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Return of intellectual capital: An innovative way to measure intellectual capital: Case of TCS and Bajaj auto

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Abstract---This paper is perhaps the only paper to firstly introduce with the new method to measure the value of Intellectual Capital by measuring the profit generated by this capital also to find its return based on the total assets. Researcher have generally focused on the basic idea of Intellectual capital and accordingly consider the variables for its calculation. It is the first attempt made in this paper to measure the profit generated by Intellectual capital. this paper offers a new insight into the area of Intellectual Capital and also tries to generate the relation with manufacturing and service sector company. But as researcher considers only one company from both the sectors it is not possible to generalize due to small sample size. This is only the case study to measure and identify the relationship between Intellectual capital and other performance variables and even the relationship of different return variables. But only if sample companies are considered then no significant relationship can be identified between dependent variable and independent variable. The findings of the present study are subject to limitations that provide avenues for further research in the same direction. This study can be extended further to consider all companies in Nifty 50 and there can be comparative analysis of manufacturing sector companies and service sector companies. Secondly other dependent variables can be increased considering liquidity ratio, profitability ratios and turnover ratios.

Keywords---intellectual capital, innovative, profit generated, manufacturing sector.

Introduction

The present age is the age of transformation of knowledge into technology and so our economy is transformed into knowledge economy. Knowledge is being recognized as the currency of every economy and so the information and relationship resources are being utilized by companies in the way physical assets like machinery, property and assets have been used for developing a business (Harsh Purohit, 2017). Multi-facted development over the last two decades had been seen which includes revolutionary Information technology sector, and over there India is the second most populous country in the world and one of the fastest growing economies for developing information technology (Mahesh Joshi, 2011). According to the report real Gross Domestic Product (GDP) of India for the year 2010 was highest 13.3 (*India real GDP growth*. (2018, June 1)). Even the present economic study also reveals that India also comes in the position of fastest growing economies in world in future period. Among the top 5 countries India stood first in the position with the projected GDP of 7.2% (FocusEconomics. (n.d.)). Three sectors namely the Service sector, Industrial Sector and Agricultural sector accounted for 53.89%, 25.92% and 20.19% of GDP respectively in 2021. India's share in world GDP also increased from 1.08% in 1993 to 3.27% in 2019(*India GDP sector-wise 2021*). This shows the growth and contribution of sector in the real GDP which ultimately grow the economy.

Recent years also demonstrated a change at the international economic level that economies of developed and developing countries are shifting reliance from the industrial sector to the knowledge driven sector which is based on knowledge assets (Mahesh Joshi, 2011). This is primarily attributed to the growth of service sector over the last 50 years. But service sector are only not the contributors for growth of the economy but with manufacturing sector also plays an important role. It contributes around 16-17% in India's GDP and also gives employment to around 12% of the country's workforce.(*Manufacturing*. (n.d.).) Various studies have estimated that every job created in manufacturing has a multiplier effect in creating 2–3 jobs in the services sector (*Manufacturing*. (n.d.).) In the developing countries like India employment is also a very serious issue. So with the help of manufacturing sector this issue is also been taken care of.

Hence manufacturing sector and service sector plays a very important role in the development of the economy and both the sector are driven by knowledge assets. The innovation and knowledge led organizational strategies followed by firms have led to increased competition among firms of today (Vandana Mehrotra, 2017). This competitive advantage is created through the strength of internal processes, organisational culture, knowledge sharing processes, efforts of employees, their experiences, the decisions taken, relationship with customers and their satisfaction are examples of knowledge assets. This assets are also termed as intellectual assets or intellectual capital with the only purpose that they are owned by the firm and the capital of the firm is involved in developing this assets. Hansson (1997) opined that the drivers of the value creation in modern competitive environment lie in a firm's intellectual assets rather than in its physical and financial capital. (B, 1997). It is also been observed that the focus of management is therefore shifted from tangible to intangible capital while considering 'value creation' processes in the firm (Abeysekera, 2008). It is

therefore imperative to study the contribution of this capital in generating revenue for the firm.

But as the name suggest intellectual capital which is intangible in nature, the financial statements are also not been able to incorporate the intangibles. As it has been seen that the contribution of service sector is increasing from last 50 years, this contribution is one of the reason for the difference between the market value of the firm and book value of the firm. The gap between market value and book value is also increasing from last 20 years. Earlier this gap was termed as intangible capital and one of the method Tobin's q was developed based on this concept. He argued that the gap only reflects the intellectual capital which cannot find the place in the financial statements. But later on it is resolved that the gap is not only due to the factor of intellectual capital but there can be also some other factors which affect market and which can bring the difference between market value and book value of the firm. Hence the need arises to find the value of the intellectual capital which in knowledge driven economy becomes the key indicator of the success.

Many different methods had been developed in the world with the different basis of valuation but all methods are followed by certain criticisms. Out of many methods very few are accepted even with limitations as there is a need to calculate the value of intellectual capital. Like one of the method named Value Added Intellectual Coefficient (VAICTM) which is accepted worldwide. But the main limitation of this method is that it fails to calculate the value of intellectual capital. It only measures the contribution of Intellectual capital in value creation of the firm. So even the objective to find the value of the intellectual capital is not been satisfied by this method. As there is a need to find the value of Intellectual Capital, in this paper an attempt has been made to develop a new method where value of Intellectual Capital will be calculated.

Review of Related Literature

Numerous attempts have been made towards developing widely accepted definitions of Intellectual capital, but still no single widely accepted definitions have been agreed by the different authority. In connection to the different definitions in past Klein and Prusak (1994) contributed in defining Intellectual capital as it is an intangible material that can be formalized, captured and leveraged to produce a higher value assets. (L., 1994). In connection to this Edvinsson and Malone (1997) defined Intellectual capital as 'the knowledge that can be converted into value'. (M.S., 1997). It also talks that Intellectual capital is the combination of corporate brainpower, information technology and relationships between customer and suppliers, which influence company to create an ability to generate money for his company. Stewart (1997) also argued that intellectual resources such as knowledge, information and experience are the tools for creating wealth and defined Intellectual capital as the new wealth of the organisation (Stewart, 1997). Even Sullivan (2000), defined Intellectual capital as 'Knowledge that can be converted into profits' (Sullivan, 2000). From the various definitions it can be concluded that Intellectual capital is the combinations of brainpower, technology and relationship and this three together has the power to generate profit over an above the normal profit earned and create value for the

firm by converting intangible capital into excess profit. This intellectual capital which are intangible in nature are considered as hidden assets so they don't have any financial value recorded in books and hence they cannot be quantified as other tangible and financial assets in financial statements (Edvinsson, 1997) (R, 2003). This quantifies that intellectual capital are hidden and so cannot be traced from the balance sheet. But the gap which is becoming wider gradually has brought the attention of researcher towards investigating the nature of intellectual capital and the profit and return generated by this intangible capital termed as Intellectual Capital. Basically Intellectual Capital is characterized under three broad categories : Human capital, structural capital and relational capital.

Edvinsson and Malone (1997) also defined Intellectual capital as the gap which is observed between a firm's book value and market value. (M.S., 1997). This statement is supported by Kok(2007) where he argued that a method for determining the Intellectual assets of a company is to compare market to book value (Kok, 2007). But when we compare market to book value the difference will not always predicts the intellectual capital as certain factors of the economy and country also affects market value. So this difference cannot be called as Intellectual capital.

Peteraf and Barney (2003) argued that firm's resource-based view emphasizes over sustaining competitive strategies by utilizing the resources present inside an organization (Peteraf, M.A. and Barney, J.B. (2003), "Unraveling the resource-based tangle", *Managerial and Decision Economics*, Vol. 24 No. 4, pp. 309-323.). That means the organization should have such resources that possess certain characteristics of uniqueness, cannot be copied and which cannot be replaced. This all resources can be presented in the form of employee's skills and experience which they gained over time. Such internal resources have the capability of generating wealth and are perceived as Intellectual Capital.

Many researchers across the globe have defined and classified Intellectual capital in their own perceptions but overall all the meanings talks about the experience and skills gained by the employees, the knowledge the key managerial personnel is having, the relationship with the customer and the strategies which help the organization to compete in the market with its competitors(Lev, B. (2004)). Even Brauch Lev(2004) also emphasizes that Intellectual capital assures perspective profit in absence of tangible assets.

Sveiby (1997) classifies the Intellectual capital in three major components – Human capital, Structural capital and customer capital. This classification was subsequently replaced by Bontis and he gave relational capital name instead of customer capital (Bontis, N. 1998) This classification was then adopted worldwide.(Mouritsen, J (2001), Nadeem, M.,(2017), *Kamath, B.G. (2008)*) To measure intellectual capital becomes a challenge for the researchers and so many attempts has been made by the different researchers to measure Intellectual capital by different perspectives. In that one was Tobin's q where the ratio of market to book value was considered for Intellectual capital. Later on Value added Intellectual Coefficient method was developed where the researcher consider the components of Intellectual capital and even consider the return of capital

employed to be part of Intellectual return. This method was world wide accepted due to its ease of calculation and availability of data in the financial statement. Many researches had been done using this method and its impact of different variables and factors were also been considered. But the result was drawn was varied.

Like Appuhami (2007) obtained similar results for companies listed on Thailand's stock market using VAIC as the proxy of IC. The result shows that IC is important in the creation of value and strategic asset management Appuhami, B.R. (2007). Kamath (2008) found that HC has a major impact only on ROA in the Indian pharmaceutical sector, with no significant relationships of IC with productivity and market value. In contrast to these results, Chan (2009a, b) found no significant links between IC and productivity, profitability and market valuation among listed firms on the Hong Kong Stock Exchange. Instead, physical assets were identified as the most important component in improving firm productivity, profitability and market valuation. Vishnu and Gupta (2014) found similar evidence in an analysis of the Indian pharmaceutical industry, which showed that all components of VAIC except CEE significantly and positively influenced corporate performance as measured by ROA and return on sales. These findings gives a spot light to the stakeholders that there are certain intellectual capital which influences the profit so only performance of tangible assets is not only enough to predict but with it intangible assets are also to be considered. So based on the need of the value of Intellectual capital this paper makes an attempt to measure the profit generated by Intellectual capital. Later the profit generated by Intellectual capital will help to measure the value of Intellectual capital.

Profit generated by Intellectual Capital

The profit earned by organization is the result of the assets utilized by the company. The assets utilized will be both tangible and intangible. So the main source of my calculation is from the total profit earned by the organization the profit earned by the tangible assets will be deducted and the remaining profit will be considered as earned by Intellectual capital. Again the remaining profit is considered as Intellectual profit with the only reason is, intellectual capital are intangible in nature. So if it does not find place in financial statement to find the profit of intellectual capital is quiet difficult. Hence one of the method named Knowledge Capital Earning was taken as a base for measuring the profit generated by Intellectual Capital. Certain changes are done in the method like to measure the return generated by tangible assets in Knowledge Capital Earnings the Return on Assets will be considered on Tangible Assets and it will be deducted from average earnings of the company. But instead of Return of Assets researcher have considered Weighted Average Cost of Capital with the only reason that both debt and owner's capital both will be utilized to acquire the tangible assets. Hence the cost of capital for both should be considered in measuring the profit generated by tangible assets. It is also assumed that the profit earned over the profit generated by tangible asset and the risk free return on financial assets will be considered as the profit generated by Intellectual Capital. For return on financial assets the 10 year government bond interest rate was considered as normal return as this is risk free return. It is to be considered that the return generated above risk free return is to be considered as the profit generated from Intellectual

Capital. Hence both the return generated by tangible assets and intangible assets will be deducted from adjusted operating profit to arrive at profit generated by Intellectual Capital.

The present study will firstly try to introduce a framework on previous studies and also try to frame new methodology for finding the profit generated by Intellectual Capital and its return. Study also tries to investigate the relationship between profit generated from Intellectual Capital, Market value and financial performance.

Research methodology

Sample and data selection

The population was Nifty 50 banks but as it a case study for just implementing the new method to measure the value of Intellectual capital by finding profit generated by Intellectual Capital, one company from service industry and one company from manufacturing sector is selected. Based on the market capitalization Tata Consulting services and Bajaj auto are having maximum market capitalization in IT sector and Auto sector respectively. Here for my case study two companies are selected from the total 50 listed companies in Nifty index.

Variables

Independent variable

The present study includes value of intellectual capital and Return of intellectual capital as independent variables. The first step towards calculation of this variable is to calculate operating profit by deducting operating expenses without depreciation and amortization from operating revenue i.e. sales. Depreciation and amortization is not been considered with only reason is that we are considering return generated from tangible assets so this decrease in the value of assets is not considered.

From operating profit managerial remuneration, knowhow fees, and other professional fees are to be added as they are considered as expenses done for intellectual and we are simply considering the expenses related to tangible and financial assets. Here intellectuals are the expenses which generate intellectual return so to avoid duplication this fees are to be added in the operating profit excluding depreciation and amortization.

On the other hand excess return on financial assets is to be calculated which is believed by me is the return generated by intellectuals. Hence firstly normal return on financial assets is to be calculated. Here normal return on financial assets is the interest generated from government bonds in last 10 years because this return will be considered as risk free return. So the return generated above risk free return is called as return by intellectuals. Hence in India last 10 years government bond generate 6.74% return and so return on financial assets is considered by 6.74%. the financial assets of the company will be long term

investments and long term loans and advances. Return on this financial assets by 6.74% will be calculated and then from the income from other sources and other income this normal return on financial assets will be deducted. Hence excess return on financial assets will be calculated which will be added to the adjusted operating profit excluding depreciation and amortization.

Even return on tangible assets is also to be calculated which will be deducted from adjusted operating profit to arrive at profit generated by intellectual capital. For this purpose firstly tangible assets will be calculated from the financial statements of the company. This will be calculated by deducting intangible assets from net fixed assets to arrive at tangible assets. Then weighted average cost of capital (WACC) will be considered for finding the normal return on tangible assets. The reason to consider WACC is both equity capital and debt capital is used in generating and acquiring tangible assets. So the cost of both the capital should be the normal return generated by the tangible capital. This normal return from tangible capital will then be deducted from adjusted operating profit to arrive at profit generated from Intellectual capital. So whatever value derives after deducting return on tangible assets is the value of Intellectual capital or we can also say as profit generated from Intellectual capital. Even return on intellectual capital can be measure with the help total assets. It is assumed in my study that the profit generated by intellectual capital is with the help of total assets. So the Return on Intellectual capital will be measured by

$$\text{Return on Intellectual capital} = \frac{\text{Profit generated by Intellectual capital} \times 100}{\text{Total assets}}$$

This will give us the return generated by intellectual capital against total assets of the firm. So this two Profit generated by Intellectual capital and Return generated by Intellectual capital will be two independent variables in this study. New method is employed to measure the profit generated by Intellectual capital. This method used the financial data and estimates the profit generated from intangible assets. This model is important for the management for taking various decisions of the company. The audited financial data are used and the values obtained are easy to use and compare cross – sectional firm data. Further this can also be used by the stakeholder to get an insight into the return generated by Intellectual capital of the firm.

Dependent variables

The present study includes dependent variables: In this study financial performance variables are the dependent variables. Financial performance is selected with the only reason the paper tries to find the impact of intellectual capital and this impact can be measured on financial performance. Hence different indicators of financial performance are to be taken.

The financial performance is measured with the use of three indicators;

1. Return on equity (ROE):

$$\text{ROE} = \text{Net Income} / \text{Shareholder's Equity} \times 100$$

Return on equity measures profitability of an organizational which shows how much profit a company generates with the money shareholders have invested in the organization.

2. Return on Assets (ROA) :

$$\text{ROA} = \text{Net Income} / \text{Total Assets} \times 100$$

This is an indicator of how profitable a company is in relation to its total assets. It gives an idea as to how efficient the management uses assets to generate earnings.

3. Return on Capital Employed (ROCE):

$$\text{ROCE} = \text{Operating Profit} / \text{Capital employed} \times 100$$

This is an indicator of how profitable a company is in relation to its net assets. It gives an idea how efficiently the management uses its long term fund in generating operating profit.

Hypothesis Development

Intellectual Capital is non-monetary and intangible in nature and adds immensely to value creation (Bontis, 2004, Youndt et al 2004, Vishnu and Gupta, 2014). IC enhances firm performance irrespective of firm size and geographic location (Nadeem et al., 2017). VAIC is considered as proxy and is directly related to the efficiency of the company. (Chen Goh, P. (2005)). This is the similar result of many studies like Chen et al and Nadeem et al. But there are certain studies like Nimtrakoon who fails to associate relationship between VAIC and firms performance.

Hence this study firstly try to find the profit generated from Intellectual capital and then it is expected that there will be a positive significant impact of Profit generated from Intellectual capital on Return on Assets, Return on Equity and Return on Capital Employed.

Hence researcher propose Null hypothesis that

H1a No significant impact of Intellectual capital on firms Return on Assets

H1b No significant impact of Intellectual capital on firms Return on Equity

H1c No significant impact of Intellectual capital on firms Return on Capital Employed

H1a No significant impact of Return of Intellectual capital on firms Return on Assets

H1b No significant impact of Return of Intellectual capital on firms Return on Equity

H1c No significant impact of Return of Intellectual capital on firms Return on Capital Employed

Database

The data required for this paper were manually selected from the electronic database "PROWESS," which is maintained by the Centre for Monitoring Indian Economy (CMIE). All relevant data were readily available in this database so data was taken from CMIE and Intellectual Capital was measured. The reason for

selected company from two industries is as they are capital intensive and knowledge intensive the result analyse will be ideal for further research. Researcher used panel data in this study. Panel data provide a greater variation of data, in-depth information and a higher degree of freedom of data by merging cross-sectional observations with time series. The use of repeated cross-sections of observations in panel data analysis enables the measurement of the impact of dynamics of change that cannot be simply observed in pure cross-section or pure time-series data. Thus, panel data analysis is preferred above cross-section or time-series data.

Proposed method for finding Profit generated by Intellectual Capital and Return of Intangible Assets

For analyzing the data firstly researcher have tried to find the method to find the profit generated by Intellectual Capital.

Profit Generated by Intellectual Capital

Net sales – Operating Income

Less : Operating expenses (Excluding depreciation and amortization)

Operating profit after managerial charges and intellectual fees

Add: Directors fees , Managerial charges, Outsourcing professionals

Adjusted profit

Add: Excess return on financial assets(1)

Adjusted profit after return on financial assets

Less Return on Tangible assets(2)

Profit Generated From Intangible Assets

(1) Financial assets

Normal risk free return on government bonds – 6.57%

Normal return on financial assets (financial assets x 6.57%)

Other income

Less: Normal return on financial assets

Excess return on financial assets

(2) Tangible assets

Tangible fixed assets

Weighted Average Cost of Capital

Return on fixed assets (TA x WACC)

Return on Intangible Assets = Profit generated by Intellectual Capital / Total Assets x 100

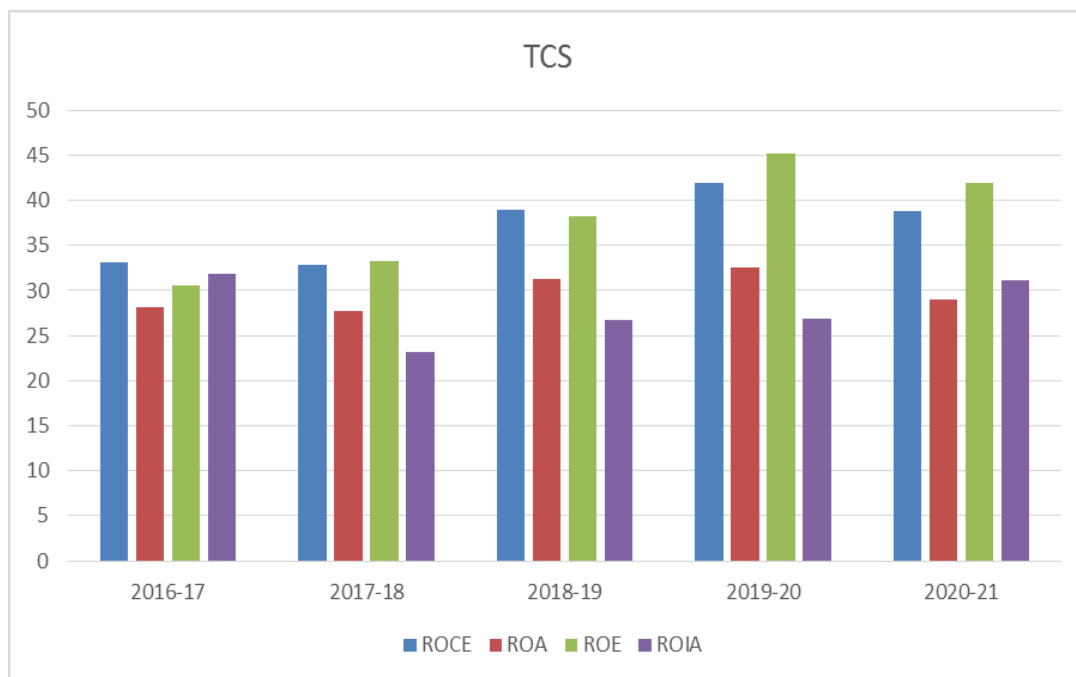
Data Analysis

TCS

Correlation Matrix

	TCS				
	<i>Intellectual</i>	ROCE	ROA	ROE	ROIA

	capital				
2016-17	288851.784	33.1	28.1	30.53	31.8308007
2017-18	212897.762	32.8	27.7	33.27	23.1972893
2018-19	269476.26	38.9	31.3	38.23	26.79569441
2019-20	283085.206	42	32.5	45.26	26.83780868
2020-21	342834.606	38.8	29	41.91	31.19258714



Descriptive Statistics

	<i>Intellectual capital</i>	<i>ROCE</i>	<i>ROA</i>	<i>ROE</i>	<i>ROIA</i>
Mean	279429.1236	37.12	29.72	37.83904697	27.97084
Standard Deviation	46497.01667	4.019577	2.08854	6.044099761	3.561266
Kurtosis	1.566907206	-2.27993	-2.10273	-1.815708164	-1.37484
Skewness	-0.16451135	-0.12184	0.574542	0.019451424	-0.1928
Minimum	212897.762	32.8	27.7	30.5263022	23.19729
Maximum	342834.606	42	32.5	45.26032169	31.8308
Confidence Level(95.0%)	57733.67162	4.990964	2.593265	7.504741075	4.421896

The Mean, Standard Deviation, Kurtosis, Skewness, Minimum and Maximum all values of TCS are shown in the above table. Among dependent variables ROE shows the highest value while independent variable ROIA also shows lesser value

than ROE. This shows firms earned huge profit which is applicable to equity. Low standard deviation in ROA indicates that there is low variation in Return on Assets.

Correlation Matrix

	<i>Intellectual capital</i>	<i>ROCE</i>	<i>ROA</i>	<i>ROE</i>	<i>ROIA</i>
<i>Intellectual capital</i>	1				
<i>ROCE</i>	0.476439728	1			
<i>ROA</i>	0.174838991	0.905534	1		
<i>ROE</i>	0.459200988	0.955775	0.780239796	1	
<i>ROIA</i>	0.854215155	0.050582	-0.132322526	-0.025347681	1

The above table shows the outcome of correlation analysis of Tata Consulting services. Overall the dependent variable and independent variable are positively and significantly related with dependent variable except Return on Intangible assets whose correlation is positive but very poor with the dependent variable. While the profit generated by Intellectual capital is positively and significantly related with dependent variable.

Regression Analysis of Intellectual capital on ROCE ROA and ROE

Adjusted $R^2 = 0.475$

While p-value > 0.05

Adjusted R^2 shows there is a relationship between dependent and independent variable but it is very poor as it is less than 0.5. The empirical investigation failed to reject the Null hypothesis that there is no significant impact of Intellectual Capital on Return on Assets, Return on Equity and Return on Capital Employed. It seems that even it is the service sector where intellectual capital are intensively use the value of intellectual capital is having no significant impact as the p-value is greater than 0.05.

Regression Analysis of ROIA on ROCE ROA and ROE

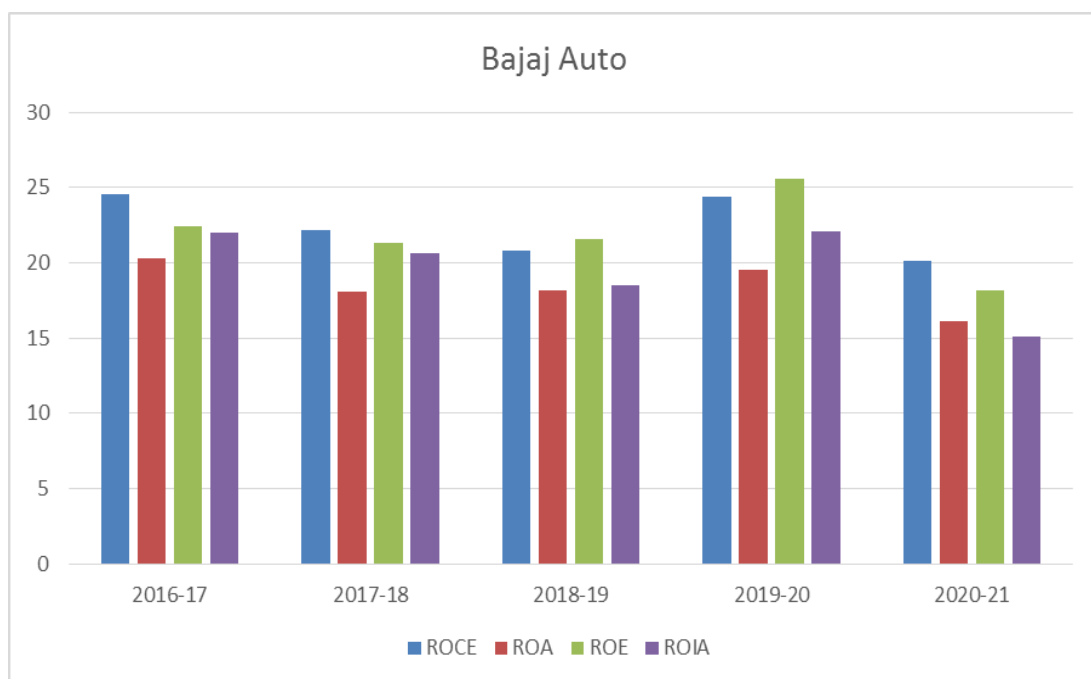
Adjusted $R^2 = 0.478$

While p-value > 0.05

The empirical investigation failed to reject the Null hypothesis that there is no significant impact of Return of Intellectual Capital on Return on Assets, Return on Equity and Return on Capital Employed. It seems that even it is the service sector where intellectual capital are intensively use the value of intellectual capital is having no significant impact as the p-value is greater than 0.05.

Bajaj Auto**Correlation Matrix**

		Bajaj Auto			
	Intellectual capital	ROCE	ROA	ROE	ROIA
2016-17	46300.50072	24.6	20.3	22.46995	22.04626
2017-18	49700.07438	22.2	18.1	21.29465	20.67095
2018-19	50887.0175	20.8	18.2	21.53926	18.51134
2019-20	55095.60398	24.4	19.5	25.59526	22.05064
2020-21	47940.73017	20.1	16.1	18.13578	15.13222

**Descriptive Statistics**

	<i>Intellectual capital</i>	<i>ROCE</i>	<i>ROA</i>	<i>ROE</i>	<i>ROIA</i>
Mean	49984.79	22.42	18.44	21.80698	19.68228
Standard Deviation	3345.432	2.044993888	1.599374878	2.67406	2.92614
Kurtosis	0.828281	-2.724229069	0.258402253	1.482182	0.42529
Skewness	0.841947	0.066907039	-0.533681927	0.109483	-1.13659
Minimum	46300.5	20.1	16.1	18.13578	15.13222
Maximum	55095.6	24.6	20.3	25.59526	22.05064
Confidence	4153.903	2.539195287	1.985886205	3.320284	3.633282

Level(95.0%)					
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The Mean, Standard Deviation, Kurtosis, Skewness, Minimum and Maximum all values of Bajaj Auto are shown in the above table. Among dependent variables ROCE shows the highest value while independent variable ROIA also shows lesser value than ROE. This shows firms earned huge profit which is applicable to equity. Low standard deviation in ROA indicates that there is low variation in Return on Assets.

Correlation Matrix

	<i>Intellectual capital</i>	<i>ROCE</i>	<i>ROA</i>	<i>ROE</i>	<i>ROIA</i>
<i>Intellectual capital</i>	1				
<i>ROCE</i>	0.198457846	1			
<i>ROA</i>	0.150826701	0.920748	1		
<i>ROE</i>	0.679839633	0.823345	0.822908097	1	
<i>ROIA</i>	0.290047318	0.922402	0.934803062	0.864265	1

The above table shows the outcome of correlation analysis of Bajaj Auto. Overall the dependent variable and independent variable are positively and significantly related with dependent variable except profit generated from Intellectual Capital whose correlation is positive but very poor with the dependent variable. While the Return on Intangible assets is positively and significantly related with dependent variable with a high correlation.

Regression Analysis of Intellectual capital on ROCE ROA and ROE

Adjusted $R^2 = 0.487$

While p-value > 0.05

The empirical investigation failed to reject the Null hypothesis that there is no significant impact of Intellectual Capital on Return on Assets, Return on Equity and Return on Capital Employed. It seems that in manufacturing sector where intellectual capital are not used intensively the value of intellectual capital is having no significant impact as the p-value is greater than 0.05.

Regression Analysis of ROIC on ROCE ROA and ROE

Adjusted $R^2 = 0.493$

While p-value > 0.05

The empirical investigation failed to reject the Null hypothesis that there is no significant impact of Return of Intellectual Capital on Return on Assets, Return on Equity and Return on Capital Employed. It seems that in manufacturing sector also intellectual capital are used the value of intellectual capital is having no significant impact as the p-value is greater than 0.05. Overall the statistical shows poor correlation and no significant impact of Intellectual capital and its impact on dependent variable.

Conclusion

This paper is perhaps the only paper to firstly introduce with the new method to measure the value of Intellectual Capital by measuring the profit generated by this capital also to find its return based on the total assets. Researcher have generally focused on the basic idea of Intellectual capital and accordingly consider the variables for its calculation. It is the first attempt made in this paper to measure the profit generated by Intellectual capital. this paper offers a new insight into the area of Intellectual Capital and also tries to generate the relation with manufacturing and service sector company. But as researcher considers only one company from both the sectors it is not possible to generalize due to small sample size. This is only the case study to measure and identify the relationship between Intellectual capital and other performance variables and even the relationship of different return variables. But only if sample companies are considered then no significant relationship can be identified between dependent variable and independent variable. The findings of the present study are subject to limitations that provide avenues for further research in the same direction. This study can be extended further to consider all companies in Nifty 50 and there can be comparative analysis of manufacturing sector companies and service sector companies. Secondly other dependent variables can be increased considering liquidity ratio, profitability ratios and turnover ratios.

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