

VAIC and Firm Performance: Banking Sector Of Pakistan

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Abstract:
Objective of this study is to examine the efficiency of the commercial banks of Pakistan in utilizing intellectual capital and capital employed to run the organization. For this purpose Ante Pulic's VAIC tool was used to measure the intellectual capital efficiency and capital employed efficiency. The regression results have also proven that there is significant relationship between the intellectual capital and organizational performance. But public owned banks are not utilizing their intellectual capital optimally. Results has shown that for Govt. owned banks VAIC has positive impact over profitability (ROA and ROE) but no relationship between VAIC and productivity (ATO). At the same time for the Private owned banks VAIC has significant relationship and impact on both profitability and productivity.

Keywords: Comparison of Public and Private Banks of Pakistan, Value Added intellectual capital, Intellectual capital Efficiency, Capital employed efficiency.

1. Introduction

For the organizations importance about resources is making a shift from tangible resources to the intangible resources is due to the reason that companies and organizations started to use information technology, more dependence on expertise and technical ability and less dependence on manual labor and physical capital (Brinker, 2000).

It is necessary to make the organizations and leaders aware of the importance of the intellectual capital for the wellbeing of the emerging economies. Intellectual capital plays very important role to make an organization achieve sustainable competitive advantage (Kaplan & Norton, 2004). There are many advantages which can be achieved by disclosing the intellectual capital. Petty (2003) stated that by disclosing the intellectual capital is will be possible to make the invisible visible to make this truth that "what can be measured can also be managed". This means that if intellectual capital is not measured or reported then there is risk of low attention towards its management and as a result firm will be in trouble.

In any country banking sector is considered as ever growing child and banking sector plays an important role in keeping the economy of any country in motion and the development process of any country. The degree of competition, efficiency and level of performance of banks in any country or specific locality is being determined by the banking structure, number, size and distribution of banks and marketing power of banks (Azad, 2000).

Researches have also shown that the response of capital markets is in the favor of the organizations that disclose and report their intellectual capital (Garcia-Ayuso, 2003; Lev, 2001).

Reporting the intellectual capital may also lead to the uncertainty about the organization as this improves the stock price (Stewart, 1997) and leads to the decrease in instability of stock prices, decreases the cost of capital to the firm (Garcia-Ayuso, 2002).

The objective of this study is to have a look at the intellectual efficiency of the commercial Banks of Pakistan as well as to empirically examine the relationship between intellectual capital and financial performance (profitability and productivity) of the banks working in Pakistan.

1.1 Intellectual capital and Its Components

Many authors and researchers have defined the intellectual capital in many different ways and there is no specific definition is available. Edvinsson & Malone (1997) Customers, computer databases, working processes, trademarks, and copyrights wrap the elements of intellectual capital which includes human capital, structural capital and relational capital. Intellectual includes three components Human capital, Structural capital and social capital. Human capital includes the abilities, skills, experience, specialties of an individual member of the organization and Human capital is the basic source of the innovation (Bounfour, 2002; Brooking, 1996; Edvinsson and Malone, 1997).

Structural capital's components are processes, systems, structures and any other intangibles that are owned by the firm but are not included in the balance sheet of the firm (Bounfour, 2002; Brooking, 1996; Edvinsson

andMalone, 1997; Stewart, 1997). Structural capital plays supportive role for the human capital in organizations to convert the individual know how to the group property. Structural capital also helps the employees to support employees to get the optimum intellectual performance and ultimately better organizational performance.

Third and last component of the intellectual capital is the social capital (also called customer capital) includes the both individual and organizational level relations with the society or other stakeholders (Burt, 1992; Coleman, 1988; Edvinsson and Malone, 1997; Ross et al., 1997; Stewart, 1997). Table 1.1 briefly explains the three components of intellectual capital.

Table 1.1: Components of IC

Human Capital	Structural Capital	Relational Capital
Knowledge and Skills	Corporate culture	Brand
Trainings	Management process	Market Reputation
Creativity	ICT systems	Customer relations
Ability to learn	Corporate strategy and plans	Communication with existing and new customers
Responsibility, Individualism, Dedication	Internal databases	Ability to appeal to new customers
Attitudes	Franchises	License agreements

Source: Janosevic & Dzenopoljac (1997)

Effective and efficient use of intangible resources to achieve the sustainable competitive advantage is the basic prerequisite to be successful in the knowledge economy. Business model of the information age states that intangible assets add more value than the tangible resources. Intangible assets are the modern value drivers which transform the resources to the value added tangibles (Hall 1992).

Stewart (1998) states the intellectual capital is the brain power of a company which includes knowledge information, intellectual property and expertise used to create value. Intangibles are also linked to the credibility and innovation potential of the management, identified brand, ability to attract talented individuals, research leadership social responsibility and attitude towards environment (Funk 2003).

Sullivan (2000) defines IC as knowledge which can be converted to the profit. Many authors and researchers contributed to the field of intellectual capital to find a specific measuring tool to measure the intellectual capital but the most significant and earlier attempt was being made by the edvinsson (1997) Edvinsson developed the Skandia Navigator as the measurement tool of intellectual capital for the first time.

According to the resource based view of firms intangible properties are also important along with the tangible properties. As there is positive relationship between the organizational resources and firm performance so the tangible and intangible assets are getting more importance in accounts, strategic management and economics (Cañibano, Garcia-Ayuso & Sanchez, 2000).

Intellectual capital has ever been seen as strategic asset of any organization because a positive relationship is being anticipated between intellectual capital and performance of an organization. Intellectual capital is knowledge which has some profitability for the organization (Godfrey & Hill, 1995; Mouritsen et al., 2003).

There are many definitions provided by many authors and researchers as Itami (1987) stated that technology, brand name, customer loyalty, goodwill and copy rights etc. intellectual capital is knowledge which creates and adds value to the organizations (stewart 1997). Pulic (2001) wrote intellectual capital as employees and capabilities of the employees to add value to the organizations. According to Sullivan (2000, p. 17) intellectual capital is “knowledge that can be converted into profits”.

Human capital, structural capital and relational capital are the three components which are being identified by many researchers and authors (Holton and Yamkovenko, 2008; Yang and Lin, 2009). Intellectual capital is sum of skills of human (or employees of the organization), structural capital i.e. data bases and organizational structure and relational capital like relationship with customers and suppliers or other stake holders (Bornemann et al. 1999).

Sum of each employee and everything in the company which provides competitive advantage to the firm is intellectual capital (Stewart 1997). Edvinsson and Sullivan (1996) stated that the knowledge which can be converted to the value for the organization is intellectual capital. Brooking (1997) define Intellectual capital as the term given to combined intangible assets which enable the company to function.

2. Literature Review

There are two reasons that why the measurement of intellectual capital is important. First reason states that by measuring the intellectual capital an organization will be able to allocate its resources in a better way. Second, it helps in long term planning as it provides information about existing potential of the organization (Enzo Dia and

Fabrizio, 2009). While investigating the impact of intellectual capital components over the financial performance of the companies listed in the Hong Kong stock exchange it was found that there is moderate relationship between the intellectual capital and financial performance of the companies (Hang 2009b). Kamath (2008) while studying the relationship between the intellectual capital and firm performance of the drug and medical industry of India by using the VAIC found that Human capital is positively related with ROA and ATO.

Bontis (2001) states that many different fields are trying to conceptualize the intellectual capital from different perspectives like accountants want to measure it, information technologists wish to codify to the computer systems, sociologists trying to balance power with it and HR managers are willing to calculate ROI on intellectual capital. This field is growing very fast but no one knows that where it is heading.

Clarke et al (2010) in their study reported that intellectual capital and organizational performance are positively related. Similar findings were reported by the Calisir et al (2010) in the Turkish companies. Another study in Singapore also reported that intellectual capital have significant and positive relationsip with the ROE and EPS. This study was being made on many different sectors (Tan et al 2007).

Chen et al (2005) reported from Taiwan that investors give more importance to the organization which invests more in intellectual capital. Further they stated that intellectual capital is positively related with firm performance. Chan (2009) provided the same results that intellectual capital is positively related with ROA and ROE in the companies listed in Hong Kong Stock Exchange.

For Romanian companies' financial performance Marian (2011) worked and studied the influence of intellectual capital over performance and concluded that both are positively related. Salman et al. (2012) in their study reported that there is positive relationship between the components of intellectual capital and firm performance. They concluded that human capital has more impact on firm performance than structural and physical capital.

Anvari Rostami et al. (2005) in their research concluded that intellectual capital is positively correlated with stock market values. Ghalichli et al. (2008) in their study suggested that human capital, structural capital and relational capital are respectively important for the organizations. In Tehran Stock exchange intellectual capital and organization performance is positively related (Madhoushi and Asgharzadeh Amiri"s 2009).

Maditinos et al (2011) in his study about the relationship of intellectual capital and firm performance considered the intellectual capital as strategically important asset for the companies. Joshi et al (2010) while examining the relationship between VAIC and performance of Australia found that intellectual capital and its components have significant impact over firm performance. Further he stated that human capital is most critical component of intellectual capital.

3. Methodology

3.1 Target Population and Data Collection

Target population of this study was the commercial banks working in Pakistan. There are 21 banks are working in Pakistan which are scheduled in State Bank of Pakistan. Out of 21 banks 5 banks are public sector banks and 17 are private owned banks. Banks included in target Population include Allied bank, Alfallah bank, Askari Bank, Bank Alhabib, Fayssal bank, habib metropolitan bank, habib bank, JS bank, KASB bank, MCB Bank, NIB bank, SAMBA bank, Soneri bank, Summit bank, Standard Chartered bank, and United Bank. Public Sector Banks include Bank of Punjab, First Women bank, Khyber bank and National Bank of Pakistan.

Data was collected from the annual reports of the banks for the past 5 years starting from 2008 to 2012. But data of one govt. bank (Sindh bank ltd) was not available due to which researcher excluded the said bank from the study.

3.2 Measuring Independent Variable (VAIC)

Ante Pulic's (2000b) VAIC (Value Added Intellectual Coefficient) is widely used tool to measure the intellectual capital efficiency. This model uses the data provided in the financial statements and provides information that how much and how efficiently IC (and its components) and capital employed adds value. The process of calculating the VAIC Model is as following as provided by the Pulic (1998, 2004)

First step is to measure the Value Added (VA) by subtracting the operating expenses (other than employee costs) from the income of the organization.

VA = OUT – IN

*Where OUT is revenues including all products and services sold and IN is all expenses for operating a company (exclusive of employee costs which are not regarded as costs)

Second step is to calculate the Human capital Efficiency (HCE)

HCE = VA / HC

*Where HC is investment in terms of salaries and wages of staff.

Third step is to measure the SCE (structural capital efficiency)

SCE = SC / VA

*SC = VA – HC

Forth step is calculate the intellectual capital efficiency (ICE)

ICE = HCE+SCE

Fifth step is to measure the Capital employed efficiency (CEE)

CEE = VA / CA

*Where CA is book value of net assets

Last step to measure the VAIC (Value added intellectual coefficient)

VAIC = ICE + CEE

3.3 Measuring Dependent Variable

To measure the performance of the bank's profitability following ratios were calculated.

3.3.1 ROA

How much efficiently an organization is utilizing its total assets. This measures the managerial effectiveness in generating profits. Return on assets is calculated by diving net income by Average total assets (Gitman, 2006:68).

3.3.2 ROE

Return on equity tells that how much efficiently organization is getting profits over its common stockholders' investment in the firm. Higher returns show strong owners. It is calculated by dividing Net income by Average Shareholders' Equity (Gitman, 2006:69).

3.3.3 ATO

This ratio of Productivity is being used to see the relationship between the VAIC and productivity of the banks of Pakistan. Assets turnover ratio tells about the efficiency that how firm is using its assets to generate profits. It is being calculated by dividing the total revenue by total assets (Gitman, 2006:62).

4. Results and Discussion

4.1 VAIC and firm performance [Govt. Sector Banks]

Regression results for the govt. sector banks have shown that VAIC (Value Added Intellectual Coefficient) has significant impact on the profitability of the banks but over the productivity of banks no significant impact is resulted. Table 1 shows the regression result of VAIC and return on equity has shown that R square is 0.60. And model is overall significant as f value is 27.055 and significant level is 1%. At the same time the relationship between VAIC and ROA (table 2) is highly significant as p value is less that .001. And R square is .200 as well as F value is 24.996. But the relationship between the VAIC and productivity of the banks has no relationship. The regression results has also shown that there is .16 and .442 unit change in the ROE and ROA as there is 1 unit change in the VAIC (independent variable).

TABLE 01: VAIC AND ROE

Independent Variable	Coefficient	T-statistic	Significance
Constant	.535	3.309	.004
VAIC	.160	5.201	.000

Note: R2 .600; F-value 27.055 (P-value<.001)

TABLE 02: VAIC AND ROA

Independent Variable	Coefficient	T-statistic	Significance
Constant	2.093	4.191	.000
VAIC	.442	5.00	.000

Note: R2 .200; F-value 24.996 (P-value<.001)

Table 03: HCE AND ATO

Independent Variable	Coefficient	T-statistic	Significance
Constant	4.481	7.777	.000
VAIC	.137	1.167	.246

Note: R2 .116; F-value 1.361 (P-value>.1)

4.2 VAIC and firm performance [Private Sector Banks]

Table 4, 5 and 6 shows the regression results of Private Banks of Pakistan and it has been proven that return on assets, return on equity and assets turn over ratio has very significant relationship with and impact from VAIC. Table 4 shows that there will be .418 unit change in the ROA when there is one unit change in the VAIC. The R2 for the relationship between VAIC and ROA is .433 and p value is less than .001. Table 5 and 6 shows that one unit change in VAIC will cause .264 and .229 unit change in ROE and ATO. VAIC has highly significant impact on ROA, ROE and ATO.

Table 04: VAIC AND ROA			
Independent Variable	**Coefficient**	**T-statistic**	**Significance**
Constant	3.621	7.374	.000
VAIC	.418	4.809	.000

Note: R2 .433; F-value 23.127 (P-value<.001)

Table 05: VAIC AND ROE			
Independent Variable	**Coefficient**	**T-statistic**	**Significance**
Constant	3.70	8.429	.000
VAIC	.264	3.400	.001

Note: R2 .322; F-value 11.563 (P-value<.001)

TABLE 06: VAIC AND ATO			
Independent Variable	**Coefficient**	**T-statistic**	**Significance**
Constant	4.015	9.396	.000
VAIC	.229	3.033	.003

Note: R2 .290; F-value 9.201 (P-value<.001)

4.3 RANKINGS OF BANKS

Ranking for intellectual capital efficiency (ICE) and capital employed efficiency of the commercial banks in Pakistan are shown in the table 7 and table 8. Rankings of intellectual capital efficiency has shown that there is among the public sector banks working in Pakistan only one bank, bank of Punjab is the good performer who is utilizing its intellectual capital efficiently and standing above all of private sector competitors. Silk bank, among the private banks is top performer of the private sector and 2nd overall from both sectors. MCB bank is third highest performer.

Table 07: ICE Ranking of Banks

Sr. No	Bank Name	AVG ICE	Ranking
1	BANK OF PUNJAB LTD	11.59114	1
2	SILK BANK LTD	5.94676	2
3	MCB BANK LTD	5.033695	3
4	BANK ALHABIB LTD	4.305196	4
5	UNITED BANK LTD	3.75852	5
6	SAMBA BANK LTD	3.435598	6
7	NIB BANK LTD	3.147675	7
8	HABIB METROPOLITAN BANK LTD	3.022257	8
9	HABIB BANK LTD	3.011917	9
10	NATIONAL BANK OF PAKISTAN	2.73458	10
11	ALLIED BANK LTD	2.602653	11
12	SONERI BANK LTD	2.47566	12
13	STANDARD CHARTERED BANK LTD	2.269983	13
14	ASKARI BANK LTD	1.798192	14
15	ALFALLAH BANK LTD	1.532105	15
16	FIRST WOMEN BANK LTD	1.496982	16
17	KHYBER BANK LTD	1.392902	17
18	FAYSAL BANK LTD	1.193514	18
19	KASB BANK LTD	0.902998	19
20	JS BANK LTD	-2.97562	20
21	SUMMIT BANK LTD	-1.31055	21

Table 8 shows the ranking of commercial banks about their efficiency in utilizing the capital employed in the firm. Ranking table shows that Habib bank ltd is the best performer and First Women bank is 2nd highest performer. This is unfortunate that public sector banks are not utilizing their assets and capital employed properly.

Table 08: Ranking of Capital Employed Efficiency

Sr. No	Bank Name	AVG CEE	Ranking
1	HABIB BANK LTD	2.40	1
2	FIRST WOMEN BANK	2.02	2
3	HABIB METROPOLITAN BANK	1.86	3
4	STANDARD CHARTERED BANK	1.71	4
5	MCB BANK	1.69	5
6	KHYBER BANK	1.47	6
7	NATIONAL BANK OF PAKISTAN	1.26	7
8	UNITED BANK LTD	1.16	8
9	ALLIED BANK LTD	1.05	9
10	BANK ALHABIB	0.98	10
11	FAYSAL BANK	0.85	11
12	ASKARI BANK LTD	0.76	12
13	BANK OF PUNJAB	0.61	13
14	ALFALLAH BANK LTD	0.57	14
15	SONERI BANK LTD	0.51	15
16	SAMBA BANK LTD	0.27	16
17	NIB BANK	0.21	17
18	SUMMIT BANK LTD	0.11	18
19	HABIB METROPOLITAN BANK	-0.07	19
20	SILK BANK	-0.21	20
21	KASB BANK LTD	-0.34	21

Conclusion

From the study it can be concluded that the intellectual utilization of govt. banks is well below from the private sector banks. As study has proven that VAIC or intellectual capital has highly significance impact over the profitability and productivity of the banks in Pakistan but as compared the average performance of banks is very low as ranking tables has shown that public sector banks are not top performers especially the National Bank of Pakistan which also acts as the representative of State bank of Pakistan is not performing well neither in employing its capital properly nor in efficiently utilizing intellectual capital.

This is suggested to the banks that they must give reasonable attention to take proper care of their intellectual capital and also promote the practices to identify their intangible assets like special competencies in employees etc. and take good use of them with in the organization.

This study has limitations that this study could not found that either any bank is aware of the intellectual capital practices or not. And either they are performing these practices in their organization or not.

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