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SUSTAINABILITY OF IT COMPANIES CAN SUPPORT A NEW INDIAN ECONOMY: A CRITICAL STUDY ON IT COMPANIES LISTED IN BSE 30

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ABSTRACT

Information technology is considered as the modern era of any nation's growth. A healthy country in today's world depends on the innovative technology or advanced mechanism to face the global market. For last few decades it is observed that several IT companies has contributed a lot for the economic development of a nation. A sustainable growth of IT industry in a developing country will make a strong market for outsourcing the technology from developed country. This exchange will help to build healthy relation and open several job opportunities. Several models are considered to quantify the firm's performances, Higgins model suggests models like total asset turnover (assets efficiency), debt ratio and equity ratio (financial leverage) and current ratio (liquidity). However, to understand the firm's performance the sustainable growth rate is method that helps to achieve. This helps to compare the actual growth rate with sustainable growth rate. In this paper, financial and operational policies are analysed that will help to maintain a healthy growth. For examining the sustainable growth rate of Indian IT sector, the companies listed in BSE 30 have been selected as these IT companies are the representative of the IT sector in India. Profit margin, debt-equity ratio, returns on equity, dividend payout ratio and return on total assets to sales will be compared to sustainable growth rate to understand the impact.

KEYWORDS*: Financial Ratio, Information Technology, Regression, Sustainable Growth Rate, Sensex.*

Introduction

In the era of globalization, a frequent development in the activities of business operation and company's growth can make them to achieve a sustainable growth. The sustainability can sustain for longer period by providing a wide range of services and customer friendly products. Here, innovation plays a major role in satisfying both business and customer. In the field of technology advancement, IT industry keeps on pushing their standard to achieve a global competitive standard. A sustainable development, leads to economic growth and it is not a show for one time. For a service providing industry like IT, it needs to understand the expectation of its customer and must analyse the global competition which can achieve through wide range of services, due concentration on operational services, stabilizing the internal and external challenges and to deal with several market crises that may arise in the due course of business cycle. The major effort that can be given is on supervision and regulation. Various scholar establishes the relation between financial growth of a firm and and economic growth by adding several financial component and segments (Obstfeld, 1994; Levine and Zervos, 1998; Fink, Haiss, Hristoforova, 2006; Haiss and Sumegi, 2008; Cooray, 2010), effects of industry (Rajan and Zingales, 1998), impact of law (LaPorta et al,1998), and liberalization (Rusek, 2004; Haiss and Fink, 2006; Pichleret al, 2008).

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Review of Literature

Theories of Sustainable Growth Rate

Authors	Remarks
Higgins (2003)	He said if a firm wishes to maintain the sustainable growth rate then it can be achieved without exhausting its resources through sales and revenues. But a firm in long run without sufficient funds cannot sustain.
Van Horne (1998)	Through targeted dividend ratio and debt a firm can maximise its sales. As per the financial goals of the company it can select the best model to evaluate the sustainable growth rate through growth in sales.
Kumar Arya (2018)	Sustainability of firm depends on product innovation, a continuous growth can be achieved through comparing the expected growth and sustainable growth.
Drake	The data of Wal-mart is taken into consideration for the fiscal year 2005, and conclusion is drawn as a down-ward trend in sustainable growth is observed when there is an increase of dividend pay-out ratio. It is found to be immediate downfall in long run when a steep growth is observed in sustainable growth compared to actual growth.
Radasanu (2015)	To have a sustainable growth rate, managing the cash flow is must [Churchill and Mullins (2001)]. The result states that profitability ratio, asset turnover ratio, financial policy and dividend policy can be maintained to achieve the sustainable growth
Rahim and Saad (2014)	Firm's profitability has a positive significant relation to sustainable growth. However the result also states about significant difference between debt equity ratio and sustainable growth rate in ASEAN countries.
Seens (2013)	To evaluate the sales growth, policy of finance, earning powers, the HSGM is implemented. The output states that during the year 2000-2010 there is a rise of growth in sales i.e. 7.3% approx. while sustainable growth rate is affected by net profit margin during 2000-2010.
Arya et.al (2017)	To assess the firms performance and sustainability rate of growth one of the indicators is ROE, which will identify the inefficiency in achieving the standard.
Saputro (2013)	Manufacturing sector of Indonesia Stock Exchange is taken into consideration to study the impact of liquidity, stock return against actual rate of substantial growth. While negative impact is observed in sustainable growth rate due to ROA and current ratio. And the sustainable growth rate in negatively affected due to stock returns
Amauzesh et al (2011)	The study considers the liquidity and firm's performance relationship with sustainable growth rate. The result confirms that the actual growth and sustainable growth has a relationship with ROA.
Arya et.al (2017)	The study states about the benchmarking of firms that can be maintained through a continuous growth which can be achieved through better performances, strategy and process.

Objective of the Study

- To study the Sustainable growth rate of the Indian IT companies listed in BSE 30 by using models stated by Daum J.H. etal& Robert C. Higgins.
- To examine the impact of important financial variables on Sustainable growth rate of Indian IT companies listed in BSE 30.

Research Methodology

Sample Size: the data considered is from Infosys ltd., TCS and Wipro for 7 year from 2011-2017. For the analysis profit margin, dividend payout ratio, debt-equity ratio, ratio total assets to sales, return on equity and Sustainable growth rate are considered.

Hypothesis of the Study

H_0: There is no significant difference of impact of important financial variables on sustainable growth rate.

H_1: There is a significant difference of impact of important financial variables on sustainable growth rate.

Data Analysis Tools

Regression: Correlation coefficient of two variable X and Y is considered. Regression analysis is measure to identify the cause and effect relationship. Following is the regression model:

$Y= \beta_0 + \beta_1*X_1 + \beta_2*X_2 + \beta_3*X_3 + \beta_4*X_4 + \beta_5*X_5 + e$

Y= Sustainable Growth Rate

X_1=Profit Margin

X_2=Dividend Pay Out Ratio

X_3=Debt Equity Ratio

X_4=Ratio Total assets to sales

X_5=Return on Equity

Variable Measurement

Daum. J.H. et alsay a business can follow its success path by following certain models that will make the firms most competitive and challenge others.

Models for Sustainable Growth Rate

Model I

Sustainable Growth Rate= ROE x (1-Dividend Payment Ratio)

ROE is a method that helps to find out the company's profitability, while Dividend payment ratio states about the per-share earnings of the company that is paid as dividend.

$$\textbf{ROE} = \frac{\text{Net Income (after Tax)}}{\text{Average Shareholder's Equity}}$$

$$\textbf{Dividend Payment Ratio} = \frac{\text{Yearly dividend per share}}{\text{Earnings per share}}$$

Table 1: Sustainable Growth Rate (Model-I) of IT companies listed in BSE 30

Name Of The It Companies	**Model 1 ROE x (1-Dividend Payment Ratio)**						
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Infosys Ltd.	19.812312	21.605385	19.62314	16.417795	15.013611	15.383944	12.34376
TCS Ltd.	25.673145	25.820996	36.983527	35.39244	23.566036	28.209321	22.0599
Wipro Ltd.	23.109192	19.565478	19.725762	20.97239	15.00005	14.885199	11.339136

Model-II (Robert C. Higgins)

$$\textbf{Sustainable Growth Rate} = \frac{P_m \times (1-d) \times (1+L)}{T - \{P_m \times (1-d) \times (1+L)\}}$$

P_m =Profit Margin (Existing & Target)

d = Dividend pay-out ratio (Target)

L = Debt Equity Ratio (Target)

T = Ratio of Total Asset to Sales

Table 2: Sustainable Growth Rate (Model-II) of IT companies listed in BSE 30

Name Of The It Companies	**Model 2**						
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Infosys Ltd.	-104.61	-105.85	-105.50	-107.46	-107.58	-106.35	-109.17
TCS Ltd.	-112.72	-111.31	-105.95	-107.56	-110.89	-109.41	-110.47
Wipro Ltd.	-105.40	-107.05	-106.38	-107.00	-109.57	-110.37	-110.28

Calculated by the author

Interpretation

- **Growth rate > Sustainable Growth Rate:** If a company's growth is expected to grow to say 14% for upcoming years and in case the policies remain unchanged then its SGR can sustain only 9%. Then such result will clearly indicate that the policy set by the managers is out of track.

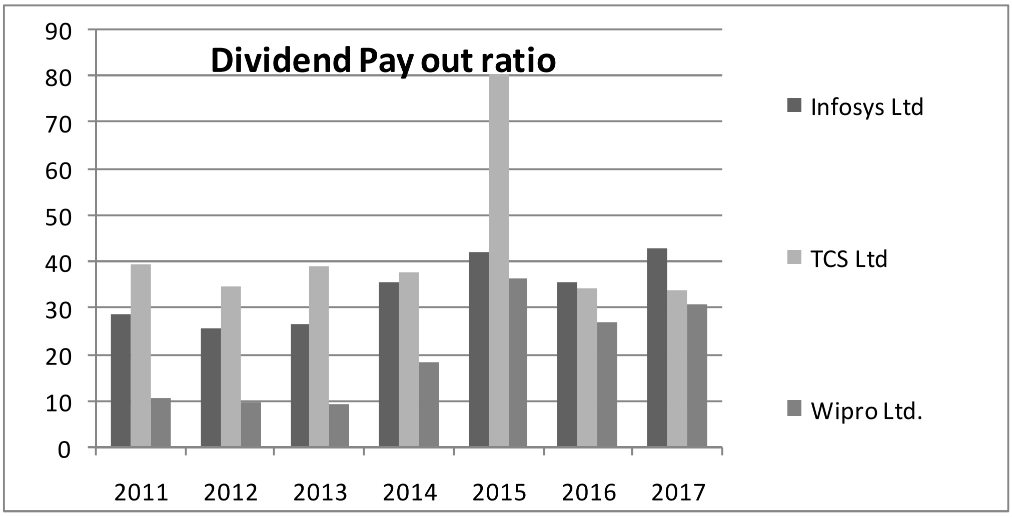
So as to grow 14%, the company needs to reduce the dividends, or try to increase the capital or maybe both. So this analysis will help to get a clear picture of the validity of the future plans.

- **Growth rate < Sustainable Growth Rate:** If the firms expect a growth of 7% while the sustainable growth rate figures a rate of 9% then in such situation the manager should try to raise the dividend payout

Hence, analysing this will make a comparison and measuring the expected growth rate and sustainable growth rate, the manager should prepare it policies on announcing innovative products or services in the IT to sustain the rate.

Results and Analysis

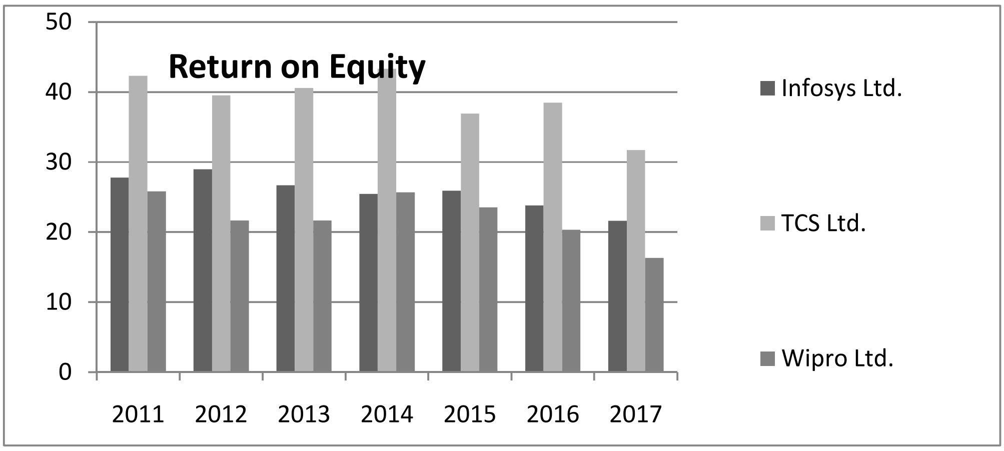
The graph shown below signifies the growth of various IT Companies listed in BSE 30 i.e. Infosys Ltd., TCS Ltd. Wipro Ltd. for a period of seven years starting from 2011-17.



Graph1: Dividend pay-out ratio of IT companies listed in Top 30 Sensex

Interpretation

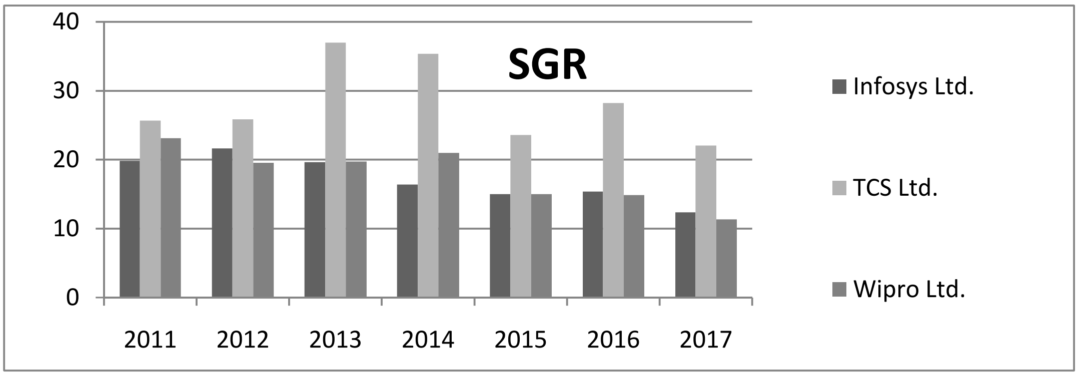
From the graph, we can see a clear picture that Infosys shows a consistent dividend pay-out throughout the years. While TCS has been paying the highest dividend from the year 2011- 2016, but during the year 2017 Infosys suddenly shows a high growth in dividend payout ratio. Whereas Wipro is showing a rising trend since2013.



Graph 2: Return on Equity of IT companies listed in Top 30 Sensex

Interpretation

From the graph, we can see the picture like TCS, maintain a consistency of ROE through the year i.e. the rising trend. While Infosys ltd. and Wipro ltd. shows a mixed trend.



Graph 3: Sustainable Growth Rate of IT companies listed in Top 30 Sensex using Model-1

Interpretation

From the graph, we can observe that TCS maintain a consistency of Sustainable Growth Rate through the year. While Wipro ltd. is found to have very low SGR.

Regression Analysis

Table 3: Regression analysis of IT Companies for testing the hypothesis

Variables	Infosys Ltd.		TCS Ltd.		Wipro Ltd.	
	t	Sig.	t	Sig.	t	Sig.
SGR	-38.84	.001	-3.529	.176	-110.036	.006
Profit Margin	7.416	.018	.241	.849	-1.301	.417
Dividend Pay Out Ratio	-5.445	.032	-.545	.682	-12.302	.052
Debt Equity Ratio	-	-	.412	.751	5.974	.106
Ratio Total assets to sales	-5.065	.037	-.562	.674	-29.193	.022
Return on Equity	.804	.506	.662	.682	6.620	.095

Calculated by the author

From the above result of regression, we get the following results:

Infosys Ltd.: We can say that sustainable growth rate is significantly influenced by the ratio of total assets to sales negatively with p-value as 0.037 and t value as -5.065 and dividend pay-out ratio shows .032 as p value and -5.445 as t value i.e. lesser the ROA or dividend pay-out ratio higher will be the SGR. While profit margin has a positive relationship, with t value as 7.416 and p value as 0.018.

TCS Ltd.: We can say that sustainable growth rate is not significantly influenced by any of the ratios; we find the p-value of profit margin as 0.849, dividend payout ratio as 0.682, debt-equity ratio 0.751, ratio total assets to sales 0.674, and return on equity 0.682

Wipro Ltd.: From the above analysis it shows a clear picture of the significance of sustainable growth rate with ROA negatively, it means any rise of ROAwill decrease the SGR. While other the ratiohas no significant effect on SGR.

R-Square Test

A statistical tool to identify the variable variation through regression line which can be explained through percentage of the response of data

$$\text{R-squared} = \frac{\text{Explained variation}}{\text{Total variation}}$$

It will only be measured in between 0 and 100%:

- If the result shows 0% then it has no response with the variance considered around its mean
- If the result shows 100% then it has a response with the variance considered around its mean.

Table 4: R-square Test and Durbin Watson test of IT companies

Variables	Infosys Ltd		TCS Ltd.		Wipro Ltd.	
	R-Square	Durbin Watson	R-Square	Durbin Watson	R-Square	Durbin Watson
Profit Margin	.327	.430	.130	1.909	.036	.562
Dividend Pay Out Ratio	.755	2.032	.084	2.361	.787	1.951
Debt Equity Ratio	-	-	.319	2.980	.422	1.622
Ratio Total assets to sales	.516	2.390	.170	2.598	.928	3.129
Return on Equity	.612	2.852	.422	2.982	.463	.898

Calculated by the author

Interpretation: (Keeping SGR as dependent and other factor as predictors is compared individually)

Infosys Ltd.: Here from the above analysis we get a response like SGR is affected by ROA and dividend pay-out ratio with 51.6%% and 75.5% respectively. While debt equity ratio has no response towards SGR.

TCS Ltd.: The above result brings to a conclusion that ROE affects 42.2% for the change of SGR while Dividend pay-out ratio is affected only by 8.4%.

Wipro Ltd.: Here from the above analysis we get a response like SGR is affected by ROA and dividend pay-out ratio with 92.8% and 78.7% respectively. While profit margin has only 3.6% effects towards SGR.

Durbin Watson Test

A measurement of autocorrelation from the regression analysis with an objective of finding the predictors those are significant while they are not due to standard error.

The test statistic is calculated with the following formula:

$$DW= \frac{\sum^{T}_{t=2}(e_t-e_{t-1})^2}{\sum^{T}_{t=1} e_t^2}$$

Report of Durbin Watson test, lies between 0 to 4, where

0 to <2	2	>2 to 4
positive autocorrelation (common in time series data)	no autocorrelation	negative autocorrelation (less common in time series data)

Conclusion

By conducting the regression analysis of IT companies listed in BSE 30, it is observed from most of the IT Companies, that the relation with ROA and sustainable growth rate is found to be statistical negatively significant, while profit margin and sustainable growth rate in most of the IT companies shows a statistical positive relation. As we have discussed, to maintain the sustainability a firm should try to maintain SGR in long run. So any firm introduces any kind of innovative products and services it must try to satisfy the SGR by looking forward to its significant effect on growth or fall. So this article gives an overall analysis of IT companies listed in BSE 30 that can give a base for management, investors and Government to take a right decision for further investment and help the managers for effective strategy formulation.

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