



## A KNOWLEDGE ORIENTED APPROACH TO THE INVESTIGATION OF INDIAN BANKS PERFORMANCES AND COMPARING VARIOUS ACCOUNTING STANDARDS SET BY DIFFERENT COUNTRIES ON INTANGIBLES.

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### **Abstract**

*The purpose of this paper is to provide a description of the present role of intellectual capital (IC) in the Indian Banking Sector, in terms of their efficient use of tangible and intangible assets in the creation of corporate value. The second objective of this paper is compares the Indian accounting standards for intangible assets to International, Canadian, U.K. and U.S. standards. The paper investigates the components of IC and the impact that these components have on performance during the period 2012-2015. A Fixed effect model of panel regression is used to test the relationship between performance (Return on Assets) and certain independent variables (HCE, SCE and CEE) and control variables (Size and Leverage). A model of analysis will be adopted from the literature in order to approximate the efficiency of banks in their use of intangible assets for the creation of value (VAIC Analysis). The results show that investors may place different values on each of the three components of value creation efficiency (physical capital, human capital, and structural capital); HCE and SCE are statistically significant. Overall, the independent variables explain 78.4% of variation in ROA. The major problems posed by intangible assets relate to the issue of valuation and management. Overall, it appears that the standards for the four countries are only partly in harmonization with the international standards. The U.S. and Canadian standards are more in harmony with each other.*

**Keywords:** *Intellectual Capital, Value Added Intellectual Capital Coefficient, Bank Performance.*

### **1. Introduction**

Intangible assets make up about 80 percent of the market value of all public companies (Osterland 2001). In financial statements most of the intangibles are not recognised. By excluding intangibles, traditional accounting underestimates the true value of firms. The difference between market value and book value may be explained by Intangibles. Intangible assets raise two questions in accrual accounting, as per Jennings and Thompson (1996), which are “(1) whether they should be recognized as assets and (2) assuming recognition, the basis on which they should be charged against subsequent revenues”. Harmonization of accounting standards related to valuation and management of intangible assets is increasingly becoming a problem. The first objective of this paper is to discuss the difficulties involved in valuing intangible assets, and move on to discuss accounting standards for recognizing intangibles.

This study investigates factors affecting IC performance of listed Indian banks. The originality of the paper stems from the large number of variables utilized and interpreted through empirical regressions, and the descriptive statistics that provide a thorough description of the Indian banking system through the lens of an IC perspective.

### **2. Literature Review**

#### **2.1. Studies relating intangible assets and firm performance**

Several empirical studies show the significance of IC at corporate level. Canadian Institute of Chartered Accountants' survey concluded that intellectual assets are crucial for firm's success (Ghosh and Wu, 2007). Abernathy et al. (2003) estimate that investment in IC creates twice fruits as compared to the same amount of investment in physical assets. Chen et al. (2005) conducted an empirical study in the Taiwanese context and finds significant positive impact of IC on market value, return on equity (ROE) and return on assets (ROA) of sample companies. Roos and Roos (1997); Bontis et al. (2000) believed that IC is the set of intangible assets which increases not only firm performance but also enhance the organizational value.

#### **2. Accounting Standards on Intangible assets**

##### **Intangibles and FASB**

Unlike tangible assets, few intangibles can be traded in a market setting (Untangling 1992). The intangibles which are internally developed rather than purchased creates problem because accounting methods differ for the two. When one firm buys another firm those intangibles which can be separated and identified such as patents, copyrights, trademarks, franchises, and licenses are listed as such within that firm's financial statements. Otherwise all unidentifiable intangibles are lumped together and recorded as goodwill. If an intangible is instead developed internally, FASB states that the intangible is to be recorded on the balance sheet as an expense (Jennings and Thompson 1996). This puts some firms at a disadvantage, because if a firm's expense arises mostly from the development of intangibles then their financial statements are understated compared to other firms who instead buy their intangibles.



## Global Standards

### International: IASC

The IASC was founded with the objective to standardize accounting standards around the world. On the issue of intangibles, International Accounting Standard (IAS) 38: Intangible Assets (July 1998) states that an intangibles be recognized as an expense unless that asset can be distinguished. If future economic profit is probable and cost of the asset can be measured accurately then the intangible can be capitalized. This applies to both purchased intangibles and to internally generated intangibles. Intangibles that are capitalized are subject to amortization over the useful life of the asset, not to exceed 20 years (IAS 38 1998; IAS 364 1998).

### United States: FASB

While many countries are committed to developing accounting standards that are universal and in accordance with the international standards, many accounting boards set standards that are not in accordance with those set by the IASC. The United States is one example of a country that diverges from those by the IASC. When FASB passed statements No. 141 and No. 1425, the U.S. changed how it accounted for acquired intangibles and goodwill. The U.S., by eliminating amortization for indefinite intangibles went against the standards by the IASC. This could potentially give U.S. firms an unfair advantage in the global market because; its adopted accounting standards will make reported profits higher than for those countries who amortize intangible assets and goodwill.

### United Kingdom: ASB

The U.K. as stated in FRS 10 doesn't consider goodwill as an asset in the general terms that define an asset, but instead considers it to be a bridge. The standard goes on to state that "...it forms a bridge between the cost of an investment shown as an asset in the acquirer's own financial statements and the values attributed to the acquired assets and liabilities in the consolidated financial statements" (FRS 10, amended 1998). Purchased goodwill is shown among the assets on the balance sheet, but it is considered to be "...part of a larger asset, the investment..." (FRS 10, amended 1998). The U.K. standard, FRS 10, in summary, states that goodwill resulting from the purchase of a company is capitalized, while goodwill that is internally developed is not. The standard differs from that of the U.S., in that it specifies a maximum amortization period of 20 years, which is in agreement with the IASC standard. It differs from the IASC standards, in that it allows for goodwill and other intangibles to be considered indefinite. It is similar to U.S. standards, in that some intangibles and goodwill that either have an indefinite life, or an estimated life over 20 years, do not have to be amortized, but are instead subject to annual impairment reviews.

### India: Accounting Standards Board (ASB)

In India, the Accounting Standards Board has issued Accounting Standard 26: Intangible Assets (2002), effective from January 4, 2003, to account for the disclosure of intangibles on financial statements. An intangible will only be recognized, if there is probable future economic benefits, and the cost of the asset can be reliably measured (AS 26 2002). All internally developed intangibles, if they meet above criterion, can be disclosed as assets on financial statements. The exceptions are research and goodwill. Each of these activities if internally generated, are expensed in the period incurred. Furthermore, the Standard states that intangibles will be amortized over their useful life, not to exceed 10 years.

## 3. Research Objectives

- 1) The first objective of this study is to compare Indian accounting standards for recognizing intangibles with standards on intangibles set by the International Accounting Standards Committee (IASC), as well as those set by the United Kingdom, and US.
- 2) The second objective of this study is to measure the IC performance of Indian banks and its impact on financial Performance

## 4. Sample selection

The sample for this study is all the banking companies in the BSE 500 index for the period of 4 financial years 2012 to 2015. The data on all variables are obtained from the prowest (CMIE) database. The sample used throughout this paper contains 152 firm-year observations.

## 5. Methodology

Value Added Intellectual Coefficients (VAIC) is very important and consistent approach. VAIC is a component of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) which is developed by Pulic in Austrian IC Research Centre.

**Human Capital:** Stewart suggests that the workers in a company from bottom to top must be seen not as assets, but as investments. It is also referred to the employee competence in creating both tangible and intangible assets by contributing in



the continuous generation of knowledge and ideas. Financial sector in particular, needs a new generation of professional executives who are more customer-centric, technology-savvy, more highly qualified, flexible and agile with skill sets that are now more comprehensive than previously.

**Structural Capital:** Structural capital encompasses the enabling structures that allow the organization to exploit the intellectual capital. The structures range from tangible items offered by an organization such as patents, trademarks and databases, to complete intangible success such as culture, transparency and trust among employees. Structural capital can further be divided into relational capital (regarding external factors such as suppliers, customers, allies, local communities, government, shareholders, etc.), organization (including structure, culture, routines and processes) and renewal and development (all the projects for the future: New plants, new products, etc.).

### Capital Employed

Capital employed refers to physical capital employed for attaining business goals.

**Value Added (VA) from the bank account is calculated as follows:**

$$(1) VA = TOI - TOE$$

Where:

VA = Total Operating Income (TOI) - Total Operating Expense (TOE)

TOI = Net Interest Income (Interest Income - Interest Expense) + Net fee and Commission Revenue (Fee based income-Fee based Expenses) + Net Trading Revenue (Income from Treasury operations- Treasury operation expenses) + Other Operating Income.

TOE = Administrative Expenses (Power, fuel & water charges, Rent & lease rent, Selling & distribution expenses, Travel expenses, Packaging and packing expenses, Indirect taxes, Repairs & maintenance, Insurance premium paid, Commun - ications expenses, Printing & stationery expenses, Miscellaneous expenditure + Other Operating Expenses (Financial charges on instruments, Bill discounting charges, Other fund based financial services expenses) + Provisions (excluding provision for taxes).

Value added is a totally objective indicator of business success and shows the ability of a company to create value. IC has two components, human and structural capital. All the expenditures for employees are embraced in human capital. This meets the demand for giving employees the status of key resource by treating them as investment and not any longer as cost. They invest their knowledge and skills, which is valued by the market through the company's activities and reflected in the created value added. Efficiency of human capital (HCE) is calculated as follows:

$$(2) HCE = VA / HC$$

Where:

HCE = human capital efficiency coefficient for the company;

VA = value added;

HC = total salaries and wages for company

$$(3) SC = VA - HC$$

Where:

SC = structural capital for the company;

VA = value added;

HC = total salary and wage.

$$(4) SCE = SC / VA$$

Where:

SCE = structural capital efficiency for company;

SC = structural capital;

VA = value added

IC cannot create value on its own. Therefore, we need information about capital employed efficiency, which can be calculated in the following manner:

$$(5) CEE = VA / CE$$

Where:



CEE = capital employed efficiency coefficient;  
 VA = value added  
 CE = Total Assets-Current Liabilities.

In order to enable comparison of overall value creation efficiency, all three indicators need to be added up.

$$(6) VAIC = HCE + CEE + SCE$$

This aggregated indicator allows us to understand the overall efficiency of a company and indicates its intellectual ability. In simple words, VAIC measures how much new value has been created per invested monetary unit in resources. A high coefficient indicates a higher value creation using the company's resources, including IC.

### Regression models (Fixed effect model)

Following proposed research model is developed in order to empirically test the relation of IC with financial performance.

$$ROA = \alpha + \beta_1(HCE) + \beta_2(SCE) + \beta_3(CEE) + \beta_4(SIZE) + \beta_5(LEVERAGE) + \mu + \dots$$

### Dependent Variable:

Return on Asset (ROA) is the ratio of Net Income (less preference dividend) divided by book value of total assets as reported in the annual report. ROA reflects banks' efficiency in utilizing total assets and as an indicator of profitability and good overall indicator of bank's performance.

### Independent Variable

Human capital efficiency (HCE), Structural capital efficiency (SCE), Capital employed efficiency (CEE) and Value added intellectual coefficient (VAIC).

### Control Variables

Size: Natural log of Size (Market capitalisation), It is used to control for the impact of size of bank on corporate performance  
 Leverage: ratio of debt funds to shareholders fund is used to control for the impact of debt servicing on corporate performance and wealth creation

6. Results and Findings Table 2 presents the samples' descriptive statistics of variables for the years 2012-2015.

	Mean	Median	Std. Deviation	Minimum	Maximum
HCE	2.7757	2.8087	1.6347	-0.64858	18.275
SCE	0.23357	0.034235	0.80527	-7.4346	0.76459
CEE	0.28210	0.031209	0.37114	-0.93373	2.5418
ROA	0.0088604	0.0093485	0.0044206	-0.0147888	0.016524
SIZE	12.935	12.903	1.0837	10.075	15.693
LEV	1.2754	1.1884	0.85476	0.048521	5.9710

Table 2 shows that average firm has approximately 2.77 of human capital efficiency intensity, followed by capital employed efficiency intensity and structural capital intensity (0.28210 and 0.23357 respectively). Also average firm has a leverage of 1.2754 and the median value of leverage is 1.1884, shows that few firms have a very high leverage ratio which is not a good indicator. In the sample average firm has 0.0088604 as return on asset.

HCE, SCE and CEE are positively associated with ROA as expected. Size is also positively associated with all the independent variables and dependent variable which means that as the firm size increases intangible efficiency intensity and return on assets also increases. Leverage is positively associated with SCE and CEE but it is negatively associated with HCE. There is no high correlation between independent variables; multicollinearity is not a problem because the tolerance and Variance inflation factor for almost all variables of the tested models were close to 1. KMO test is used to check the normality, that all the independent variables (HCE, SCE and CEE) and dependent variable (ROA) are statistical significant. Only the control variable size is not statistically significant. In the panel data regression the value of Durbin Watson is 1.2 which is reasonably high, showed that in the sample data problem of autocorrelation is not significant.



Table 3 shows results of fixed effect Regression model using 152 observations Included 38 cross-sectional units  
 Time-series length = 4.  
 Dependent variable: ROA

	coefficient	t-ratio	p-value
constant	-0.0237647	-1.808	0.0734*
HCE	0.000285495	2.030	0.0448 **
SCE	0.00254598	7.867	0.000***
CEE	-0.000324180	-0.4617	0.6452
SIZE	0.00256661	2.531	0.0128**
Leverage	-0.00146700	-2.961	0.0038***
R <sup>2</sup> =0.844 Adjusted R <sup>2</sup> =0.784 p-value=0.000*** Durbin-watson=1.20			

Table 3 provides the results of the yearly pooled cross-sectional time series data for the year 2012-2015. The adjusted R-squared for the pooled cross-sectional time-series regression indicates that HCE, SCE and CEE together explain about 78.4% of the variation. Regression model is significant at p value 0.000\*\*\*

HCE is statistically significant at 0.05 (95%), SCE at 0.01(99%), and CEE is not statistically significant, the slope coefficients (HCE and SCE) have the expected positive signs. Both the control variable size and leverage are also statistically significant (Size at 0.05 and Leverage at 0.01). The more investment on efficient people means more Human Capital Efficiency (HCE) which means better financial performance and more investment on structural capital also represents better financial performance of Indian companies.

### 7. Conclusion

Disclosure of intangibles and harmonization of accounting standards is becoming increasingly important in our global society. In a global society where markets from other countries are interwoven among each other, having differences in accounting standards can unfairly give some firms, depending on where they are based, unfair advantages. These advantages can come in the form of higher net incomes, and larger asset bases, while the disadvantages are just the opposite because the intangibles that are reported as expenditures can incorrectly skew the financial statements, when potential investors study them. Harmonizing international accounting standards with the various countries' accounting standards boards will, not only make financial statements easier to prepare, but will also make those statements easier for investors to understand.

If full disclosure of intangibles takes place either in the financial statements, if possible, or in the notes of the statements and standards between countries become similar, everyone will benefit. The problem with full disclosure of intangibles is that, unless they are bought from another firm, intangibles are hard to value. It is hard to put a value on employee intellect that is reliable, when those key employees could leave at any time, and the other internally developed intangibles are just as difficult to value. But just because it is difficult doesn't mean it can't be done.

When firms go to banks for loans, some sort of value has to be placed on the intangibles, before a loan is granted and the appraisal method could possibly be adapted in some form, where firms could disclose the values of the intangibles. If these two problems – full disclosure of intangibles, and standardized global accounting standards – can be overcome, then



investors will become better, if not fully informed about a firm, before investing, and also all companies will be put on an even footing, so that they all can fairly compete for capital.

Intangible assets are increasingly recognised as essential for sustainable corporate competitive advantage. Current accounting standards restrain most intangibles such as brand and other intellectual capital elements from being recognised in the financial statements. The task of accountants is to improve the credibility and reliability of soft asset valuations or to find other creative solutions to the problem, and not to simply ignore this fast growing segment of the economy, thus losing sight of the overall objective of financial reporting, which is to provide information that is useful.

The findings have important implications for developing countries. Besides the capital and tangible investments, companies must also consider that developing and managing intangible assets or intellectual capital is important to create wealth. Furthermore, the regression model developed in the study can assist companies in implementing a more comprehensive and reliable intangibles reporting so as to fulfil their accountability to diverse stakeholders. Moreover the current research provides a platform to understand the current state of intangibles reporting in Indian banking industry. It indicates the level of readiness amongst Indian banking companies should intellectual capital reporting be made mandatory in the near future.

The results from this research should be interpreted with caution. All variables are only measured from the data in four years, 2009-2012. Therefore, it does not capture any changes before 2009. As such, it fails to conclude whether intangibles or intellectual capital information has been reported in every year. Future research may consider including the data information for longitudinal studies. A study on an extended period may enrich understanding on the intangibles reporting practices.

This study focuses only on the banking companies in BSE 500 Index. As such, it may not be able to generalise the findings to all companies in all other sectors. Since it does not consider other companies in other sectors that may have reported intangibles particularly the intellectual capital information, the disclosure on intangibles information is relatively unknown. Further studies may examine the disclosure and the relationship with market valuation in specific industries.

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