



## THE ROLE OF INTELLECTUAL CAPITAL IN MODERN VALUE CREATION IN INDIA: EVIDENCE FROM THE NIFTY 50 INDEX COMPANIES

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### Abstract

*The shift from traditional to intangible assets has redefined value creation in the modern economy, emphasizing intellectual capital (IC) as a critical driver of success. This paper analyzes the Value-Added Intellectual Coefficient (VAIC), a widely used measure of IC efficiency, across NIFTY 50 companies from 2014–2024. Results reveal sectoral variations in VAIC trends, with human capital efficiency (HCE) consistently dominating contributions in the banking and financial sectors. In contrast, structural and physical capital efficiencies play a greater role in the IT and auto sectors. Despite fluctuations, VAIC has shown resilience during the COVID-19 years. Rankings highlight discrepancies between VAIC and traditional metrics, indicating the independence of intellectual capital efficiency from sales or asset size. The findings underscore the strategic importance of IC in diverse industries and call for refined measurement models to better capture its multifaceted impact. This study contributes to understanding IC's evolving role in value creation and competitive advantage.*

**Keywords:** Human capital, Indian, Intellectual Capital, Market Value, Value Added. **JEL Classification:** G200, G210, O150.

### 1. Introduction

Decades ago, corporate earnings were a clear indicator of a company's health, trajectory, and future outcomes. Earnings reflected the value created by an enterprise through traditional assets such as plants, machinery, structures, factories, and inventory. However, since the early 1980s, many developed and developing economies have experienced a decline in investments in these traditional assets, with a steady rise in investments in intangible assets (Gu & Lev, 2017). This shift, driven by the information revolution, marked an irreversible transformation in the business model, reshaping every aspect of the economy. Spearheaded by information systems and the internet, this revolution brought deregulation, privatization, globalization, mergers and acquisitions, and heightened competition across industries. In such an environment, survival depends on process innovation through investments in intangible assets like research and development, branding, and business processes.

In the 21st century, value creation extends beyond the quantity of goods produced to the knowledge embedded within them. Intellectual capital (IC), represented by employees and their expertise, transforms into products and services that generate value. Companies now rely on intellectual and physical capital to compete. According to Pulic (2005), firms must measure the productivity of each resource to drive employees toward value creation. Industries like IT, pharmaceuticals, banking, hospitality, and education heavily depend on intellectual capital, making it a vital strategic tool for success.

#### 1.1 Definitions

##### VAIC

The Value-Added Intellectual Coefficient (VAIC), developed by Ante Pulic (Pulic, 1998, 2000a and 2000b), measures intellectual capital (IC) using financial statements. It assesses a firm's market value

through three components: Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CEE), reflecting the efficiency of human, structural, and physical assets, respectively. The construction of VAIC is explained in detail under methodology.

## **NIFTY 50**

The NIFTY 50 is India's leading stock index, featuring 50 top companies on the National Stock Exchange (NSE). The index was launched on April 22, 1996, with a base value of 1000 dated November 3, 1995. At the time of finalizing this paper on 2<sup>nd</sup> January 2025, the index closed at 24188. The index spans 13 sectors, offering diversified market exposure. As of July 2024, financial services (including Banking) dominate with a 32.76% weightage, followed by IT (13.76%).

## **2. Literature Review**

Over the past two decades, researchers have extensively studied the influence of intellectual capital (IC) on firms' profitability and market value. Many scholars believe the gap between a firm's market capitalization and its book value is largely attributed to IC. The concept of IC gained prominence in the corporate world after T.A. Stewart's landmark article in *Fortune Magazine*, titled "Brain Power – How Intellectual Capital Is Becoming America's Most Valued Asset." Stewart emphasized that companies ignoring knowledge management are effectively neglecting their business potential.

Kamath (2008) analyzed 25 leading firms in India's pharmaceutical sector from 1996 to 2006. The study employed three dependent variables: Return on Assets (ROA), Asset Turnover Ratio (ATO), and Market-to-Book (M/B) ratio. ROA served as a proxy for profitability, ATO for productivity, and M/B ratio for market valuation. The findings indicated that human capital significantly influenced the firms' profitability and productivity. This underscores the role of IC as a driver of value creation.

Tandon and Purohit (2015) expanded on Kamath's research by exploring the link between intellectual capital (IC) and traditional financial metrics—market valuation, profitability, and productivity. They studied 10 Indian IT and pharmaceutical firms listed on the Bombay Stock Exchange (BSE) from 2008–2012. Unlike prior studies, they analyzed individual VAIC components—HCE, SCE, and CEE. Findings revealed limited connections between IC components and financial metrics, challenging the proposed hypotheses. However, the study aligned with Shaban & Kavida (2013), which found a strong positive correlation between CEE and the M/B ratio. This limited influence of IC on financial indicators in India is attributed to traditional accounting practices that inadequately reflect the value of intangible assets.

Ghosh and Mondal (2009) investigated the impact of IC on profitability in 80 firms from India's IT and pharmaceutical sectors. Using VAIC efficiency measures, they concluded that while IC significantly influenced profitability, its impact on market valuation and productivity was negligible in these industries. Similarly, Mehralian et al. (2012) studied the Iranian pharmaceutical industry from 2004 to 2009 and reported mixed results. Their analysis, which combined regression and artificial neural network (ANN) methods, found that IC positively affected profitability but had minimal impact on productivity and market valuation. Notably, physical capital played a dominant role in these outcomes, overshadowing other variables.

Maji and Chakrabarty (2019) explored IC's role in the financial performance of Indian commercial banks between 2000 and 2016 using a quantile regression model. They argued that mean regression models in panel data are inadequate for assessing IC's true impact. Their findings indicated that IC's positive influence on bank performance was significant only in the higher performance quantiles, with

its impact becoming more pronounced as bank value increased. This suggests that IC contributes more substantially to firms with better financial outcomes.

Beyond sector-specific studies, researchers have also examined IC's influence across diverse industries. Nagaraj and Vinay (2016) analyzed Indian firms from 2007 to 2009 to assess how intangible assets, financial policies, and performance affect firm value. Using path analysis, they demonstrated that these factors collectively shape firm value. Kamath (2015) investigated 30 firms from the S&P BSE Sensitive Index across manufacturing and service sectors for the period 2008–2013. Employing VAIC methodology and multiple regression, the study established a clear link between IC productivity and profitability. Among the VAIC components, HCE and SCE were found to have a stronger influence on profitability than CEE.

Despite its widespread application, some researchers have criticized the VAIC model. Stähle et al. (2011) argued that VAIC measures only the efficiency of human, structural, and physical capital, failing to capture IC's broader dimensions. In response, Xu and Liu (2020) proposed an extended VAIC model to include additional variables like R&D expenditure and marketing costs. Their study of South Korean manufacturing firms found that the extended VAIC offered better insights into efficiency compared to the original model, emphasizing IC's vital role in value creation.

In summary, research findings on IC's impact on financial metrics remain varied. While studies consistently highlight IC's positive influence on profitability and productivity, its effect on market valuation is less pronounced, particularly in economies like India. This disparity stems from investors' reliance on traditional accounting metrics and physical assets, as well as inadequate disclosure of IC in financial statements.

Ultimately, IC continues to gain recognition as a critical factor in modern value creation, particularly in knowledge-intensive industries. However, the need for improved measurement models and accounting standards persists to accurately capture IC's multifaceted contributions. The extended VAIC model and other advanced frameworks offer promising avenues for future research, emphasizing IC's strategic role in shaping firms' financial and market outcomes.

### **3. Objective of this study**

As of March 28, 2024, 2,379 companies were listed on India's National Stock Exchange (NSE) (Source: <https://blog.shoonya.com/>, Oct 21, 2024). The NIFTY index, a key indicator of the Indian economy, represents these companies and serves as a popular market benchmark. This study aims to determine the ranking and weightage of VAIC in NIFTY 50 companies, analyze its trends over the past decade, and observe its behavior across prominent sectors represented by the index.

### **4. Methodology**

To ensure accurate and systematic analysis, we begin by explaining the process of variable construction.

#### **4.1 Calculation of VAIC& its Components**

Value Added Intellectual Coefficient (VAIC) evaluates two critical resources: Physical Assets and Intellectual Capital (IC). IC comprises Human Capital (employees, their skills, and contributions) and Structural Capital (information systems, labs, market intelligence).

VAIC begins with Value Added (VA) calculation:

$$VA = \text{Output} - \text{Input}$$

(Note: Human expenditure is excluded as it is considered capital.)

Pulic (2004) proposed the widely used VA formula:

$$VA = OP + EC + D + A,$$

where OP = Operating Profit, EC = Employee Cost, D = Depreciation, and A = Amortization.

### VAIC has three components

1. HCE (Human Capital Efficiency):  $HCE = VA / HC$
2. SCE (Structural Capital Efficiency):  $SCE = (VA - HC) / VA$
3. CEE (Capital Employed Efficiency):  $CEE = VA / CE$

Algebraically,  $VAIC = HCE + SCE + CEE$ .

Although knowledge capital has grown, physical capital remains essential. Both must align to maximize product and service value creation.

### 4.2 Collection of data

This study analyzes 10 years of data (FY 2014-15 to FY 2023-24) for NIFTY 50 companies, sourced from www.screener.in. The company list is detailed in Table 1.

**Table 1: List of Nifty 50 Companies**

Sl. No	Company Name	Sl. No	Company Name
1	Reliance Industries	26	Adani Ports
2	Tata Consultancy Services	27	Bajaj Auto
3	HDFC Bank	28	Bajaj Finserv
4	Bharti Airtel	29	Coal India
5	ICICI Bank	30	Asian Paints
6	Infosys	31	Trent
7	State Bank of India	32	JSW Steel
8	ITC	33	Nestle India
9	Hindustan Unilever	34	Bharat Electronics
10	HCL Technologies	35	Tata Steel
11	Larsen & Toubro	36	Grasim Industries
12	Sun Pharmaceutical Industries.	37	Tech Mahindra
13	Bajaj Finance	38	SBI Life Insurance
14	NTPC	39	HDFC Life Insurance
15	Axis Bank	40	Hindalco Industries
16	Mahindra & Mahindra	41	Eicher Motors
17	Maruti Suzuki	42	Bharat Petroleum Corporation Ltd.
18	Kotak Mahindra Bank	43	Cipla

19	Adani Enterprises	44	Britannia Industries
20	O N G C	45	Shriram Finance
21	UltraTech Cement	46	Dr Reddy's Labs
22	Wipro	47	Apollo Hospitals
23	Power Grid Corporation	48	Hero Motor corporation
24	Tata Motors	49	Tata Consumer Products Ltd.
25	Titan Company	50	IndusInd Bank

### 4.3 Sectors in Nifty 50

The Nifty 50 represents various sectors of the Indian Economy. The 50 companies that are included in the index may be classified into various sectors namely, Banking, IT, Auto, Financial Services, Energy, oil & gas, and consumer goods. Depending on the number of companies represented, we choose Banking, IT, Auto, and Financial Services for our analysis.

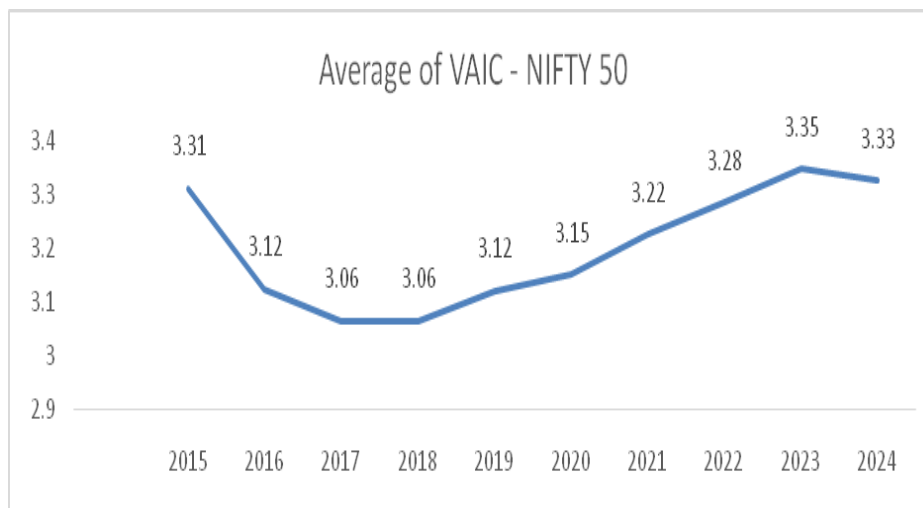
### 4.4 Analysis of Data

This paper aims to analyze the VAIC and its components among the NIFTY 50 companies. Hence, we calculate each company's HCE, SCE, CEE, and VAIC in NIFTY 50. We then do the following analysis:

- Analyze the trend of average VAIC, HCE, SCE, and CEE in Nifty 50 over the years.
- We then rank all these components based on the year 2024 to understand the ranking of companies in terms of VAIC.
- In the next step, we compare the VAIC with other variables – Assets, ROCE, EPS, Sales, and PBT (Profit Before Tax).
- We also analyze the results sector-wise – Banking, IT, Financial, and Auto and analyze the trend and check the ranking of each element of VAIC against other variables.

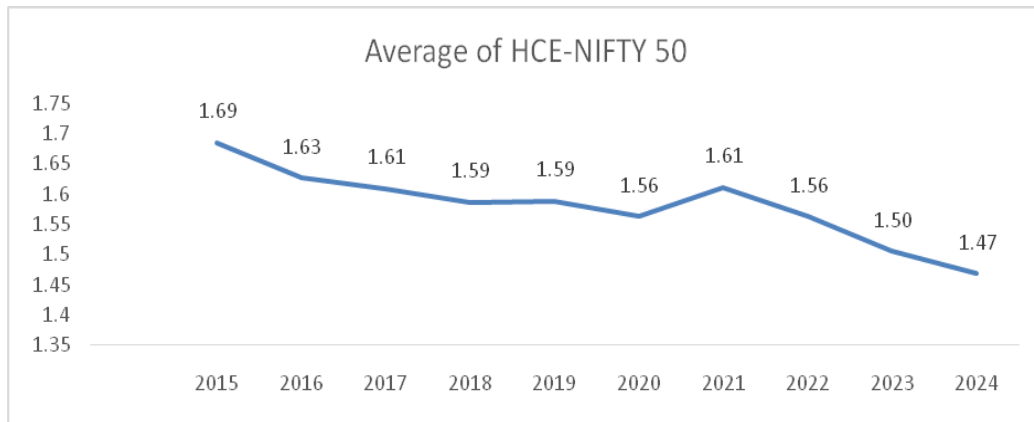
## 5. Results and Discussion

Following the methodology, we calculate the VA, HCE, SCE, CEE, and VAIC of each company separately from 2014-15 to 2023-24.



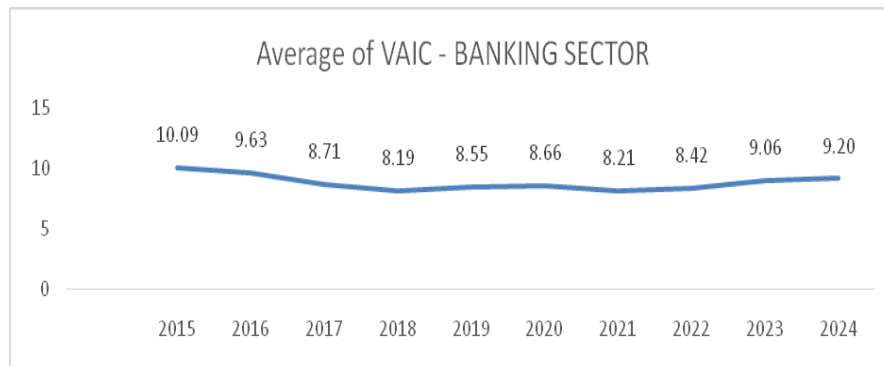
**Figure 1: Year-wise average VAIC in Nifty 50 Companies**

It is seen from Figure 1 that the average VAIC in NIFTY 50 has shown a downward trend from 2016 to 2018 but has been recovering after that. The recovery period also includes 2019 and 2020, being COVID years.



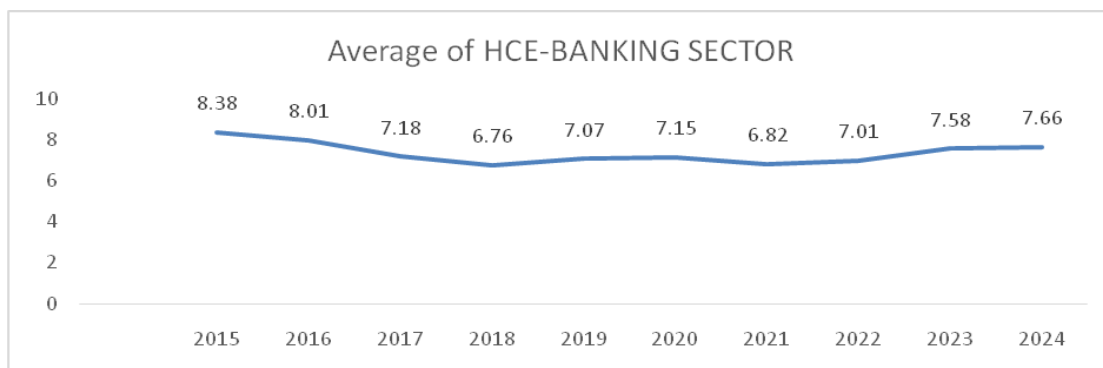
**Figure 2: Year-wise average HCE in Nifty 50 Companies**

Figure 2 clearly shows the downward trend of HCE among the NIFTY 50 companies. This trend is not in sync with the recovery in VAIC, and clearly indicates that the recovery of VAIC (figure 1) comes from other elements like CEE and SCE. It is clearly seen from figures 1 and 2 that almost 50% of VAIC among NIFTY 50 companies comes from HCE.



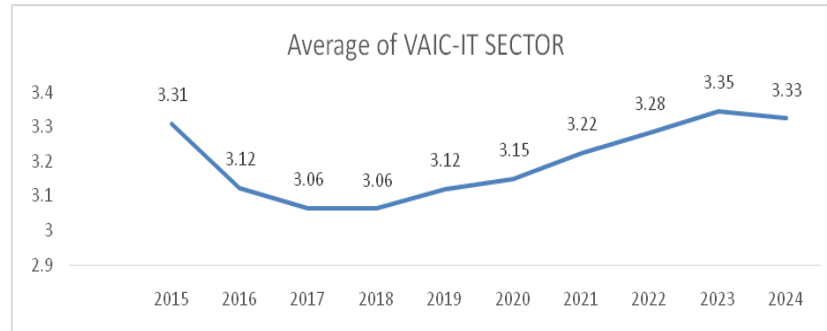
**Figure 3: Year-wise average VAIC in Banking Sector**

The VAIC of the banking sector is almost flat with some variation in the in-between years.



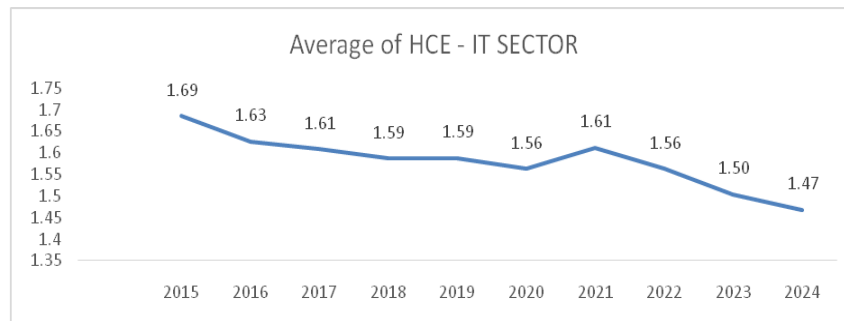
**Figure 4: Year-wise average HCE in the Banking Sector**

It can be noticed from figure 3 and 4 above that, HCE comprises of more than 80% of the banking VAIC, clearly showing that the sector is manpower driven and is highly dependent on manpower efficiency. The graph of banking HCE follows the same pattern as banking VAIC, which is almost flat over the years.



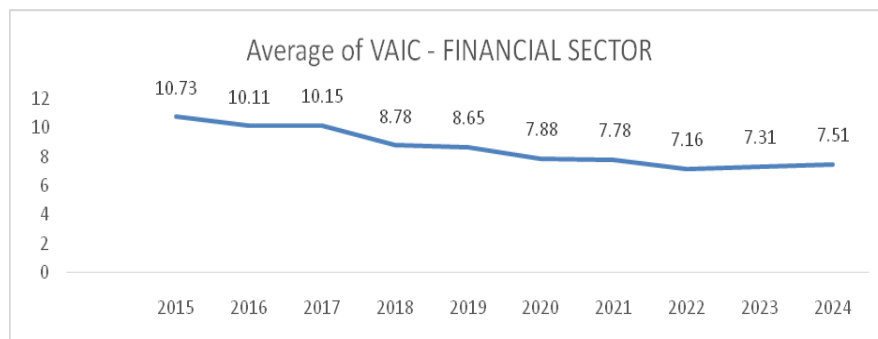
**Figure 5: Year-wise average VAIC in the IT Sector**

Curiously, the VAIC trend of IT sector shows the same pattern as the overall NIFTY 50 VAIC trend, which sharply dips from the years 2016 to 2018 and then recovers, even during the COVID years.



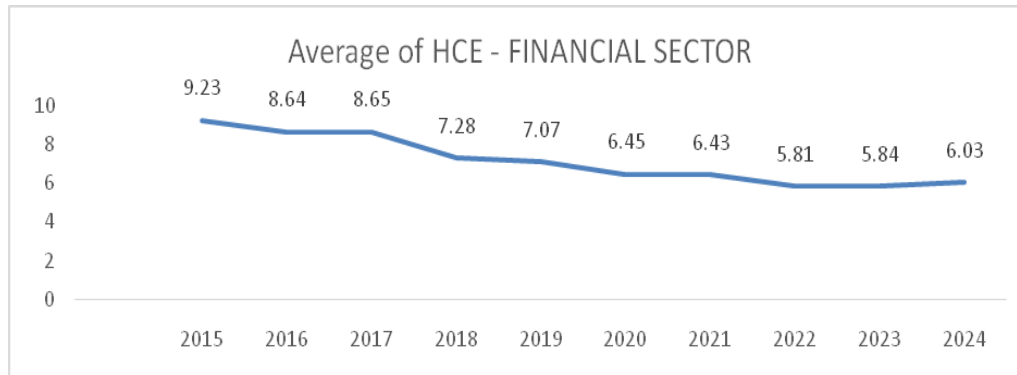
**Figure 6: Year-wise average HCE in the IT Sector**

Figure 6 is quite in contrast to Figure 5. While the VAIC in the IT sector is recovering, Figure 6 clearly shows the downward trend of the HCE in the sector. It is obvious that other elements like CEE and SCE contribute to the recovery of the VAIC. Further, it is to be noted that the HCE, which contributed to 51% of the VAIC in 2015, has been slipping, with a contribution of 44% in 2024.



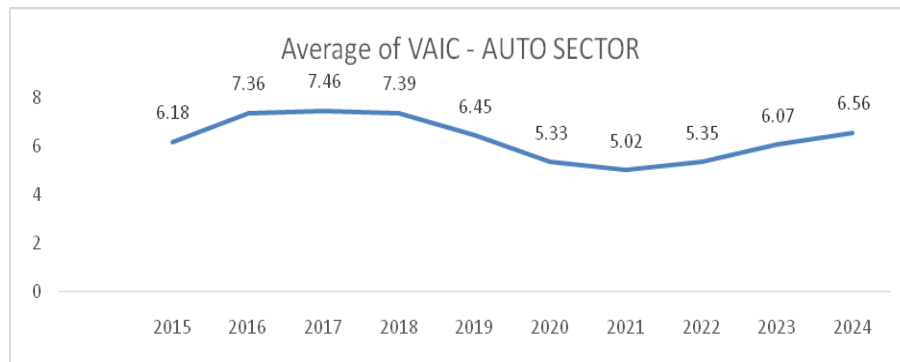
**Figure 7: Year-wise average VAIC in the Financial Sector**

The financial sector has shown a declining trend of VAIC over the years. This is a clear indication that efficiency is slipping in the sector. Like the banking sector, the financial sector is hugely dependent on human capital, which is reflected in figure 8.



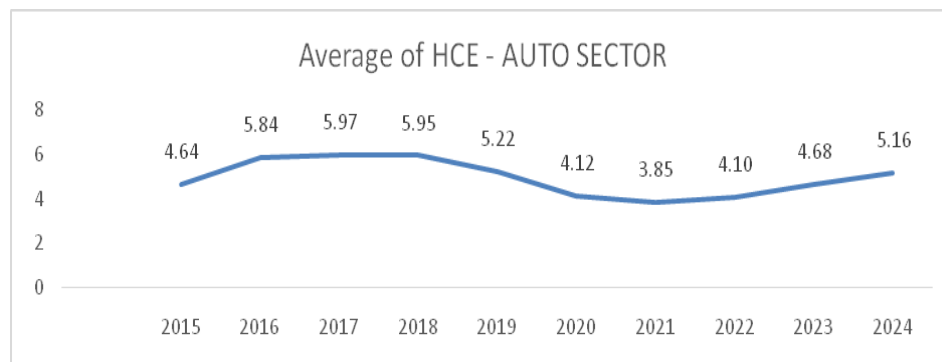
**Figure 8: Year-wise average HCE in the Financial Sector**

The HCE in the Financial sector follows the same declining trend as the VAIC in the sector. The HCE which contributed to 86% of the VAIC in 2015 has slipped to 80% in 2024. The huge contribution of HCE indicates that the sector is largely dependent on human talent, like in the banking industry.



**Figure 9: Year-wise average VAIC in the Auto Sector**

The trend of VAIC in the auto sector shows a clear dip during the COVID years and a recovery thereafter. The trend corresponds to the dip in revenue and increase in costs during the COVID-19 years and a sharp recovery thereafter.



**Figure 10: Year-wise average HCE in the Auto Sector**



It is clearly seen from Fig 10 that HCE contributes to >75% of the VAIC and this contribution has slightly increased over the years with a contribution of 78.65% in 2024. The trend of HCE follows the same trend as VAIC, with a sharp dip during the COVID years.

Analysis of VAIC in NIFTY 50 companies shows that Power Grid Corporation stands at No.1 position while HDFC Life Insurance stands at the 50<sup>th</sup> position (Annexure 1). Further, when we compare the sales, assets and profitability, it is clearly seen that the size of sales and assets have nothing to do with the performance of VAIC. Reliance Industries Ltd., the No. 1 company in terms of sales and No. 4 in assets, stands at No. 7 in terms of VAIC. State Bank of India which is No. 1 in assets, No. 4 in sales, and No. 2 in PBT, stands at 22<sup>nd</sup> position in VAIC.

When we analyze the Banking sector VAIC (Annexure 2), The State Bank of India which is the largest bank in India, stands last in VAIC. ICICI Bank which is No. 3 in terms of sales, PBT and assets, stands at No. 1 in VAIC (Annexure 2). When we analyze the Auto sector (Annexure 3), Bajaj auto stands at the No. 1 position in VAIC, and Tata Motors, the largest auto company in terms of sales and assets, stands last in VAIC (Annexure 3). Only in IT sector (Annexure 4), we find VAIC to be almost in sync with the size and other metrics analyzed. TCS, which is the largest IT company in India is also the topmost in terms of VAIC. This is followed by Infosys, which is the second largest IT company.

## 6. Conclusion

The analysis of VAIC and its components (HCE, SCE, and CEE) across NIFTY 50 companies from 2014-15 to 2023-24 provides valuable insights into intellectual capital efficiency trends. The overall VAIC in NIFTY 50 shows recovery after a dip from 2016 to 2018, including resilience during the COVID-19 years. However, HCE—a significant contributor to VAIC—has shown a consistent decline, indicating that other components, such as SCE and CEE, have driven the recovery.

Analysis reveals varied patterns. In the banking sector, VAIC remains flat, with over 80% driven by HCE, emphasizing the sector's reliance on human capital. Similarly, the financial sector shows a declining VAIC trend, with HCE contributing 80% by 2024. The IT sector mirrors the NIFTY 50 VAIC trend, recovering after 2018, while its HCE declines, demonstrating increased reliance on non-human capital efficiency. The auto sector reflects a dip during the COVID years with recovery afterward, driven largely by HCE, which accounts for over 75% of VAIC.

VAIC rankings often deviate from conventional metrics like sales and assets. For instance, Power Grid Corporation leads NIFTY 50 VAIC, while larger players like Reliance Industries rank lower. This emphasizes that intellectual capital efficiency, as measured by VAIC, is independent of traditional performance indicators.

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### ANNEXURE 1 VAIC IN NIFTY 50 COMPANIES (SORTED BY YEAR 2024)

VAIC - SORTED											RANKING						
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	VAI C	Ass ets	RO CE	E PS	SAL ES	PB T	DIV RATIO
Power Grid Corpn	12.37	16.03	15.76	19.04	14.40	18.60	17.59	18.96	18.01	18.54	1	19	39	44	35	18	9
Bharti Airtel	11.34	11.76	11.98	10.70	9.37	(1.23)	14.99	17.99	18.85	17.80	2	11	36	46	15	26	11
B P C L	8.59	7.69	7.78	7.37	10.07	5.78	9.89	10.70	4.96	15.33	3	25	10	23	3	8	20
ICICI Bank	13.43	11.82	10.59	9.31	8.24	10.08	11.23	11.56	12.13	13.02	4	3	22	21	13	6	35
Adani Ports	22.43	22.52	19.88	23.72	19.22	17.51	21.67	17.75	11.82	11.65	5	29	35	37	42	31	34
NTPC	6.31	6.53	7.42	7.70	5.83	11.34	9.69	9.87	10.41	11.23	6	10	46	41	11	11	17
HDFC Bank	12.34	12.48	11.03	11.62	12.31	11.31	10.86	10.24	10.34	10.38	7	2	25	17	6	4	30
RELIANCE	9.29	9.88	9.37	13.44	11.72	11.53	9.55	9.00	8.80	9.75	8	4	47	27	1	1	41
Adani Enterp.	13.05	6.15	9.79	5.15	4.97	5.77	5.86	5.58	10.46	9.61	9	26	45	39	25	40	45
Bajaj Auto	8.69	10.92	9.16	10.22	9.96	7.94	7.88	9.34	9.08	9.51	10	39	9	2	38	29	22
Bajaj Finance	11.98	11.72	11.06	9.55	10.60	10.11	9.37	8.63	8.97	9.35	11	14	19	4	31	17	36
Britannia Inds.	7.48	7.99	7.76	8.11	8.33	8.04	9.63	8.51	9.58	9.28	12	49	4	14	47	44	5
O N G C	6.26	5.06	5.25	5.47	6.88	3.78	4.92	6.10	5.79	9.12	13	7	24	36	2	3	21
JSW Steel	8.87	3.30	10.97	10.08	11.58	5.77	12.84	19.64	8.74	8.86	14	24	37	38	12	25	29
IndusInd Bank	8.96	8.95	9.14	9.37	9.16	9.17	7.38	8.41	9.18	8.66	15	9	31	9	36	27	37
Hind. Unilever	9.39	8.27	8.52	8.80	9.86	10.62	8.32	8.56	8.51	8.65	16	36	15	31	29	23	2
Eicher Motors	4.73	8.70	10.55	10.98	9.33	6.20	5.19	6.00	7.44	8.41	17	46	11	7	48	38	18
ITC	9.84	8.65	8.70	8.97	8.84	8.42	7.74	8.05	8.40	8.18	18	34	7	45	28	13	4
Axis Bank	9.23	9.28	6.67	4.42	6.44	6.62	6.08	7.24	8.35	8.16	19	5	23	15	21	10	49
Nestle India	3.99	5.60	5.72	6.37	7.51	7.21	7.41	7.17	7.83	7.89	20	48	1	33	44	36	6
Kotak Mah. Bank	8.06	7.12	7.85	8.26	8.66	7.77	7.30	6.71	6.92	7.55	21	6	32	12	30	14	48
St Bk of India	8.50	8.13	7.00	6.14	6.49	7.00	6.42	6.33	7.42	7.43	22	1	26	18	4	2	33
UltraTech Cem.	6.43	6.47	6.70	6.23	5.91	5.79	8.48	7.41	7.03	7.39	23	32	33	3	27	32	24
Bajaj Finserv	13.50	12.60	12.74	7.20	7.41	6.94	7.28	6.28	6.66	7.26	24	8	41	28	22	15	47
Maruti Suzuki	8.11	9.63	9.91	7.83	7.11	5.31	4.64	3.80	5.83	6.93	25	30	20	1	17	19	23
Asian Paints	5.79	6.27	6.56	6.37	6.93	6.25	6.55	5.91	6.39	6.58	26	43	6	26	40	33	12
Trent	3.84	3.07	3.15	3.14	3.12	4.24	2.67	4.22	5.03	6.29	27	50	16	32	50	46	43
Grasim Inds	5.14	6.10	6.70	5.59	5.32	5.17	6.36	5.99	6.28	6.23	28	12	48	16	20	24	40

Titan Company	4.81	3.95	3.66	4.51	5.12	4.94	4.21	5.29	6.39	6.13	29	42	18	35	33	41	25
Shriram Finance	6.72	6.00	6.64	9.58	7.93	6.59	6.69	6.57	6.30	5.91	30	20	29	5	37	30	31
M & M	3.75	4.23	4.08	4.45	4.25	3.71	3.92	4.77	5.16	5.26	31	22	34	13	18	20	32
Hero Motocorp	7.04	6.97	7.34	7.18	6.87	6.03	5.20	4.29	4.59	5.04	32	45	13	6	39	39	7
TCS	3.80	3.53	3.38	3.37	3.57	3.75	3.80	4.04	4.25	4.44	33	27	3	8	7	5	13
Coal India	4.11	4.35	4.39	4.72	5.55	4.70	3.95	4.07	4.66	4.38	34	21	2	24	16	7	14
Dr Reddy's Labs	3.80	3.69	2.91	2.87	3.23	2.77	3.50	3.38	4.17	4.30	35	40	14	19	41	34	39
Tata Motors	4.77	3.69	3.73	3.65	1.17	2.81	3.28	3.93	4.29	4.22	36	15	21	11	5	12	44
Cipla	3.41	3.27	3.06	3.22	3.51	3.44	3.76	3.63	3.77	4.08	37	41	17	29	43	35	28
Tata Consumer	2.95	2.42	3.17	3.20	3.34	3.47	3.96	4.05	4.31	4.06	38	44	44	47	49	47	10
Hindalco Inds.	2.89	3.23	3.80	4.20	4.28	3.95	3.92	5.33	4.12	4.01	39	23	43	30	10	22	42
Bharat Electron	3.68	3.75	3.65	3.50	3.56	3.47	3.52	3.48	3.54	3.70	40	38	8	49	45	37	15
Sun Pharma.Inds	4.22	3.97	4.60	3.05	2.96	3.17	2.52	2.91	3.56	3.64	41	35	27	34	34	28	19
Infosys	3.26	3.14	3.08	3.09	3.16	3.22	3.29	3.45	3.64	3.51	42	28	5	20	14	9	8
Apollo Hospitals	3.11	2.87	2.81	2.79	3.08	3.82	2.93	4.20	3.40	3.50	43	47	30	22	46	48	27
Larsen & Toubro	4.01	3.87	3.76	4.01	4.08	3.71	3.82	3.28	3.22	3.35	44	16	38	10	9	16	16
HCL Technologies	3.24	3.00	3.06	3.06	3.09	3.06	3.13	3.04	3.14	3.20	45	33	12	25	23	42	3
Wipro	3.10	2.93	2.83	2.80	2.74	2.80	2.96	2.82	2.70	2.76	46	31	28	42	26	21	46
Tata Steel	2.98	2.60	2.89	4.64	4.49	2.46	4.23	5.75	4.27	2.75	47	18	49	50	8	50	50
Tech Mahindra	3.15	3.02	2.97	3.00	3.03	2.93	2.94	3.06	3.01	2.72	48	37	42	40	32	43	1
SBI Life Insuran	3.63	3.60	3.56	3.78	3.59	3.75	3.06	3.02	2.72	2.69	49	13	40	43	19	45	38
HDFC Life Insur.	3.66	3.66	3.22	3.35	2.86	2.94	3.33	2.54	2.27	1.52	50	17	50	48	24	49	26

## ANNEXURE 2

### VAIC IN THE BANKING SECTOR OF NIFTY 50 COMPANIES (SORTED BY YEAR 2024)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RANKING						
													VAIC	Assets	ROCE	EPS	SALES	PBT	RATIO
ICICI Bank	12.77	13.36	13.43	11.82	10.59	9.31	8.24	10.08	11.23	11.56	12.13	13.02	1	3	1	6	3	3	3
HDFC Bank	10.88	12.25	12.34	12.48	11.03	11.62	12.31	11.31	10.86	10.24	10.34	10.38	2	2	3	4	2	2	1
IndusInd Bank	7.72	8.45	8.96	8.95	9.14	9.37	9.16	9.17	7.38	8.41	9.18	8.66	3	6	5	1	6	6	4

Axis Bank	13.25	9.48	9.23	9.28	6.67	4.42	5.44	5.62	5.08	7.24	8.35	8.16	4	4	2	3	4	4	6
Kotak Mah. Bank	8.55	8.49	8.06	7.12	7.85	8.26	8.66	7.77	7.30	6.71	6.92	7.55	5	5	6	2	5	5	5
St Bk of India	8.98	8.13	8.50	8.13	7.00	6.14	6.49	7.00	6.42	6.33	7.42	7.43	6	1	4	5	1	1	2

### ANNEXURE 3

#### VAIC IN THE AUTO SECTOR OF NIFTY 50 COMPANIES (SORTED BY YEAR 2024)

AUTO VAIC	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RANKING						
													VAIC	S	E	EPS	ES	BT	IO
Bajaj Auto	11.98	10.15	8.69	10.92	9.16	10.22	9.96	7.94	7.88	9.34	9.08	9.51	1.00	4	1	2	4	4	3
Eicher Motors	4.18	4.12	4.73	8.70	10.55	10.98	9.33	6.20	5.19	6.00	7.44	8.41	2.00	6	2	4	6	5	2
Maruti Suzuki	6.52	7.40	8.11	9.63	9.91	7.83	7.11	5.31	4.64	3.80	5.83	6.93	3.00	3	4	1	2	2	4
M & M	4.20	4.16	3.75	4.23	4.08	4.45	4.25	3.71	3.92	4.77	5.16	5.26	4.00	2	6	6	3	3	5
Hero Motocorp		7.54	7.04	6.97	7.34	7.18	6.87	6.03	5.20	4.29	4.59	5.04	5.00	5	3	3	5	6	1
Tata Motors	4.51	4.46	4.77	3.69	3.73	3.65	1.17	2.81	3.28	3.93	4.29	4.22	6.00	1	5	5	1	1	6

### ANNEXURE 4

#### VAIC IN THE IT SECTOR OF NIFTY 50 COMPANIES (SORTED BY YEAR 2024)

IT VAIC	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RANKING						
													VAIC	Asse ts	RO CE	EP S	SAL ES	PB T	DIV RATIO
TCS	3.69	3.91	3.80	3.53	3.38	3.37	3.57	3.75	3.80	4.04	4.25	4.44	1	1	1	1	1	1	4
Infosys	3.25	3.21	3.26	3.14	3.08	3.09	3.16	3.22	3.29	3.45	3.64	3.51	2	2	2	2	2	2	3
HCL Technologies	3.45	3.36	3.24	3.00	3.06	3.06	3.09	3.06	3.13	3.04	3.14	3.20	3	4	3	3	3	4	2
Wipro	3.06	3.13	3.10	2.93	2.83	2.80	2.74	2.80	2.96	2.82	2.70	2.76	4	3	4	5	4	3	5
Tech Mahindra	2.32	3.50	3.15	3.02	2.97	3.00	3.03	2.93	2.94	3.06	3.01	2.72	5	5	5	4	5	5	1