

Measuring Intellectual Capital and Financial Performance of Indian Banks Post and Pre Demonetization: A VAIC Perspective

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Abstract

This article is aiming to observe the relationship between investment in intellectual capital and intangibles on the firm's financial performance. Indian banking sector is taken into consideration to quantify the impact of intangibles and intellectual capital on its profitability and financial performance. Another agenda is to measure the impact of demonetization on the performance of overall banking sector in India. This study further helps to measure the intellectual capital between public and private sector banks. The analysis of the study was based secondary data of a sample of 20 banks. The study was done on the basis of VAIC (Value Added Intellectual Coefficient, coefficient of correlation, Yule's coefficient and Levene's test for equality of variance (F-Test)). From the study we found that for public sector banks VAIC and ROA are positively correlated. The results showcased considerable variations between public and private sector banks as far as formation of intellectual capital is concerned. There is a tangible difference in intellectual capital before and after demonetization of public sector banks as well as private sector. According to Yule's coefficient of association, VAIC and ROA have inverse relationship. The study will contribute to the strategic decision-makers of banks to formulate the policies and strategies regarding investing in human and intellectual capital.

Introduction:

The financial sector is crucial for all developing and developed nations. It is at the core of success and long-term growth and assumes an essential part in the economy. It supports the needs international exchange, industry and agriculture sectors. Thus, the development of a nation is critically connected with the development of banking system. In an advanced economy, banks are to be viewed as not just the distributor of cash but as the leaders in the improvement of stronger financial system.

The financial system reflects the financial strength of the. In India, banks hold a critical importance in the financial growth after independence. The banking sector is dominant in India as it represents the greater part of the resources of the funds. Indian banks have been going through an unprecedented growth stage through fast changes achieved by finance sector transformation, which are being carried out in a staged way. The study considered the latest event of Demonetization announced on 8th November 2016 that affected the whole country and especially the banking system in India. The aim is to see the value added intellectual capital situation in Indian Banking Sector and see any significant impact of it by looking at pre and post event study.

Literature review:

In 2022, Rehman et al. tried to get insight into the degree of intellectual capital effectiveness (ICE) with Islamic Banks' financial. The review suggested that the Islamic banks (IBs) in Malaysia are fundamentally driven by ICE. The outcomes demonstrate that Structural Capital Efficiency (SCE) and Relational Capital Efficiency (RCE) are the fundamental drivers of significant value in accomplishing superior performance at Islamic banks. The outcomes uncover that Human Capital Efficiency (HCE) adversely influences the performance of IBs.

Tiwari and Vidyarthi (2018) found a proof of affirmative relationship among constructs of IC and banks' overall financial performance. Here, employees as a valuable resources and firm's valuation displayed occurrences of affirmative association with banks financial performance. The outcomes additionally show that the Intellectual Capital effectiveness of private banks is superior to public banks in India. This study might empower Indian financial firms to quantify their IC productivity and foster approaches to advance and develop their intellectual potential to upgrade banks performance.

In the study by Singh et al (2016) private banks in India performed better with respect to the formation of Intellectual Capital (IC). Nonetheless, the ROA went underneath the worldwide standard of $> 1\%$. The significant reason for the inferior Intellectual Capital and the diminished ROA is due to unwarranted expansion in capital utilized and raising non-performing assets (NPAs) in the Indian banking sector.

As per Soriya and Narwal (2015) SCE is altogether connected with bank wealth-maximization, performance, development and social efficiency. Mondal and Ghosh (2012) found that the Intellectual capital (human resources and underlying capital) and actual capital of chosen banks affect corporate performance has been estimated utilizing various strategies.

Another study by Joshi et al (2010) analyzed the relationship among different constituents of IC execution. The Value Added Intellectual Coefficient (VAIC) approach created by Pulic is utilized to decide the IC presentation of the Australian banks and it uncovers that VAICTM has a critical connection with human expenses and the wealth creation made by the Australian banks.

According to Abdulsalam et al (2010) there is a reasonable impact of human capital on the bank's efficiency, solvency and reputation in the financial markets.

Bharthi Kamatha(2007) affirms the presence of tremendous contrasts in the presentation of Indian banks in various fragments, and there is likewise an improvement in the general execution over the review time frame. There is a clear predisposition for the exhibition of unfamiliar banks contrasted and homegrown banks.

Research Gap:

From the study of literature, it has been found to fulfill a gap which ignores the fact of major events such as announcement of demonetization during November 2016. The demonetization has paved the way of new-age banking services such as rapid growth of cash-less transactions, online payments, wallet banking and

mobile banking. Hence, the purpose of conducting this study was to understand the effect of Intellectual capital on public and private sector banks after demonetization. The secondary motive was to understand the relation between VAIC and ROA of public and private sector banks.

Objective of the study:

- The primary objective of the study is to analyze the effect of demonetization on public and private sector Indian banks.
- The second objective was to analyze the VAIC and its components with the help of which banks can improve their strategies which ultimately lead to better Intellectual capital and financial performance.
- Lastly, to study the relationship between Intellectual capital and ROA of both sector banks. The present study also helps to find the difference in the intellectual capital between public and private sector banks.

Research Methodology:

This study applied the VAIC model and different statistical methods and benchmarks to break down the Intellectual capital execution of the Indian financial area. It created four hypotheses, which were tested with the outcomes of the study

VAIC (Value Added Intellectual capital):

The VAIC gives a reliable premise to quantify Intellectual capital execution (Pulic and Bornemann, 1997). It utilizes data from organizations' annual reports, which is comparable and standard (Pulic, 2000). Schneider (1998) suggests use of VAIC in light of the fact that it thinks about the worth of representatives, has simple openness of data, and is direct and justifiable. Goh (2005) and Chan (2009) argued that the VAIC approach is at present the most appropriate measure. Veltri and Silvestri (2011) favored the VAIC on the grounds that it utilizes accounting data, has a relative and normalized technique, thinks about human worth, and measures the proficiency of firms.

The VAIC strategy utilizes three factors: HCE (Human Capital Efficiency); CEE (Capital Employed Efficiency); and SCE (Structural Capital Employed). Different factors and terms utilized in the VAIC are made sense of as follows:

- $VAIC = HCE + CEE + SCE$
- HC is the human capital of the business (worker costs are viewed as a venture).
- HCE is determined by isolating the value added by the human resources (VA/HC); it shows value added by the HR utilized by the business.
- SC is the primary capital of the organization and is determined by deducting the worth of human resources from the value added $[(VA - HC)/VA]$
- Capital employed efficiency (CEE) is measured as: (VA/CE)
- SCE is determined by isolating the underlying capital by the value added (SC/VA) ; for example value creation by its primary capital.

Research Hypothesis:

H1: There is a significant difference among public and private sector regarding the creation of total intellectual capital.

H2: There is a significant difference between the intellectual capital before and after demonetization of public and private sector banks

H3: There is a positive correlation between VAIC and ROA of public and private sector banks.

Data Collection:

Secondary data is used for this study. The data was taken from the balance sheet and profit and loss statement of selected 20 banks. The source of the balance sheet and profit and loss statement is from the CapitalLine database. The sample of 20 banks taken to measure the intellectual capital of public and private sector banks after demonetization, 10 public and 10 private sector banks is taken based on their market capitalization for measurement of intellectual capital.

Data Analysis

H1: There is a significant difference among public and private sector regarding the creation of total intellectual capital.

Means of VAIC and its components:

The following table shows overall mean from the period of 2012 to 2021 of both public and private sector banks.

TABLE 1 MEANS OF VAIC AND ITS COMPONENTS

Public Sector banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
State Bank of India	40744.25	10512.86	2666055.86	0.014	1.383	0.239	1.636
Punjab National Bank	6049.90	390.65	644742.66	0.010	0.986	0.761	1.758
Canara Bank	5990.76	992.51	545486.82	0.0103	1.204	-0.344	0.870
Bank of Baroda	7075.74	1906.68	683363.15	0.0097	1.407	1.459	2.876
Union Bank of India	3747.41	873.54	427157.56	0.0092	0.987	-1.609	-0.613
Bank of India	3622.77	-208.23	474182.78	0.0241	0.905	0.243	1.172
Indian Bank	3833.33	1484.12	230211.04	0.0156	1.573	0.345	1.93
Central Bank of India	1909.78	-1120.52	262350.3	0.00794	0.612	0.480	1.100
Indian Overseas Bank	431.70	-1252.17	222955.77	0.0023	0.293	1.096	1.393
UCO Bank	429.57	-568	194628.27	0.0031	0.462	-0.365	0.099

Private sector banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
ICICI Bank	14426.97	9784.25	753530.32	0.018	2.690	0.616	3.313
HDFC Bank	22371.62	13254.59	807366.72	0.025	3.283	0.664	3.998
Axis Bank	11731.32	8970.53	500576.56	0.087	3.248	0.617	3.903
Kotak Mahindra Bank	5984.08	2964.37	211088.006	0.024	2.488	0.554	3.104
IndusInd Bank	3928.56	2082.78	161891.44	0.023	2.764	0.629	3.424
Yes Bank	1170.61	1566.59	153066.64	0.007	1.683	0.908	2.652
DCB Bank	580.81	259.38	20802.05	0.029	2.228	0.553	2.734
Federal Bank	2178.47	904.39	106883.26	0.019	1.939	0.468	2.432
Bandhan Bank	2734.55	1754.66	32846.72	0.032	2.317	0.407	2.779
RBL Bank	835.05	292.51	43066.34	0.017	1.828	0.472	2.289

From the above table it is seen that VA for public sector banks is comparatively lower than its counterpart, i.e. private sector banks. Though SBI has the highest among all private and public banks, other public sector banks lack behind a lot and Indian Overseas bank being the least. Among Private Banks ICICI, HDFC and Axis have the highest VA while DCB Bank has the least. If we analyze further VA for Private Banks is highly skewed towards top 4 banks while rest of the small private banks are lagging behind a lot. While in case of public banks, the VA are not much skewed except for SBI, most of the other Public Banks have VA in somewhat the same range.

It is also observant from the above table that SC for Private Banks are comparatively higher in comparison to Public Banks. HDFC has the highest among all private and public banks. Public sector lacks behind a lot and some of the public sector banks even have a negative SC as well. Among Private Banks ICICI, HDFC and Axis have the highest SC while RBL Bank has the least. In Public Sector Banks, except for SBI and BOB, no other bank has a higher value of SC, and 5 of the Public Banks have negative value as well. But in Private Banks, no Private Bank has negative SC and also the value of SC is comparatively higher than Public Banks.

Moving to the value of CE, it is found to be much higher in Public sector banks than in private banks. Except for UCO Bank, all the public sector bank's CE value is on a higher side. SBI has the highest CE value. While for Private Banks only 4 Private Banks have higher CE value where HDFC tops. Small Private Banks like DCB, Bandhan have very low CE value.

Finally, HCE in private banks is significantly higher than public banks. In private banks the average HCE is above 1.5 while 5 banks HCE is above 2 and HDFC and Axis have the highest HCE of more than 3 which is very high in comparison to public banks. In public banks, only Indian Bank has HCE higher than 1.5, rest all the Public Bank has HCE lower than 1.5 and most of them has HCE even less than 1. In this parameter, public sector banks are way behind private sector banks.

When SCE is concerned, it is very range bound with most of private banks falling under the range of 0.4 to 0.6. Amongst private banks, Yes Bank has the highest SCE of above 0.9. In private all the banks have positive

value of SCE. In public banks the range of SCE is quite wide ranging from -1.6 to +1.5. Public banks have negative SCE. Bank of Baroda has the highest SCE of 1.4 amongst all public and private banks. If we compare the average, private banks are better off than public in this parameter, but if we pick individual banks then some public banks are better than most private banks.

Lastly, the table values of VAIC shows that in private banks it is significantly higher than public banks. In private banks all the banks HCE is above 2, Five banks' VAIC is above 3 as well which is very high in comparison to public banks. In public banks, no bank has VAIC higher than 2, and some of the public sector bank has VAIC even less than 1. Lowest VAIC of private bank is also higher than the highest VAIC for public banks, which shows that in this parameter, private sector banks are leading ahead than public banks.

H2: There is a significant difference between the intellectual capital before and after demonetization of public and private sector banks

Table 2. MEANS OF VAIC AND ITS COMPONENTS BEFORE DEMONETISATION (2012-2016)

Public Sector Banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
State bank of india	33253.17	11951.15	2219982.8	0.01143	1.579	0.3620	1.956
Punjab national bank	8546.63	2412.32	560719	0.01699	1.437	-0.0047	1.448
canara bank	5420.40	1696.57	463193.2	0.01085	1.530	0.0115	1.554
bank of baroda	6369.20	2406.33	602512.6	0.01561	1.757	3.0163	4.785
union bank of india	4960.27	1754.90	335215	0.01323	1.571	0.3569	1.943
Bank of India	4861.98	755.17	433818.8	0.04365	1.328	1.9828	3.355
Indian bank	3067.45	1240.72	171800.6	0.01346	1.702	0.3977	2.118
Central bank of India	3338.57	-106.51	269909.4	0.01446	1.009	-0.0905	0.931
Indian overseas bank	2320.26	-226.52	253766	0.01321	0.997	-1.0687	-0.062
UCO bank	1875.36	315.19	213808	0.01803	1.278	0.9119	2.199
Private Sector Banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
ICICI bank ltd	13376.75	9100.57	625575.8	0.021	3.120	0.678	3.819
HDFC bank ltd	12976.26	8576.77	486593.2	0.027	2.910	0.654	3.591
Axis Bank ltd	8954.06	6244.16	327371.8	0.154	3.281	0.695	4.130
Kotak Mahindra bank ltd.	3067.47	1850.86	124766.6	0.025	2.474	0.585	3.084
IndusInd bank	2304.95	1470.39	90465.4	0.025	2.735	0.634	3.394
Yes Bank ltd	2526.36	1688.05	110107.8	0.023	3.022	0.669	3.713

TABLE 3 MEANS OF VAIC AND ITS COMPONENTS AFTER DEMONETISATION (2017-2021)

Public Sector Banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
State bank of india	47414.22	7939.49	3669308.6	0.0126	1.187	0.117	1.317
Punjab national bank	4422.88	-3715.14	868333.4	0.0043	0.537	1.528	2.070
canara bank	6758.34	-486.29	736167.4	0.0085	0.880	-0.701	0.187
bank of baroda	7899.09	840.29	897900.6	0.0082	1.057	-0.097	0.969
union bank of india	2898.49	-1526.29	598390.4	0.0035	0.404	-3.576	-3.169
Bank of India	2997.97	-2789.10	635538	0.0045	0.482	-1.497	-1.010
Indian bank	4382.09	1348.93	328130.8	0.0130	1.445	0.294	1.752
Central bank of India	985.30	-3038.88	313907.2	0.0034	0.215	1.052	1.271
Indian overseas bank	-1104.17	-4230.01	246197.8	-0.0048	-0.409	3.262	2.848
UCO bank	-546.24	-2575.58	223197.6	-0.0029	-0.353	-1.643	-1.999
Private Sector Banks							
	VA	SC	CE	CEE	HCE	SCE	VAIC
ICICI bank ltd	15776.84	8813.06	1032651.4	0.0152	2.262	0.530	2.807
HDFC bank ltd	30286.03	22097.71	1270459.2	0.0239	3.658	0.725	4.407
Axis Bank ltd	14256.89	9369.46	777278.4	0.0209	3.215	0.441	3.677
Kotak Mahindra bank ltd.	8370.41	5054.63	339329.4	0.0246	2.503	0.598	3.126
IndusInd bank	5321.30	3405.86	259995.8	0.0214	2.795	0.638	3.454
Yes Bank ltd	177.74	-2121.06	226950.6	-0.0078	0.346	1.252	1.591
DCB bank	691.93	288.82	32184.8	0.0216	1.711	0.415	2.147
Federal bank	2735.42	1217.32	157435.4	0.0173	1.795	0.442	2.254
Bandhan bank	4802.13	3747.35	65638.4	0.0647	3.986	0.710	4.761
RBL bank	1241.67	592.31	73387.6	0.0174	1.955	0.477	2.449

Comparing the Pre and Post Demonetization Period, for the parameter of VA, private bank's VA has increased in comparison to public banks. In public sector banks it has decreased post demonetization in 6 out of 10 banks while it has increased in only 4 banks. In comparison to that a single bank has decreasing VA post demonetization, namely Yes Bank.

On the other hand, for the parameter of SC, public bank's SC has increased in comparison to private banks.

private sector bank SC has decreased post demonetization in 8 out of 10 banks while only 2 banks have increased SC. In comparison to that in public banks only 1 bank's SC has decreased post demonetization that is Indian Bank.

For the parameter of CE, both public and private banks displayed a decreasing scenario. Amongst all the banks only Indian Overseas Bank has increased CE while rest all other banks' CE got decreased.

If we look at the parameter of CEE, both public and private banks CEE have neither increased nor decreased significantly. Amongst all the banks only Bandhan Bank has decreased CEE while the rest of them showcased an increase in CEE.

For the parameter of HCE, private banks' HCE has increased in comparison to public banks. In private sector banks, HCE has decreased post demonetization in 5 out of 10 banks while 5 banks have increased HCE. In comparison to that no public bank has shown a decrease in HCE. On an average though both public and private bank's HCE has increased post demonetization, the increase of HCE in public banks is significantly higher than private banks.

If we compare the Pre and Post Demonetization Period, for the parameter of SCE, public banks' SCE has increased in comparison to private banks. private sector banks' SCE got decreased post demonetization in 6 out of 10 banks while only 4 banks have increased SCE. In comparison to that no public banks' SCE has decreased post demonetization. Finally, for the parameter of VAIC, public bank's VAIC has increased in comparison to private banks. In all banks VAIC has decreased post demonetization in 9 out of 20 banks while other 11 banks have increased VAIC.

H3: There is a positive correlation between VAIC and ROA of public and private sector banks.

Coefficient of Correlation between VAIC and ROA

Here we will understand if there is any positive correlation between VAIC and ROA of public and private sector banks.

**TABLE 4 COEFFICIENT CORRELATION BETWEEN VAIC AND
ROA OF PUBLIC SECTOR BANKS**

(i) Public Sector banks:

		VAIC of public sector banks	ROA of public sector banks
VAIC of public sector banks	Pearson Correlation	1	-.346
	Sig. (2- tailed)		.327
	N	10	10
ROA of public sector banks	Pearson Correlation	-.346	1
	Sig. (2- tailed)	.327	
	N	10	10

As significance level is less than 0.05%, we fail to accept the null hypothesis and can affirm a positive correlation between VAIC and ROA of public sector banks.

**TABLE 5 COEFFICIENT CORRELATION BETWEEN VAIC AND
ROA OF PRIVATE SECTOR BANKS**

(ii) Private sector banks:

	VAIC of public sector banks	ROA of public sector banks
VAIC of public sector banks Pearson Correlation	1	.189
Sig. (2- tailed)		.580
N	10	10
ROA of public sector banks Pearson Correlation	.189	1
Sig. (2- tailed)	.580	
N	10	10

From the above table we can say that the significance level is more than 0.05 for private sector banks which means that we fail to reject null hypothesis. This means that VAIC and ROA for private sector banks are not correlated with each other for the data under this study.

TABLE 6 Leven's Test for Equality of Variances

Group statistics

(i) To test H1 Hypothesis:

	N	Mean	Std. Deviation	Std error Mean
VAIC Public sector Banks	10	1.223	0.972	0.307
Private sector Banks	10	3.063	0.589	0.186

	Levene's test for equality of variances		T-test(for equality of means)							
	F	Sig	t	18	One sided	Two sided	Mean difference	Std. error difference	95% confidence interval of difference	
									lower	upper
Equal Variances assumed	.910	.353	-.5118	18	<.001	<.001	-1.8400000	.359533296	-2.595351426	-1.084648574
Equal Variances not assumed			-.51118	14.835	<.001	<.001	-1.84000	.359533296	-2.607069987	-1.072930013

According to the above table, firstly we will analyze Leven's test for equality of variances. In that we can see from the table that significance value of p is 0.353 which is higher than 0.05, this indicates that we fail to reject the Null hypothesis. This means that there is variation among public and private sector banks regarding creation of total intellectual capital. As an extended part of analysis, T-Test is performed to test equality of means. For that the significance value is <0.001 which is lower than 0.05, which shows that null hypothesis is rejected and alternative hypothesis is accepted for the study.

**TABLE 7 Levene's test for equality of variances: VAIC of
Public sector banks-Before and After Demonetization**

(ii) To Test H2 hypothesis:

Group statistics

a. Public sector banks

Group of Banks		N	Mean	Std. Deviation	Std error Mean
VAIC of Public sector banks	Before demonetisation	10	2.0227	1.3141	0.4155
	After demonetisation	10	0.4236	1.9164	0.186

	Levene's test for equality of variances		T-test(for equality of means)							
	F	Sig	t	18	One sided	Two sided	Mean difference	Std. error difference	95% confidence interval of difference	
									lower	upper
Equal Variances assumed	2.286	0.148	2.176	18	0.022	0.043	1.5999100000	.734829478	0.55280555	3.142919449
Equal Variances not assumed			2.176	15.832	0.022	0.045	1.5999100000	.734829478	0.40789133	-3.157410867

Here, the significance value of p is 0.148 which is higher than 0.05, this indicates that we fail to reject the Null hypothesis. Hence, there is a significant difference in intellectual capital before and after demonetization of public sector banks. As an extended part of analysis, T-Test is performed to test equality of means. For that the significance value is Lower than 0.05, which shows that the null hypothesis is rejected and an alternative hypothesis is accepted for the study.

**TABLE 8 Levene's test for equality of variances: VAIC of
Private Sector banks-Before and After Demonetization**

Group statistics

b. Private sector banks:

Group of Banks		N	Mean	Std. Deviation	Std error Mean
VAIC of private sector banks	Before demonetisation	10	3.05930000	.988273922	0.312519654
	After demonetisation	10	3.06730000	1.017952962	0.321904991

	Levene's test for equality of variances		T-test(for equality of means)							
	F	Sig	t	18	One sided	Two sided	Mean difference	Std. error difference	95% confidence interval of difference	
									lower	upper
Equal Variances assumed	.119	0.734	-0.18	18	0.493	0.986	-.008000000	0.448655	-0.950589	0.934589
Equal Variances not assumed			-0.18	17984	0.493	0.986	-0.008000	0.448655	-0.950648	0.934648

According to the above table, firstly we will analyze Leven's test for equality of variances. In that we can see from the table that the significance value of p is 0.734 which is higher than 0.05, this indicates that fail to reject the null hypothesis. This means that there is a significant difference in intellectual capital before and after demonetization of private sector banks. As an extended part of analysis, T-Test is performed to test equality of means. For that the significance value is higher than 0.05, which shows that the null hypothesis is accepted.

Yule's coefficient of association

TABLE 9 YULE'S COEFFICIENT FOR PUBLIC SECTOR BANKS

VAIC	ROA	
	Before demonetisation	After demonetisation
Before demonetisation	0.0857465142	0.07632906465
After demonetisation	1.223121663	2.02260419
Yule's coefficient For Public sector banks (Q)	-1.670947156	

TABLE 10 YULE'S COEFFICIENT FOR PRIVATE SECTOR BANKS

VAIC	ROA	
	Before demonetisation	After demonetisation
Before demonetisation	0.09	0.096
After demonetisation	3.063313267	3.05923605
Yule's coefficient For private sector banks (Q)	-0.3668428855	

The above two table shows the Yule's coefficient of association for both public and private sector banks before and after demonetization. Here, we can see that Yule's coefficient for both the sectors is negative which indicates that there is an inverse relationship between VAIC and ROA i.e if VAIC increases then ROA will decrease and if ROA increases VAIC decreases.

Conclusion:

Based on the data and the test results, it is convenient to comment that VAIC of public sector banks is lower than private sector banks. CEE found at a higher range in the public sector banks but If we compare the Pre and Post Demonetization period, for the parameter of CEE, both public and private banks CEE have neither increased nor decreased significantly. HCE in private banks is significantly higher than public banks but If we compare the Pre and Post Demonetization period, for the parameter of HCE, private bank's HCE has increased in comparison to public banks. In the private sector banks, HCE has decreased post demonetization in 5 out of 10 banks while 5 banks have increased HCE. In comparison to that no public bank has HCE decreased. SCE in private banks are very range bound with most private banks. If we compare the Pre and Post Demonetization period, for the parameter of SCE, public banks' SCE has increased in comparison to private banks. Private sector bank SCE has decreased post demonetization in 6 out of 10 banks while only 4 banks have increased SCE.

Limitations:

This study experiences a few impediments, including the developing criticisms on the use of VAIC as a measure among academic fraternity. There are several short-comings of VAIC model. The inherent challenge is to quantify the unquantifiable. Several researchers have found probable misuse of VAIC as a measure of performance by the corporates to commit fraudulent practices due to its inherent nature of intangibility. For the current study, the sample for study is also a limitation as out of several banks operating in India, just 20 banks have been taken for this research. Apart from the sample limitation, there are several structural limitations as far as data is concerned. There are many banks, especially in public sector, which runs with inefficient system inherently since last several decades. In such type of organizations, the system to evaluate the intangibles and human capital is like day-dreaming. Further, continuously developing the human capital is also missed in their strategic and priority areas of growth. Thus, to reap the benefit of VAIC as a method the banks have to revamp their HR record and development practices.

Implications:

This study signifies and looks at a different perspective about intellectual capital and banking sector in India. Demonetization has impacted the banking structure in both the sectors i.e. private as well as public. The study provided valuable insights for the decision-makers and stakeholders of Indian Banking Sector. The importance of intangible assets is now not a novel idea and all the banks have started practicing the valuation and accounting for intangible assets. Banking sector in India is still operated with a heavy manpower and hence intellectual capital is the crucial resource for all the banks irrespective of their structure, be it private or public banks. Valuing the intellectual, human and social capital along with their value-added to generate better returns is essential and should not be ignored anymore. As per the study results, it is highly appreciated and needed if all the public sector banks examine and identify their key intellectual capital and improve the current status. It will improve the efficiency, capital solvency, quality of business and level of NPAs.

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