 0.12 | 0.10 |
| 2001-2002 | 0.13 | 0.17 | 0.19 | 0.08 | 0.16 | 0.14 |
| 2002-2003 | 0.18 | 0.20 | 0.20 | 0.14 | 0.14 | 0.17 |
| 2003-2004 | 0.21 | 0.20 | 0.19 | 0.19 | 0.16 | 0.20 |
| 2004-2005 | 0.16 | 0.17 | 0.04 | 0.15 | 0.10 | 0.14 |
| 2005-2006 | 0.14 | 0.16 | 0.08 | 0.12 | 0.13 | 0.14 |
| 2006-2007 | 0.16 | 0.15 | 0.11 | 0.14 | 0.14 | 0.15 |
| 2007-2008 | 0.17 | 0.15 | 0.13 | 0.10 | 0.13 | 0.14 |
| 2008-2009 | 0.17 | 0.16 | 0.14 | 0.10 | 0.13 | 0.14 |
| 2009-2010 | 0.18 | 0.15 | 0.11 | 0.11 | 0.07 | 0.13 |
| 2010-2011 | 0.17 | 0.14 | 0.13 | 0.13 | 0.09 | 0.14 |
| 2011-2012 | 0.14 | 0.14 | 0.14 | 0.14 | 0.10 | 0.14 |
| 2012-2013 | 0.12 | 0.14 | 0.15 | 0.15 | 0.11 | 0.13 |
| Mean | 0.07 | 0.15 | 0.15 | 0.15 | 0.15 | 0.09 |
| SD | 0.16 | 0.03 | 0.06 | 0.06 | 0.25 | 0.12 |
| CV | 236.52 | 22.34 | 39.48 | 38.02 | 166.39 | 129.86 |
| CAGR | 5.87 | -0.87 | -0.51 | -3.53 | -0.47 | 1.72 |

Source: Calculated

* Calculated for 1996-97 onwards period

Capital employed efficiency is a function of operations, revenue, income, market and economic environment. For the past decade, whole of the banking industry in India is facing a bad weather at home and at international arena in terms of economic slowdown. Capital employed efficiency, in general, is under stress; this is what has forced the banks to look in to other parameters of improving the efficiency and human capital efficiency has been the easiest one. Further scope in improving the efficiency lies in

improving the structural and customer capital. Key to overall efficiency lies in improving the total package of intellectual capital that includes human capital, structural capital and customer capital.

Bank Group-wise Value Added Intellectual Coefficient (VAIC)

Bank Group-wise Value Added Intellectual Coefficient in India is presented in table no.3. Analysis of VAIC shows that it has grown at the growth rate of 7.54 percent per annum at the total banking level.

Table No.3: Bank Group-wise Value Added Intellectual Coefficient in India during 1990-91 to 2012-13

| Year | Value Added Intellectual Coefficient (VAIC) | | | | | |
|-----------|---|--------------------|---------------|-------------------|---------------|-------|
| | SBI & Its Associates Banks | Nationalized Banks | Private Banks | New Private Banks | Foreign Banks | Total |
| 1990-1991 | 0.15 | 0.18 | 0.25 | - | 1.63 | 0.25 |
| 1991-1992 | 0.28 | 0.25 | 0.61 | - | 2.13 | 0.38 |
| 1992-1993 | -1.41 | 0.25 | 0.33 | - | -4.21 | -0.96 |
| 1993-1994 | -1.43 | 0.21 | 0.54 | - | 1.79 | -0.67 |
| 1994-1995 | 0.06 | 0.40 | 1.05 | - | 1.87 | 0.29 |
| 1995-1996 | -0.22 | 0.29 | 0.78 | 6.83 | 1.49 | 0.09 |
| 1996-1997 | 0.26 | 0.55 | 0.77 | 6.04 | 1.13 | 0.45 |
| 1997-1998 | 0.41 | 0.72 | 0.72 | 5.31 | 1.02 | 0.58 |
| 1998-1999 | 0.25 | 0.38 | 0.43 | 3.68 | 0.99 | 0.37 |
| 1999-2000 | 0.31 | 0.62 | 0.76 | 3.64 | 1.20 | 0.52 |
| 2000-2001 | 0.22 | 0.41 | 0.61 | 2.72 | 1.04 | 0.38 |
| 2001-2002 | 0.52 | 0.68 | 1.06 | 2.13 | 1.33 | 0.68 |
| 2002-2003 | 0.78 | 0.81 | 1.15 | 2.22 | 1.75 | 0.89 |
| 2003-2004 | 0.99 | 0.87 | 1.20 | 2.84 | 1.96 | 1.08 |
| 2004-2005 | 0.79 | 0.80 | 0.25 | 2.43 | 1.47 | 0.87 |
| 2005-2006 | 0.77 | 0.72 | 0.53 | 1.95 | 1.55 | 0.87 |
| 2006-2007 | 0.93 | 0.78 | 0.76 | 1.66 | 1.49 | 1.01 |
| 2007-2008 | 1.14 | 1.02 | 1.23 | 1.52 | 1.60 | 1.22 |
| 2008-2009 | 1.17 | 1.12 | 1.22 | 1.44 | 1.54 | 1.23 |
| 2009-2010 | 1.22 | 0.95 | 0.94 | 1.72 | 1.01 | 1.16 |
| 2010-2011 | 1.07 | 0.76 | 1.04 | 1.77 | 1.42 | 1.10 |
| 2011-2012 | 1.06 | 0.86 | 1.18 | 1.85 | 1.64 | 1.18 |
| 2012-2013 | 0.91 | 0.90 | 1.28 | 2.03 | 1.94 | 1.17 |
| Mean | 0.44 | 0.63 | 0.81 | 2.88 | 1.25 | 0.61 |
| SD | 0.72 | 0.28 | 0.33 | 1.62 | 1.23 | 0.58 |
| CV | 160.94 | 44.66 | 40.72 | 56.29 | 98.65 | 93.96 |
| CAGR | 10.68 | 4.11 | 3.86 | -6.81 | 2.61 | 7.54 |

Source: Calculated

* Calculated for 1996-97 onwards period

The temporal average national benchmark for VAIC comes out to be 0.61 with a variability of 93.96 percent. The temporal average VAIC for new private banks is 2.88 which is more than four times of national benchmark. Foreign banks are at more than the double marks in terms of long terms VAIC average national benchmark. Nationalized banks and private sector banks are slightly better but SBI and its Associates with mark of VAIC at 0.44 is on the poorer side as compared to national benchmark. The VAIC pedestal set by new private banks and foreign banks generated a competition and public sector banks and private sector banks followed it and all the bank groups are tending to converge to an aggregate banking average in terms of VAIC.

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