

# DIAS Technology Review

## The International Journal for Business & IT

Vol. 13 No. 2

#26

www.dias.ac.in



OCTOBER 2016 – MARCH 2017

### ARTICLES

**8 Earnings to Price Yield and Stock Market Returns – An Empirical Analysis of Indian Stock Market**

Kiranpreet Kaur

**17 New Perspectives on Impact of R&D on Corporate Profitability**

Rajendar K. Garg, Mukesh K. Chaudhry, Suneel Maheshwari, Rahul Garg

**22 The Influence of Organizational Downsizing on Organizational Performance**

Anju Bala Batra

**32 Measurement of Dimensions of CSR Initiatives in Automotive Sector in India**

Shilki Bhatia

**40 Assessing Motivation among Academicians**

Anushree Chauhan, Manisha Goel, Ritu Gandhi Arora

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### OPINION PAPER

**55 China's Road to Economic Growth – Is Service Sector Growth the Future**

Rakesh Gupta, Sudharshan R. Paramati, Suneel Maheshwari

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### DOCTORAL ABSTRACT

**58 Job Satisfaction among Teachers: A Comparative Study of Public and Private Universities in India**

Dimpy Sachar



*Earnings to Price Yield and Stock Market Returns.....Pg. 8*

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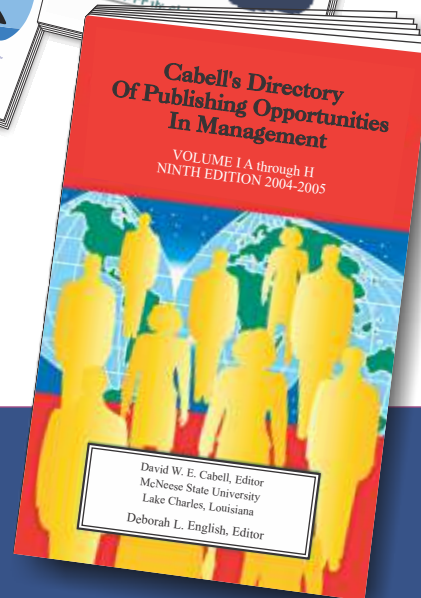
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*Printed, Published and Edited by Shri Sanjay Sachdeva, on behalf of Delhi Institute of Advanced Studies, Plot No.6, Sector-25, Rohini, Delhi-110085 and Printed at Swan Press, B-71, Naraina Industrial Area, Phase-II, New Delhi-110028.*

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# DIAS Technology Review

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INDEX

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#### 17 New Perspectives on Impact of R&D on Corporate Profitability

Rajendar K. Garg, Mukesh K. Chaudhry, Suneel Maheshwari, Rahul Garg

In the present article relationship between Research and development expenses and corporate profitability has been analyzed by authors for capitalization of R & D expenses in U.S. organizations.



#### 22 The Influence of Organizational Downsizing on Organizational Performance

Anju Bala Batra

The inconsistency arising from downsizing strategy of modern organizations and their economic performance has been scrutinized by the author in this research article.



#### 32 Measurement of Dimensions of CSR Initiatives in Automotive Sector in India

Shilki Bhatia

The study identifies various Corporate Social Responsibility dimensions in automotive sector to safeguard the interests of stakeholders.



#### 40 Assessing Motivation among Academicians

Anushree Chauhan, Manisha Goel, Ritu Gandhi Arora

An attempt has been made by the author to evaluate, analyze and compare the faculty motivation with their respective designations based on the factors ascertained in this study.



### OPINION PAPER

#### 55 China's Road to Economic Growth – Is Service Sector Growth the Future

Rakesh Gupta, Sudharshan R. Paramati, Suneel Maheshwari

The paper discusses various economic factors making impact upon past growth, current challenges and prospects for the Chinese economy

### DOCTORAL ABSTRACT

#### 58 Job Satisfaction among Teachers: A Comparative Study of Public and Private Universities in India

Dimpy Sachar

The involvement and commitment of the teachers to their profession depends upon most important element i.e. job satisfaction. The author has made a comparative study of job satisfaction among teachers of public and private universities in India



# From The Editor's Desk

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Modern organizations are 'rafting through white waters' full of unremitting turbulence. The managers come across daunting challenges every day, wherein they have to observe and navigate through white waters dexterously to reap more powerful business results. To win the battle against their competitors, they keep on exploring patterns and inventing new models in the fields of finance, portfolio management, research & development and human resource management. In the article **Earnings to Price Yield and Stock Market Returns- An Empirical Analysis of Indian Stock Market** the author has tried to present a valuation metric to fund managers for stock selection. The study is based on earnings to price yield rule of Benjamin Graham in Indian capital market and analyzes the data on stocks listed on Bombay Stock exchange for the period spanning from 1999 to 2013.

Business decision-making involves ascertaining hodge-podges, testing rules, dismantling rubrics, and inventing new designs. There has been a significant controversy about the role of Research and Development in the corporate decision-making structure. The article **New Perspectives on Impact of R&D on Corporate Profitability** sheds light on the relationship between R&D expenses and corporate profitability. The study suggests remedies in the current US accounting standards to properly account for measuring the impact of R&D expenses on corporate profitability.

The corporate think-tanks, now-a-days, do not wait for the storm to pass, but dance in the rain to see a beautiful rainbow at the end of the storm. They are devising coherent strategies that have significant long-term implications. The research article **The Influence of Organizational Downsizing on Organizational Performance** talks about organizational downsizing which has become a 'strategy of choice' for many big companies to tackle financial and operational issues. The author scrutinizes conflict & inconsistencies arising from downsizing strategy adopted by Infosys which it considered as desirable process for organizational performance.

The concept of Corporate Social Responsibility is also gaining utmost prominence in modern organizations due to increase in scandals and scams adversely affecting stakeholders' interests. In the study **Measurement of Dimensions of CSR Initiatives in Automotive Sector in India**, the author has attempted to develop and validate construct of Corporate Social Responsibility initiatives with three covert variables- social, environmental and financial, which are applicable in automotive sector in India. Similarly stake holders in service sector, i.e. academicians have different interests and expectations that determine their level of motivation. The next article **Assessing Motivation among Academicians** highlights motivational factors at different hierarchical positions in academia, instrumental in determining their performance at work.

'Organizational growth leads to national growth' is a very well-known fact. The opinion paper **China's Road to Economic Growth – Is Service Sector Growth the Future**, discloses facts connected to all touchpoints like labour force, education, population trends, importance of service sector, control of currency etc. which have significantly impacted the growth in Chinese economy. It also juxtaposes the Chinese economy with the Indian economy.

Teaching is the noble profession that crafts remaining professions of the world. Therefore, the significance of a teacher cannot be overlooked as the high quality academic staff is the cornerstone of a successful educational system. The involvement and commitment of the teachers to their profession is solely dependent on the element of job satisfaction. In her Ph.D. abstract **Job Satisfaction among Teachers: A Comparative Study of Public and Private Universities in India**, the researcher has tried to explore the various dimensions affecting job satisfaction of university teachers. This facilitates the implementation of changes in institutional environment that will enhance faculty satisfaction.

We believe that as usual this new edition of the journal will prove to be all the more knowledgeable and fascinating to our valued readers. We also express our sincere gratitude and thanks to the honoured reviewers and paper contributors for extending their continued warm patronage.



Regards,



Dr. Anju Batra

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**Dr. Dimpy Sachar**

# Earnings to Price Yield and Stock Market Returns -An Empirical Analysis of Indian Stock Market

<sup>1</sup>Dr. Kiranpreet kaur





## ABSTRACT

Using the data on stocks listed on Bombay Stock exchange for the period spanning from 1999 to 2013, the present study intends to examine the relevance of stock selection based on earnings to price yield rule of Benjamin Graham in Indian capital market. This valuation metric is aimed at buying the securities whose earnings to price yield is at least twice the AAA bond yield. The securities so selected have been held for the period of 12 months, 24 months holding periods. The returns derived from the stocks meeting the criterion are analyzed using one sample T-test, Wilcoxon signed rank test and capital asset pricing model (CAPM). The results revealed that the portfolio selected on the basis of this criterion provided significantly positive mean market adjusted returns in majority of the years in case of both the holding periods. The significant abnormal returns derived through CAPM model, however, cannot be considered conclusive due to less explanatory power of the model. Nevertheless, the portfolio showed lessor volatility than the market portfolio thereby implying that the fund managers can use it as an investment tool for risk management due to lessor risk and positive market adjusted returns.



**Keywords:** Value investing, Benjamin Graham, earnings to price yield, one sample t-test, Wilcoxon signed rank test, capital asset pricing model, JEL Code Classification: G11, G12, G32

## INTRODUCTION

The basic aim of any investment is to maximize its return and to minimize the risk involved. In order to maximize the returns of the investors, Graham and Dodd (1934) introduced an approach towards investing, whereby the securities that have higher intrinsic value than their market price are bought and held by the investors. The basic premise of value investing is to invest in stocks that are trading below their true value (or intrinsic value). The difference between the stock's intrinsic value and the market value is called as margin of safety. The investor is suggested to invest in the stocks which have significant gap in its market price and the intrinsic value so that the margin of safety can protect him in the event of a huge downturn. According to Graham and Dodd (1934), "A company's intrinsic value is assessed through the earnings potential of the company and the stock having earnings yield at least twice the AAA bond yield is considered as value stock."

The earnings yield is the inverse of the most commonly followed valuation metric price to earnings (P/E) ratio. It is calculated by dividing the most recent 12-month period earnings per share by the current market price per share. The price to earnings ratio is also called as 'multiple' for the reason that it denotes how much an investor is prepared to pay for ₹1 of its earnings. A stock is trading at a P/E of 5 means that the investor is ready to pay ₹5 for ₹1 of its earnings. Thus, a high P/E ratio is the indication of high earnings growth expected out of stock in future. Therefore, this valuation metric establishes the relationship between the actual recent earnings based performance of the company with its future market performance.

Graham and Dodd (1934) questioned the ability of the firms to sustain same growth in earnings in future, so they have hypothesized that firms which have and are currently experiencing high (low) earnings growth are unlikely to be able to sustain it to the extent expected by the market e.g. a high price to earnings multiple is indicative of the market's expectation of high future earnings growth. When this earnings growth reverts towards industry/ economy mean, then this will result in the revision of earnings' expectations, a fall in firm's price to earnings multiple and so a downward correction in its stock price (Bird and Gerlach, 2003). Therefore, it is prudent to concentrate on portfolio of stocks whose prices are depressed while depicting excellent value at the same time. These securities must portray excellent value at present in order to create a buffer against future market volatility. Thus, regardless of market volatility, the value of such a portfolio remains intact in short term. Most importantly, over the long term there is strong potential for this portfolio to increase (Ahmed, 2008). Graham recommended that the yield on the earnings should be at least twice the AAA bond yield (Graham, 1949). This requirement meant that the qualifying stock's P/E could be no more than  $1/2r$ , where  $r$  is the AAA corporate bond rate, measured in decimals. If AAA corporate bond rate were 10%, the P/E could be no more than 5 [ $1/(2*0.1)$ ]. This relationship had to be true in order to compensate the risk that the earnings might fall (Au, 2004). Therefore, the higher earnings

yield of stocks designate them to be undervalued relative to bonds.

Seeing the great depression of 1929, Graham strongly believed that the stocks are riskier than the bonds due to the fact that at the time of liquidation of the company, the bondholders are first in the queue to get back the money and the shareholders are at last (Anderson, 2012). So in order to ensure the wide margin of safety to investors, Graham recommended that the stocks should have at least double the yield on bonds to protect the investors against the loss or unease in the event of some future decline in net earnings (Graham, 1949).

The present study makes an attempt to examine the profitability of value stocks i.e., the stocks having earnings to price yield at least twice the AAA bond yield, in Indian stock market.



## LITERATURE REVIEW

After the death of Benjamin Graham in 1976, the investor community and the researchers brought the value investing theories into practice. This section presents an overview of the studies conducted around the globe examining the performance of high earnings to price yield stocks.

Basu (1977) investigated whether stocks with high earnings to price yield (value stocks) earned excess returns when compared to stocks with low earnings to price yield which were traded on New York Stock Exchange (NYSE) and observed that the portfolios built from high earnings to price yield stocks earned higher return than those built from low earnings yield. Further, Capaul et al. (1993) analyzed the returns obtained from portfolios formed of stocks with high earnings yield for 6 countries i.e. France, Germany, Switzerland, the United Kingdom (UK), Japan and the United States (US). They observed that value stocks outperformed its counterparts (stocks having low earnings yield) on an average in each country during the period studied, both absolutely and after adjustment for risk. Thereafter, Brouwer et al. (1996) analyzed the performance of value strategies for 4 European countries (i.e. France, Germany, Netherlands and U.K) on the basis of earnings to price valuation metric and noted that the annual returns for the value portfolios outperformed the annual returns for the glamour portfolios

Bauman and Miller (1997) observed the performance of stocks having high earnings to price ratio and listed on NYSE, AMEX and NASDAQ stock exchanges. The results revealed that the value stocks with relatively high earnings to price evinced favorable investment performance as they outperformed growth portfolio on the basis of total as well as risk adjusted return basis. Further, Bauman et al. (1998) examined the differences in investment performance between high and low earnings to price yield stocks in 20 established markets represented in the Morgan Stanley Capital International (MSCI) Europe, Australia and Far East (EAFE) index as well as

Canada. They found that value stocks outperformed growth stocks on a total return as well as risk adjusted basis in maximum number of years and in majority of the national markets. In addition, Dhatt et al. (1999) investigated whether an exploitable value premium existed for stocks in the Russell 2000 Index, the commonly used U.S. small cap benchmark and they found that the high earnings to price yield stocks outperformed low yield stocks by 5.28-8.40% per year and had lower standard deviation and lower coefficient of variation than the growth stocks.

Anderson et al. (2003) examined the presence of value premium in Mongolia and found the outperformance of value stocks over its counterparts. Dunis and Reilly (2004) examined the performance of value strategies in UK stock market for the period Dec 2000 to Dec 2002 and observed that high earnings to price yield stocks produced higher Sharpe ratio than the market. Thereafter, Ding et al. (2005) examined the performance of value and growth portfolios in seven East Asian countries before the onslaught of 1997 Asian financial crisis. The seven countries covered were Indonesia, Japan, Thailand, Taiwan, Hong Kong, Malaysia and Singapore. The results revealed that the positive value premium was found in all the countries, except Indonesia, Taiwan and Thailand. Anderson and Brooks (2006) examined the presence of value premium in UK stock market using price to earnings ratio (P/E) as valuation measure. The results showed that the difference in average annual returns between value stocks and its counterparts was 6% using traditional P/E ratio. Brown et al. (2008) investigated the presence of returns in value strategies in four Asian markets- Hong Kong, Korea, Singapore and Taiwan. The results indicated that the presence of significant value premium was observed in Hong Kong, Korea and Taiwan.

Gharghori et al. (2013) evaluated the performance of high earnings to price stocks over low earnings to price stocks in Australian stock market. The results confirmed the presence of strong value effect in Australia. In addition, Penman (2013) examined the performance of high earnings to price stocks over their counterparts in US stock market. The results indicated the higher performance witnessed by value stocks followed by higher risk. Furthermore, Rasul (2013) also observed higher return and lesser risk witnessed by high earnings to price stocks in Dhaka stock exchange. Furthermore, Sareewiwatthana (2014) examined the performance of high earnings to price stocks in Thailand stock market and found the presence of value premium yielded by such stocks.

The above literature suggests that the investment analysts have used earnings yield and its inverse (price to earnings ratio) to determine whether the stock is undervalued or overvalued. The literal principle of Benjamin Graham has

negligible exploration. Moreover, most of the studies examining the performance of stocks having high earnings to price relate to U.S. and other mature markets. For an emerging market like India, such evidence is inadequate and more recent in origin. Moreover, against this background, the present study aims to enrich the literature on value investing strategies through examining the profitability of stocks having earnings to price yield at least twice the AAA bond yield in Indian stock market.

Given below are the objectives of the study:

- To analyze the market adjusted performance of stocks having earnings to price yield at least twice the AAA bond yield.
- To analyze the risk and volatility of these stocks.
- To determine the abnormal performance, if any of these stocks.

#### Data and their sources

Universe of the study comprises of the stocks listed at Bombay Stock Exchange, being the oldest stock exchange in the country and contains the largest number of listed companies in India. The time period of the study has been 15 years i.e. 1999-2013. In order to select the final sample of stocks, following filters are applied:

- The companies having inadequate size are eliminated.<sup>2</sup>
- The financial companies are not included in the study.<sup>3</sup>

After applying the above filters, the stocks having earnings to price yield at least twice the AAA bond yield are selected. The final number of stocks meeting the criterion ranged from 4 to 117 across the period of 15 years (see Table 1). In order to calculate the earnings to price yield of a stock, every year the data regarding earnings per share have been collected for the financial year ending on 31st march of particular year. However, the portfolio of the stocks meeting the said criterion has been formed at the end of 30th June every year, in order to avoid the look ahead bias in the study. The data regarding the said variables has been culled out from PROWESS, database maintained by Centre for Monitoring Indian Economy (CMIE) and the website of BSE ([www.bseindia.com](http://www.bseindia.com)).

It is important to note that the earnings yield has been compared with AAA rated bonds. AAA rating is the highest rating assigned to an instrument and such assets are deemed least likely to default (Marshall, 2009). Instruments with the AAA rating (by CRISIL) are considered to have the highest degree of safety regarding timely servicing of financial obligations and an issuer of such security has very strong capacity to meet up its financial commitments<sup>4</sup>. However,

<sup>2</sup> Benjamin graham has recommended that the companies should have adequate size i.e. the industrial companies having lessor than 100 million dollars of total sales and public utility companies having lessor than 50 million dollars of total assets are eliminated from the sample (Graham, 1949).

<sup>3</sup> The financial companies are not included in the study because the economic meanings of accounting numbers used in the study may differ between financial and non-financial firms.

during the subprime mortgage crisis of 2007 in the U.S, the bonds or securities which were rated as AAA were downgraded to CCC by rating agencies on account of lack of the issuer's ability to meet its financial commitment (Olofsson, 2008). Therefore, instead of taking AAA bond yield, the yield on government security has been taken as they carry least risk of default and, hence, are called risk-free gilt-edged instruments<sup>5</sup>. Rate of returns on 91-days Treasury Bills has been used as a proxy for risk free return (Tripathi, 2009).

## METHODOLOGICAL FRAMEWORK AND HYPOTHESIS TESTING

While measuring the returns of portfolio we include the capital appreciation component as well as the dividends distributed by the stocks because the total return available to an investor in the stock market is the summation of capital appreciation and dividend income. The raw returns have been computed for 12 month, 24 month holding period<sup>6</sup> using the following formula:

$$R_{jt} = \left( \frac{P_{jt} - P_{j,t-1}}{P_{j,t-1}} \right) + \left( \frac{d}{P_{j,t-1}} \right) \quad (1)$$

Where,

$R_{jt}$  = Monthly rate of return for share j in month t.

$P_{jt}$  = Adjusted closing price of share j at the end of month t.

$P_{j,t-1}$  = Adjusted closing price of share j at the end of month t.

$d_{jt}$  = Cash dividend received of j<sup>th</sup> share during month t taken from ex-dividend date.

Then, annual stock returns (12 months holding period) are calculated as:

$$AR_{jt} = \sum_{t=1}^{12} R_{jt} \quad (2)$$

Where,  $AR_{jt}$  = the annual return of each share j at the end of each year t (t= 1996, 1997, ..., 2010)

In case of 24 months holding period, the annualized rate of return is computed using the following formula:

$$AR_{jt} = \left( 1 + \sum_{t=1}^{24} R_{jt} \right)^{1/2} - 1 \quad (3)$$

Monthly return on market portfolio (proxied by BSE SENSEX) has been calculated using equation (1) except that in place of closing adjusted share prices, closing Index Values have been taken. Similarly, The annual return of the market portfolio in case of 12 months holding period, 24 months holding period has been calculated using equations (2) and (3) respectively. In order to calculate the market adjusted returns, the market returns are deducted from raw returns. If any stock which has been a part of the portfolio lacks further information regarding closing prices, then the last available price is used to calculate the return. However, if any stock gets delisted during the

holding period, then that stock is included in the study in order to avoid the survivorship bias and is assigned the return of -100%, if no information regarding the amount received on delisting is available.

In order to analyze the performance of stocks arrived at after meeting different principles, we have made use of following analytical tools:

**One sample t-test:** One-Sample T-Test compares the mean score of a sample to a known value, usually, known as population mean. The portfolio of stocks, meeting the rule of market price lessor than two-third of the tangible book value per share, is said to outperform the market, if it provides positive as well as significant market adjusted returns. The null hypothesis to study the significance of market adjusted returns is:

$H_0$ : Market adjusted returns=0

However, the rejection of null hypothesis (significant F-statistic) implies that the average market adjusted returns could be significantly greater or lessor than zero (Hussein, 2005). This test assumes that the data to be analyzed should be normally distributed. However, lack of fulfillment of this assumption leads to application of Wilcoxon signed rank test to examine the significance of market adjusted returns.

**One Sample Wilcoxon Signed Rank Test-** This test is the nonparametric equivalent of one sample t-test with the null hypothesis that the median value of the market adjusted returns of the stocks in the sample is equal to zero (Hussein, 2005).

Further, to assess the volatility and the abnormal returns generated, if any, we use capital asset pricing model.

**Capital asset pricing model:** CAPM suggests that high expected returns are associated with high levels of risk. In simple words, it postulates that the expected return on an asset above the risk-free rate is linearly related to the non-diversifiable risk as measured by the asset's beta (Michailidis et al., 2006). Beta measures the sensitivity of the asset's return to variation in the market return (Fama and French, 2004). The beta coefficient is estimated for the portfolio using monthly returns during the period of June 1996 to June 2010 by following time series equation:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p (R_{mt} - R_{ft}) + e_{pt}$$

Where,

$R_{pt}$  is the return of portfolio p at time t,

$R_{ft}$  is the rate of return on a risk-free asset,

$\alpha_p$  is the intercept term, is the rate of return on the market index,

$\beta_p$  is the coefficient loading for the excess return of the market portfolio over the risk-free rate, and

<sup>4</sup> <http://www.crisil.com/ratings/credit-rating-scale.html>

<sup>5</sup> <http://www.rbi.org.in/Scripts/FAQView.aspx?Id=79>

<sup>6</sup> Each security was held, according to Graham's advice, for either two years or until 50 per cent price appreciation occurred- whichever came first (Graham, 1934).

$e_{pt}$  is the error term for portfolio p at time t.

The intercept,  $\alpha_p$  (which is also known as Jensen alpha), is the difference between the estimated expected return by time series average and the expected return predicted by CAPM. If an asset's return is even higher than the risk adjusted return, that asset is said to have positive alpha or abnormal returns. Thus, Jensen alpha will determine the abnormal return (if any) obtained through stocks.

Therefore to assess the volatility of the given portfolio, abnormal returns generated, if any, we test the following hypothesis:

$$H_0: \alpha_p = 0$$

$$H_1: \alpha_p \neq 0$$



## RESULTS AND DISCUSSION

In order to test the above hypothesis, the stocks having earnings to price ratio of at least twice the 91 days Treasury bill rate (taken as proxy for AAA bond yield in present study) are screened on 30th June every year, from 1999 to 2013. The stocks so arrived have been held for the period of 12 months as well as 24 months. The Table 1 reports the results of one sample t-test and one sample Wilcoxon signed rank test<sup>7</sup> employed to examine the significance of returns in case of 12 months, 24 months holding period.

From Table 1 we note that, the number of stocks meeting the criterion of earnings to price at least twice the 91 days Treasury bill yield ranges from 4 to 117 across the period of 15 years. The stocks so arrived have been providing positive market adjusted

TABLE 1: RESULTS OF THE SIGNIFICANCE OF MARKET ADJUSTED RETURNS OF STOCKS HAVING EARNINGS YIELD AT LEAST TWICE THE AAA BOND YIELD

Year	No. of stocks	12 Months Holding Period				24 Months Holding Period			
		Mean (Annual)	Std. Dev.	t-value	p-value	Mean (Annualized)	Std. Dev.	t-value	p-value
1999	4	-56.6528 (16.402)	32.80548	-	.041**	-35.9683 (17.73635)	35.47269	-	.144
2000	16	-10.8569 (7.9150)	31.66028	-1.372	.190	-5.4154 (7.18617)	28.74470	-.754	.463
2001	27	2.8141 (7.6588)	39.79658	.367	.716	-5.5279 (5.58296)	29.00992	-.990	.331
2002	18	32.0802 (22.5189)	95.53962	1.425	.172	6.9592 (9.83371)	41.72090	.708	.489
2003	32	8.9804 (9.1997)	52.04169	.976	.337	38.0899 (4.85290)	27.45214	7.849	.000***
2004	53	72.1239 (7.81996)	56.93013	9.223	.000***	36.2971 (3.44224)	25.05987	10.545	.000***
2005	30	27.1575 (6.8836)	37.70336	3.945	.000***	15.6825 (4.24542)	23.25311	3.694	.001***
2006	51	14.0812 (5.47815)	39.12184	2.570	.013**	12.4759 (2.75717)	19.69012	4.525	.000***
2007	68	34.6917 (7.04117)	58.06299	4.927	.000***	5.6487 (3.20354)	26.41710	1.763	.082*
2008	46	-13.4622 (7.40510)	50.22380	-1.818	.076*	-8.4204 (3.80947)	25.83708	-2.210	.032**
2009	23	.0472 (7.7254)	37.04970	.006	.995	9.5775 (5.75630)	27.60627	1.664	.110
2010	21	11.0801 (15.015)	68.80814	.738	.469	8.9806 (7.20296)	33.00812	1.247	.227
2011	30	27.0269 (12.1411)	66.49993	2.226	.034**	24.3016 (4.66443)	25.54813	5.210	.000***
2012	117	41.4789 (3.4967)	37.82360	11.862	.000***	9.6900 (2.30211)	24.90116	4.209	.000***
2013	68	-10.5522 (4.6929)	38.69873	-2.249	.028**	-8.6279 (3.36839)	27.77644	-2.561	.013**
<b>Across the period</b>	<b>604</b>	<b>21.2181 (2.24722)</b>	<b>55.22851</b>	<b>9.442</b>	<b>.000***</b>	<b>9.3983 (1.22348)</b>	<b>30.06865</b>	<b>7.682</b>	<b>.000***</b>

Note:

1. \*, \*\*, \*\*\* denotes p-values significant at 10, 5 and 1 percent level respectively

2. Standard error of mean has been reported in parenthesis.

3. Italicized values represent the p-values of Wilcoxon signed rank test

return in 11 out of 15 year period in case of 12 months holding period. However, the positive market adjusted returns have not been significant in all 11 years due to larger standard deviation of returns from the mean. The positive mean market adjusted reruns have been significant at 1% level of significance for the year; 2004, 2005, 2007 and 2012. For the years 2006 and 2011, the positive mean market adjusted return has been significant at 5% level of significance. However, the criterion provides significantly negative market adjusted returns only in 3 years i.e. 1999, 2008 and 2013. Further, across the period of 15 years, the stocks selected on the basis of earnings to price ratio of at least twice the risk free yield, provides mean market adjusted return of 21.21%, which is significant at 1% level of significance. Thus, the stocks selected on the basis of this principle enable an investor to acquire positive market adjusted returns in 11 years out of 15 years period and significantly positive returns in 6 years when the stocks have been held for the period of 12 months each year.

Also, it is evident from Table 1 that when we extend the holding period of the stocks from 12 months to 24 months, the criterion provides us positive mean market adjusted returns in 10 years out of 15 year period. Out of those 10 years, the market adjusted returns have been significantly positive in 2003, 2004, 2005, 2006, 2007, 2011 and 2012. Thus in 7 years, the market adjusted returns have been significantly positive when the holding period has been extended from 12 months to 24 months period. However, in 3 years (1996, 2005 and 2010) the returns remain significantly negative even after extending the holding period to 24 months. Overall, across the period of 15

years, the stock selection based on first rule of Graham helps an investor to reap the mean market adjusted annualized rate of return of 9.39%, which is significant at 1% level of significance. Thus, an investor can acquire significantly higher returns than the market by relying on the principle of earnings yield being twice the risk free yield. Hence, the applicability of this principle cannot be ignored in the present day scenario in Indian stock market.

Further, to examine the risk and volatility through capital asset pricing model, the monthly data of returns in excess of risk free rate is regressed against market returns in excess of risk free rate for the period of 15 years. The foremost condition for applying the time series regression is that the data should be stationary i.e. there should be no unit root in the data. Therefore, we used Augmented Dickey-Fuller test statistic, Phillips-Perron test statistic to examine if there is any unit root in the data. The table 2 shows the results of unit root test to examine the stationary of the portfolio, market returns.

As evident from the above table 2 that the T-statistic for Phillips-Perron test is significant at 1% level of significance in case of portfolio, market returns in excess of risk free rate. Also, T-statistic for Augmented Dickey-Fuller test is significant at 1 % as well as 5% level of significance in case of excess portfolio returns, excess market returns respectively. Thus, we reject the null hypothesis that the time series data has unit root. Therefore, we conclude that series is stationary. Further, the results of CAPM as applied using time series regression have

TABLE 2: THE RESULTS OF UNIT ROOT TEST TO EXAMINE THE STATIONARITY OF THE PORTFOLIO, MARKET RETURNS

Augmented Dickey-Fuller test statistic		12 months holding period				24 months holding period			
		Portfolio returns in excess of risk free rate		Market returns in excess of risk free rate		Portfolio returns in excess of risk free rate		Market returns in excess of risk free rate	
		t-stats	p-value	t-stats	p-value	t-stats	p-value	t-stats	p-value
		-11.209	0.000***	-12.297	0.000***	-3.918	0.002***	-3.373	0.0126**
Test critical values:	1% level	-3.466		-3.466		-3.448		-3.448	
	5% level	-2.877		-2.877		-2.869		-2.869	
	10% level	-2.575		-2.575		-2.571		-2.571	
Phillips-Perron test statistic		-11.182	0.000***	-12.368	0.000***	-16.521	0.000***	-18.498	0.000***
Test critical values:	1% level	-3.466		-3.466		-3.448		-3.448	
	5% level	-2.877		-2.877		-2.869		-2.869	
	10% level	-2.575		-2.575		-2.571		-2.571	

Note:  
 1. \*, \*\*, \*\*\* denotes p-values significant at 10, 5 and 1 percent level respectively  
 2. Standard error of mean has been reported in parenthesis.

been stated in table 3 below:

TABLE 3: THE RESULTS OF CAPITAL ASSET PRICING MODEL

Results of CAPM		12 months holding period		24 months holding period	
			Null hypothesis		Null hypothesis
R-squared		0.045		0.041	
ANOVA	F-VALUE	8.8332		15.368	
	P-VALUE	0.004***	Rejected	0.000***	Rejected
Constant	COEFFICIENT	1.490 (0.831)		1.458 (0.602)	
	T-VALUE	1.793		2.421	
	P-VALUE	0.075*	Rejected	0.016**	Rejected
Beta	COEFFICIENT	.303 (0.105)		.301 (.077)	
	T-VALUE	2.887		3.920	
	P-VALUE	.004***	Rejected	0.000***	Rejected
DW statistics		1.91		1.941	

Note:

1. \*, \*\*, \*\*\* denotes p-values significant at 10, 5 and 1 percent level respectively
2. Standard error of mean has been reported in parenthesis.

From table 3 we note that results of ANOVA shows that p-value is significant in both the holding periods, hence overall model is fit. Also, the Durbin Watson is 1.91, 1.94 in case of 12, 24 months holding period suggesting that there is no autocorrelation in the data. According to CAPM, beta is the only relevant measure of a stock's risk. It measures a stock's relative volatility i.e. it shows how much the price of a particular stock jumps up and down compared with how much the stock market as a whole jumps up and down<sup>8</sup>. It can be seen that the value of beta is 0.303 and 0.301 in cases of 12 months and 24 months holding period respectively. It shows that 1% increase or decrease in market portfolio will result in about 0.3% increase or decrease in our portfolio in cases of both the holding periods. Also, the beta is significant at 1% level of significance in both sets of holding periods. Thus, we reject the null hypothesis of zero beta value. Beta is the significant factor explaining the variation in portfolio's returns. Also, the beta value lessor than one, suggests that the portfolio under study is lessor volatile or risky than the market.

The capital asset pricing model helps us to determine the expected returns of the portfolio by adequately reckoning the systematic risk factor i.e. beta in the model and then compares the actual returns with the expected return of the portfolio to determine the presence of abnormal returns (alpha). The Jensen alpha (as discussed above) explains the difference between the portfolio's actual return and expected return, is significant at 10% and 5% level of significance in 12 months and 24 months holding period respectively thereby implying

the presence of the abnormal returns in the given portfolio. But the R-square that gives the proportion of variance explained by the regression model or the market factor is very small i.e. 4.5% in the case of 12 months holding period, 4.1% in the case of 24 months holding period. Thus, it implies that the addition of more variables could increase the explanatory power of the model. Thus, the significant value of alpha so derived from the model cannot be considered as conclusive evidence of presence of abnormal returns due to low explanatory power of the model.



#### CONCLUDING OBSERVATIONS

In order to maximize the returns of investors, Graham and Dodd (1934) developed a few sound principles for analyzing a company's fundamentals and its future scenario which revolutionized the investment theory with concepts of security analysis, fundamental analysis and value investing theory. The present study has made an attempt to examine the relevance of stock selection based on Benjamin Graham's principle of buying a stock having earnings to price yield at least twice the AAA bond yield in Indian stock market using the data on stocks listed on Bombay Stock exchange for the period of 15 years spanning from 1999 to 2013. The results indicate that the portfolio selected on the basis of this criterion provides significantly positive market adjusted returns in majority of the years in case of both the holding periods. Also, the portfolio shows relatively less volatility than the market portfolio in both the holding periods. Therefore, the stock selection based on earnings to price yield rule can help the

<sup>8</sup> <http://www.investopedia.com/articles/06/CAPM.asp#ixzz1YOQpv88a>.

vast range of investors, fund managers, portfolio managers, financial analysts, hedge fund managers etc. The main objective of the mutual fund managers is that their fund outperforms the market. They can, therefore, consider this criterion for fund making in equity based mutual funds as it can help them to outperform the market in long run. The investors thereby can investment in the mutual fund generating them higher returns at lower risks. Moreover, holding the portfolio for the long term provides a cushion of time to absorb market fluctuations and also enables the investors to get tax benefits. Likewise, the hedge fund managers can also use it as a tool for risk management due to comparatively less volatility of high earnings to price yield

stocks.

However, we cannot safely infer the presence of abnormal returns in excess of what capital asset pricing model suggests, due to lack of power of the independent variable i.e. market factor in explaining the overall portfolio returns. Therefore, the further research invites adding more variables to the pricing model in order to improve the explanatory power of the model and then examining the presence of abnormal returns. Moreover, the research could be conducted adding other stock selection rules with earnings to price yield rule in order to monitor whether the performance improves or not.

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# New Perspectives on Impact of R&D on Corporate Profitability

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## ABSTRACT

*There is a significant ever-growing controversy about the role of R&D in the corporate decision-making structure for the US markets. R&D results have been found to be lack-luster creating erosion of trust in the value of R&D in American corporate world. This study sheds light on the relationship between R&D expenses and corporate profitability. It investigates the direct impact of R&D expenses across industries and found that the results were statistically significant. However, they were not consistent in the direction. The study suggest remedies in the current US accounting standards to properly account for measuring the impact of R&D expenses on corporate profitability. Capitalization of R&D expenses was suggested as an alternative method.*

*Keywords: R&D, Marketing, Technology/Research Management, Innovations, Current and Future corporate profitability*

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## INTRODUCTION

The role of R&D and Marketing is generally recognized as primary catalyst fueling the competitive growth, economic stability and future profitability of the corporate world (Porter, 1990; Smith and Barfield, 1996). Similarly it is generally acknowledged that the organized R&D especially when it is done with proper interface with the Marketing professionals to ensure customer centric focus is an integral component of continued competitive advantage for both the technology based and other industrial based companies (Porter 1985). Since the 1980s, the traditional model of non-revenue generating R&D has been giving way to a fully integrated R&D function that focusses on customer-centric and revenue generating function and is a central part of the corporate and business strategy (Iansiti, 1997).

From a broader economic and life-style point of view, many authors such as Greg Ip (2017) concur that even though there are more scientists and engineers in the US than ever before and the R&D as a share of the gross domestic product (GDP) is near an all-time high, this has unfortunately not translated into meaningful advances in American standard of living. Ip (2017) exemplifies this trend by stating that houses, appliances and cars look much like they did a generation ago and airplanes fly no faster than they did in 1960s. Even in the field of pharmaceuticals, none of the 20 most prescribed drugs in the US came to the market in the recent past decade. Hence, American standard of living and economic growth has stagnated since 2000. Coupled with economic downturns, increasing regulations and government laws have further raised the bar for commercializing new ideas. Apart from information technology, the hurdles to innovations and technology are getting higher and it is especially much more evident in medicine.

Ip (2017) suggests that the time has probably come when the US may have to copy ideas from China and India where R&D is thriving and the results are much more pronounced especially with lower costs. However, Ip (2017) cautions regulators to be more tolerant of risks that may come with copying R&D results from other countries.

This study addresses the question about innovation and its impact on the welfare of the American society by using R&D and profitability of the companies as proxy variables. The results of this study are significant in that they highlight the relationship between innovation or lack thereof with overall growth of the companies and their consequent effect on the society.



## LITERATURE REVIEW

Even though R&D function receives a lot of attention in the corporate structure and corporate strategy, many companies and senior executives are frequently frustrated by their failure to convert creative innovation into shareholder returns (Chantal de Moerloose, 2000). As a result, many companies feel compelled to launch strings of new products in the hope that by the law of averages, a certain percentage will

someday become winners. However, Moerloose (2000) suggests a number of steps that companies could take to improve the process of R&D and innovation rather than relying on the “hit or miss” perspective held by some companies. Moerloose classified success factors for R&D into five categories: (1) Macro factors consisting of market attractiveness and competitive environment; (2) Synergy factors consisting of technological know-how and commercial synergy; (3) Organizational factors such as top management support, Champion support and open organizational culture; (4) Development process factors such as understanding and fulfilling customer needs, technical and market tests and launching capability of marketing, and (5) Results containing successful superior value creation and financial success.

The bottom line factor in majority of research recently has been on the financial success of the R&D. In the past, R&D has sometimes been protected from the close scrutiny that other functional areas such as manufacturing have endured largely because of the fuzziness about what constitutes “good R&D results” and also because opaque work processes complicate measuring R&D productivity (Singarayar, 2009). This fuzziness about “return on R&D investment” or “return on equity improvement due to R&D” is raising concerns in many industries. Ringel, Tollman, Hersch and Schulze (2013) report a large variety of industries across various parts of the world where the results of R&D have had been inconsistent such pharmaceutical companies and technology based companies where the success of the companies are heavily dependent on R&D. Ringel et al (2013) wondered if the size of the R&D matters or there might other factors that could potentially lead to more consistent results in addition to R&D expenditures.

In their analysis, Danielson and Press (2005) report significant distortion by R&D expenses in the profitability estimates in a variety of companies from different industries. They suggested a new way to adjust accounting based performance measures for R&D costs and introduced a modified model for Internal Rate of Return (IRR) estimation to remove distortion in the data.

One of the major controversies that is around in accounting and finance literatures stems from the period of impact that R&D expenses ought to be visible. Majority of studies (Danielson and Press, 2005; Ball and Kothari, 1991; Chan, Lakonishok and Sougiannis, 2001) analyzed the impact of current R&D expenses on the return on investment for the same financial year and speculated about future earnings and/or earning announcements.

Ali, Ciftci and Cready (2012) report significant market underestimation of the implications of the R&D expenses for future earnings and provided strong evidence toward capitalization rather than using the current system used under GAAP. Ali, Ciftci and Cready (2012) conclude that their results contribute to the longstanding debate over the current requirement in the US GAAP to expense all R&D expenses in the period they are occurred. They suggest that market participants struggle with appropriately assessing the future profitability and return implications of the R&D expenditures

under the current US standard. These authors, however, did not actually looked into the delayed effects of R&D expenses and did not report using a capitalization method and left it up to future researchers to resolve this controversy.

A few other authors such as Chan, Faff, Gharghori and Ho (2007) looked into the impact of expensing the R&D costs in a financial year based on the accounting standards versus capitalization method where expenses and earnings could be better matched. As per their research under the Australian model where Accounting regulations for R&D allow for the co-existence of two different accounting methods such as the expense method and the capitalization method, Chan, Faff, Chargori and Ho (2007) concluded that the capitalization method based on their so-called “resource based view” gave them significant advantage in estimating future returns of the R&D expenditures.

In order to further investigate the “expense method” and its potential limitations, this research tend to use R&D expense data for the last 16 years of 30 Dow Jones (listed in results section) companies and looks into the impact on profitability as measured by Return on Equity, Return on Assets and stock returns. The purpose of this research is to see if indeed there is underestimation of profitability results for R&D expenses and whattypes of industries suffer the most from such underestimation. This research further investigates if the expense method used in the US GAAP system can sufficiently address the issue of the gap between current and future profitability estimates.

**Data and Research Method**

The data was obtained from Bloomberg database. It covers data on Dow Jones Industrial (DJ) companies from September 1999 to September 2016. Following model was employed to test the hypotheses on a relationship between R&D and profitability measures.

Return = function of R&D expenditure

ROE = function of R&D expense

ROA = function of R&D expense

The hypothesis is to test if there is significant relationship between R&D and profitability of the companies and if it is, what the nature of the relationship is.



**RESULTS AND DISCUSSION**

In Table 1, results are reported for Dow Jones Industrial Average (DJ) cumulatively for thirty companies that comprise DJ Index. From

figure 1, it can be seen that R&D expenditure of DJ companies went up until second quarter of 2008. However, R&D expenditure declined and then did not recover in the subsequent time period after the financial crisis. Still, from Table 1, it can be clearly seen that there is a significant relationship between R&D expenditure and the profitability for DJ companies. For the time period under consideration, however, we find an inverse and significant relationship between R&D expenditure and stock returns. Furthermore, R&D coefficients are very significant when we consider relationship between R&D versus ROE and ROA respectively. It implies that when R&D expenditure goes up, the profitability of the firm declines. One explanation for this inverse relationship between R&D and profitability was provided by Danielson and Press (2005) who pointed out that primary purpose of R&D is to provide higher future cash flows but Financial Accounting Standards require firms to expense this expenditure in the year it is incurred. This implies that the effect of R&D would be felt in the future time periods when the benefit of the expenditure becomes more evident. Hence, the relationship between R&D and profitability is quite complex. We also get some additional insight when we examine the effect of R&D on profitability at the individual firm level. One way this distortion in the current profitability can be corrected is by adjusting ROE and ROA by incorporating useful life of this expenditure. Essentially, this would (to some extent) correct the mismatch between recognition of R&D expenditure and realization of future benefits. A similar result was obtained by Chan et. al, (2007) who found that intensity of R&D expenditure enable firms to improve their future risk-adjusted returns. Since, Chan et. al, used Australian firms data, they could compare different accounting treatment for R&D expenditure where either firms expensed this expenditure immediately or capitalized this expense. This treatment of R&D is allowed in Australia but not permitted under US GAAP.

From Tables 2 and 3 we find that in general, R&D expenditure



FIGURE - 1

TABLE 1: DJ AND R&D EXPENDITURE – CUMULATIVE DATA FOR THE TIME PERIOD 12/1999 TO 9/2016

Dependent Variable	R-Square	F-Value	R&D Coefficient	't' Value
Stock Returns	10%	7.06	-0.00041***	-2.64
ROE	36%	37.01	-0.04702***	-6.09
ROA	35%	36.94	-0.01141***	-6.08

\*, \*\*, \*\*\* denotes significance at 10%, 5%, and 1% level respectively.

TABLE 2 - DJ COMPANIES AND R&D EXPENDITURE WITH ROE AS THE DEPENDENT VARIABLE

Name of Company	R-Square	F-Stats	R&D Coefficient	't' Value
Apple Computers	39%	41.14	0.012871 <sup>''</sup>	6.42
Boeing	24%	20.61	0.033059 <sup>''</sup>	4.54
Caterpillar	12%	8.60	0.024369 <sup>''</sup>	2.92
CSCO Systems	4.4%	3.01	0.004944 <sup>''</sup>	1.73
DuPont	15%	11.42	0.056329 <sup>'''</sup>	3.38
IBM	6%	4.32	0.045688 <sup>''</sup>	2.08
Intel Corpn.	8%	5.60	0.002472 <sup>''</sup>	2.37
Johnson & Johnson	27%	24.36	-0.00444 <sup>''</sup>	-4.94
MMM	1%	0.96	0.008738	0.98
Merck	62%	107.15	-0.0167 <sup>'''</sup>	-10.35
Microsoft	2.5%	1.70	0.00296	1.30
Pfizer	43%	49.14	-0.01736 <sup>''</sup>	-7.01
United Tech.	4%	2.65	-0.00385	-1.63

\*, \*\*, \*\*\* denotes significance at 10%, 5%, and 1% level respectively.

Name of Company	R-Square	F-Stats	R&D Coefficient	't' Value
Apple Computers	22.9%	18.14	0.005908 <sup>''</sup>	4.26
Boeing	1%	0.72	-0.00046	-0.84
Caterpillar	15%	11.55	0.004342 <sup>''</sup>	3.40
CSCO Systems	2%	0.17	-0.0008	-0.42
DuPont	5%	3.30	0.009466 <sup>''</sup>	1.81
IBM	24%	21.25	0.010081 <sup>'''</sup>	4.61
Intel Corpn.	1%	0.07	0.000221	0.28
Johnson & Johnson	32%	30.45	-0.00323 <sup>'''</sup>	-5.52
MMM	10%	8.03	0.01069 <sup>'''</sup>	2.83
Merck	55%	80.39	-0.00544 <sup>'''</sup>	-8.96
Microsoft	2.6%	1.74	-0.00143	-1.32
Pfizer	39%	42.17	-0.00791 <sup>'''</sup>	-6.49
United Tech.	2%	1.26	-0.00078	-1.12

\*, \*\*, \*\*\* denotes significance at 10%, 5%, and 1% level respectively

tends to have a significant effect on firms profitability but the results are inconsistent if we compare DJ firms across industry categories. For instance, Apple Computers displays a positive coefficient for both ROE and ROA with R&D as an independent variable. It implies that the effect of R&D for the current period and the past periods cumulatively tends to have a positive effect on the profitability of this company. With R-square equal to 39% for ROE and 23% for ROA we can clearly see substantial effect on profitability when the company increases its R&D expenditure. In many studies in finance, R-square of 39% is considered very high because the relationship between profitability and R&D expenditure is quite complex. Also, there are many other factors that affect the profitability of the firm such as size, liquidity, capital adequacy, effectiveness, efficiency of management, and risk. We can draw a similar conclusion when the results of Boeing are examined. These results are more conclusive for R&D and ROE but ROA for Boeing is unrelated to R&D. That is expected because R&D expenditure tends to have long cycles for an aircraft manufacturer when compared against a computer company such as Apple.

Other manufacturing companies such as Caterpillar, MMM, United Technologies, the effect of R&D expenditure on profitability is insignificant. In a recent article in Wall Street

Journal, the effect of innovation in the past decade has been dismal 0.5% per year when compared against stellar growth rate of total factor productivity of about 3.4% per year in 1950's. As a consequence of this lack of innovation American standard of living has stagnated since 2000. Hence, this lack of relationship between R&D and profitability for the manufacturing firms is not surprising.

On the other hand, pharmaceutical firms have a significant but negative or inverse relationship between R&D and profitability with R-squares ranging from 62% for Merck to 27% for Johnson and Johnson. One reason for this inverse relationship between R&D and profitability could be because of conservative accounting treatment of this expenditure in the income statement. Since, FDA approval and very expensive clinical trial of drugs that have a very long cycle from innovation to approval, it is not surprising that expenditure for R&D is likely to make a serious dent on the profitability. Also, none of the most prescribed twenty drugs came to market in the past decade. That is, no new major drug approval has occurred since 2000. Many other firms in our sample do not have R&D expenditure in their balance sheet as these firms are not involved in manufacturing.



## CONCLUSION

Overall, as it can be seen from the results, the relationship between R&D and profitability is significant. However, the nature of the relationship for different industries is different. For manufacturing companies, the relationship is positive. But, for pharmaceutical companies, the relationship between R&D and profitability is negative or inverse.

These results tend to provide support to what others authors also speculated. This study however provides sufficient evidence confirming the role of R&D in corporate profitability consideration.

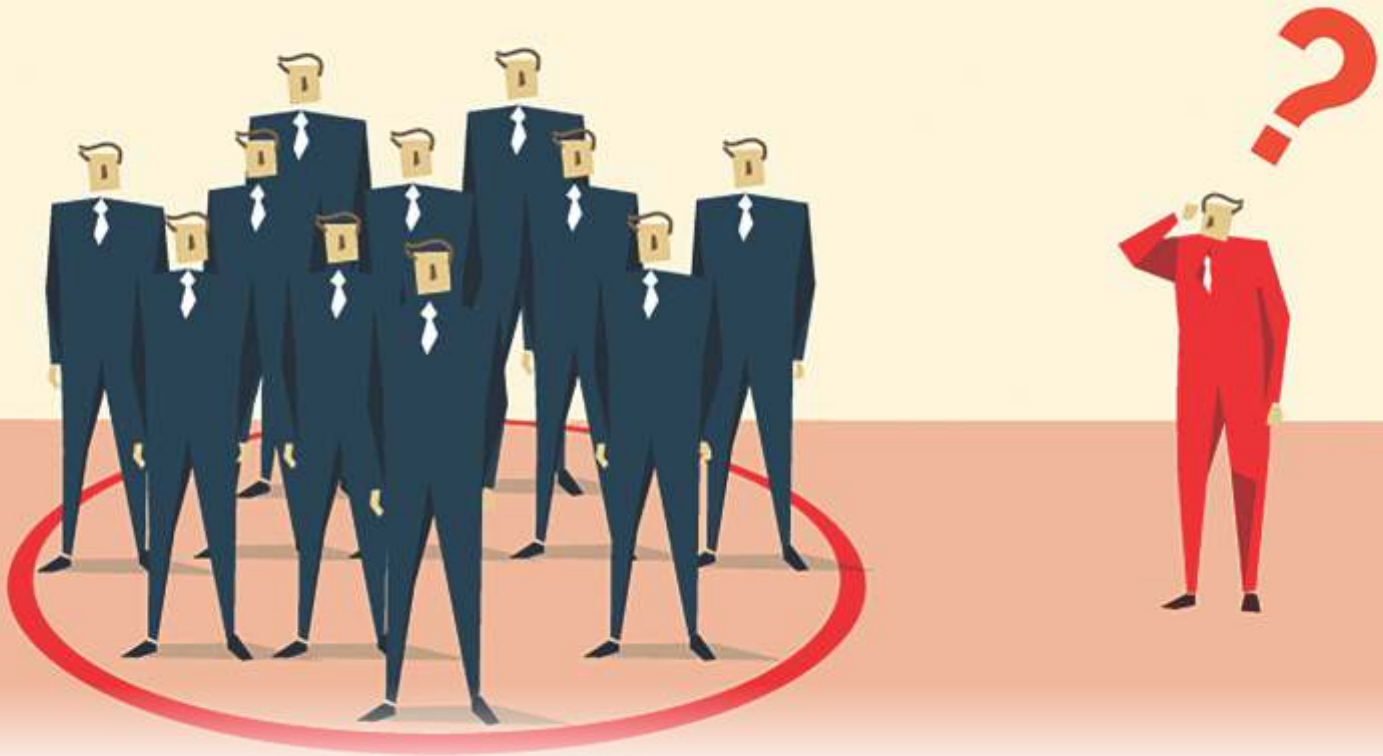
The fuzziness about the “benefits of R&D” and its impact on corporate decision based on return on investment as stated by Singarayar (2009) appears to be a complex matter. The

complexity however is a result of how R&D expenditure is treated in US accounting standards. The delayed impact of R&D is largely unknown and unaccounted for in the financial statements.

This study also provides clear indication that US GAAP standards need to be modified for accounting R&D expenditures and a clear move toward capitalization of these expenses is needed. However, there is clear evidence to support that the capitalization method which is allowed in Australia as found by Ali, Ciftci and Cready (2012) works and has significant impact on profitability. No such evidence exists in the US as it is not permitted under GAAP rules which are followed in the United States. The evidence about Efficient Market Hypotheses may not be relevant because the analysts are not constrained by accounting rules and are allowed to adjust the profits by using capitalization method.

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# The Influence of Organizational **Downsizing** on Organizational Performance

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## ABSTRACT

Global headwinds of change have created a volatile, uncertain, competitive and ambiguous (VUCA) environment, which has perplexed business organizations now a days. With the backdrop of twisters like Global economic recession, Euro zone turmoil, Chinese recession and Brexit problem, organizations are nonplussed and are forced to reassess their business structures and strategies. Along with this the issues of fluctuating foreign exchange, fickle financial markets & soaring inflation are posing serious challenge to financial and operational issues in modern organizations. In an obscure scenario of weakening external demand, firms in IT sector especially, are striving hard to retain the foothold by arresting their soaring costs and plummeting profits. The fundamental assumption of 'consistency & congruence' for organizational performance are being blown to air and organizational downsizing has become the 'strategy of choice' for many of the big companies these days. The present study is about conflict & inconsistency arising from downsizing strategy adopted by Infosys which it

considered as desirable process for organizational performance. The impact of 'convergence downsizing' on organizational performance, as well as employees' organizational citizenship behavior (OCB-O) and performance has been studied in this correlational research. Exploratory Factor Analysis Technique has been used to identify the factors like Civic Virtue and Sportsmanship indicating Organizational citizenship behavior (OCB-O) which affects the employees' and organizational performance. Cronbach Alpha, AVE, Square Root AVE have been used to measure Reliability and Validity of constructs, whereas the relationship between these has been studied by Correlation and Regression techniques. Certain financial ratios like Operating Profit ratio, ROA, ROS and Value Added per Employee have also been assessed to adjudge the organization's financial performance.

**Keywords :** VUCA Environment, Downsizing, Organizational Citizenship Behaviour, Civic Virtue, Sportsmanship, Organizational Performance

## INTRODUCTION

Global headwinds of change have created a volatile, uncertain, competitive and ambiguous (VUCA) environment, which has perplexed business organizations now a days. With the backdrop of twisters like Global economic recession, Euro zone turmoil, Chinese recession and Brexit problem, organizations are nonplussed and are forced to reassess their business structures and strategies. Along with this the issues of fluctuating foreign exchange, fickle financial markets & soaring inflation are creating state of misalignment in internal environment with external environment for modern organizations. The weakening external demand, especially in IT sector, is posing serious challenge for firms to retain their foothold by managing financial and operational issues. Fundamental assumptions of 'consistency & congruence' for organizational performance are being blown to air and organizational downsizing has become the 'strategy of choice' for many of the big companies these days to arrest their soaring costs and plummeting profits.

The present research attempts to study the influence of convergent downsizing practiced by the software services giant Infosys Limited, which employs around 1.5 lakh people. Infosys, often cited as "The Best Company for employees and shareholders" is an Indian Multinational Corporation offering Business Consulting, Information Technology and Outsourcing Services, since 1981. The phenomenon of frequent layoffs, especially after global recession of 2008 is overshadowing the organization's happy exterior. As per media reports Infosys laid off its 2100 employees in the year 2009, whereas in 2010 also a large number of Infosys employees (around 5%) faced designation corrections and demotions. There were no hikes & no promotions, rather 'salary freeze' and 'steep cuts to variable pay' (approximately 50%) were introduced in some top positions in the year 2011-12. In 2013 also up to 5,000 employees were laid off to cut costs and boost sales. The company intended to increase operational efficiency and handed over pink slips to those who "did not add value". Although company's robust performance management system encourages it to segregate "chronic underperformers" (approximately 10%) every year, as part of its routine staff management policy, but it is leaving a big question mark on employees as well as organization's performance.



## CONCEPTUALIZATION AND LITERATURE REVIEW

Downsizing is defined as purposeful reduction in the size of organization's workforce (Casio, 1993). (Kozlowsky,1993) also viewed the organizational downsizing as "a deliberate organizational decision to reduce workforce with an intention to improve organizational performance. The economic perspective behind it rests on the assumption that management's actions are inherently rational and downsizing is undertaken with a view to increase an organization's future productivity and economic performance (McKinley, Zhao and Rust, 2000). There are many synonyms for the term 'downsizing' namely,

consolidating, rightsizing or de-hiring etc.; but the available literature generally articulates two distinct types of organizational change arising from downsizing: convergence and reorientation (Freeman and Cameron, 1993; Tushman and Romanelli, 1985). The 'Convergent downsizing' is an activity targeting reduction in costs through lay-offs or reducing headcount. It is also related to cutting employee benefit expenditures, decreasing facilities, salary freezes and designation correction or cut in employees' variable pay etc. In fact organizations under convergent downsizing aim at working more efficiently by reducing their operating costs and tend to serve the same markets with the same goods or services. On the other hand 'Reorientation downsizing' is sudden change from past strategies and proposes for a shift in organization's strategic focus with respect to products, processes, technologies and markets. It involves the redesigning in organizational structure, work flows and control systems through changes in technology or top management (Freeman and Cameron, 1993). In fact convergence suggests the organization to do the same things, albeit more efficiently, whereas reorientation calls for transformational direction, product lines, and markets served (McCure, 2009) to achieve organizational objective. The present research is about the convergent downsizing practices adopted by Infosys.

Many researchers (Bruton et al., 1996) have considered downsizing a step to improve internal dynamics of an organization. According to this concept it is a reactive response, in contrast with the proactive model proposed by (McKinley et al., 1995) which reiterates that organizations indulge in downsizing with an intent to improve their financial performance. It depends upon the approach, or the metrics to evaluate outcome of downsizing that makes different impact on organization's financial performance. It has been, however, supported by many studies. A study made by (DeMeuse et al., 2004) of Fortune 100 firms slashing the number of employees, concluded that firms laying off 10% or more of their workforce underperformed on financial variables like Profit margin and ROA. But (Gandolfi, 2008) in his study on the consequences of downsizing concluded that downsizing firms generally under-performed than other firms not engaged in downsizing. Another longitudinal study of 258 Korean firms (Yu and Park, 2006) clinched that downsizers outperformed non downsizers on various metrics like Asset turnover and operating income per employee and increase in stock price. In UK listed companies announcing layoffs, whereas profitability was not affected, but stock prices declined as per study of (Hillier et al., 2007). While making a research on Fortune 100 firms making layoff announcements (Love and Nohria, 2005) also concluded that overall downsizing has no effect on net profits, but larger firms and pro-active downsizers tend to perform better in the long run. (McClure, 2009) in his research resolved that reduction in headcounts by organizations lead to degradation in their performance rather than improving it. In a study made upon Spanish press (Bullon, Bueno, 2012) found an insignificant relation between downsizing and profitability, with a view that corporate performance is not only contingent on strategies



but on the means of strategy implementation as well. The downsizing strategy formulation and implementation captures an explicit tension between the organizational control of decision to downsize & uncertainty about its outcome; as well as an implicit tension between the potential impact of downsizing on retained workforce and impending benefit to the organization (Kurebwa J. 2011). If taken as a whole, it is difficult to portray a single, unified picture of the relationship between downsizing and organizational performance, as performance up to great extent, is an outcome of employees' behaviour, which ensure smoothness of activities within and outside the organization (Romle, Talib and Shahuri, 2016). The approach of 'cutting out the fat', especially through headcount reduction, for long-term improvements (Cascio, 1993) may impact upon human behavior, an important element of organizational performance. In an attempt to adjust with external environment and improve its position the strategic move taken by the organizations impacts its internal dynamics especially organizational citizenship behavior. The study made on large urban hospitals by (Chadwick et al., 2004) indicate that downsizing does not lead to improved organizational performance generally, as employee behavior and morale during layoffs is directly related to success of downsizing and financial performance. Up-front perfunctory shifts in the organization are not the only factors that decide its performance, rather employees' attitude and motivation also contribute to it. Several authors have studied the behavioral and cultural consequences of downsizing on the members of the organization. (Cameron et al., 1987) identified a number of dysfunctional effects such decreasing levels of trust, morale and communication as well as increasing levels conflict and threat-rigidity reactions. Other behavioural consequences are increased absenteeism, turnover and degraded organizational commitment (Allen et al., 2001; Cascio, 1993; Hallier and Lyon, 1996; Lewin and Johnston, 2000). Cascio (1993) suggests that the poor financial performance experienced by some organizations may be linked to certain behavioural consequences of downsizing. (McKinley, Mone and Barker, 1998) studied the consequences of downsizing on the individual employee as well as on the organization as a whole. Effects on the individual employee can be studied predominantly from a psychological and behavioural viewpoint with a focus on the surviving employees who remain in the organization after downsizing. Conducted under the assumption that downsizing splits relationships and destroys a firm's existing networks, the study revealed that survivors exhibited negative reactions to loss of friends but positive reactions to the loss of co-workers in similar structural positions since it improved their promotional and career opportunities within the organization. (Bhattacharya & Chatterjee, 2005). Few researchers have tried to locate the outcome of downsizing taking it as an event and differences in organizational culture or structure. The firms that opted to reduce headcount generally had a tendency to under-perform than those that sought new technologies or business practices. Moreover, downsizers tended to under-perform the firms that had stable employment. On the contrary several studies found either no effect on performance, or a negative effect,

stemming from downsizing.

In spite of the scarcity of research on the impact of downsizing on organizational economic performance, workforce reduction is viewed as part of the process necessary for long-term organizational improvements (Cascio, 1993). But, even though downsizing helps to enhance operational efficiency, researchers are yet to prove conclusively that downsizing results in improved financial performance of a firm (Bhattacharya & Chatterjee, 2005)

The relationship between downsizing and performance is quite ambiguous, whereas there is sufficient evidence suggesting a relationship between organizational citizenship behaviour and performance, This research tries to fill the gap between these studies by offering a model integrating these concepts, which incorporates a key organizational component 'organizational citizenship behaviour', to help in our understanding of the downsizing-performance relationship. Organizational Citizenship Behaviour (OCBo)

Organizational Citizenship Behaviour was propounded by Organ (1988), who differentiated five facets or factors: altruism, courtesy, conscientiousness, civic virtue, and sportsmanship. Three out of these five factors can be readily distinguished by managers: sportsmanship, civic virtue, and conscientiousness (Bell & Menguc, 2002& Hui, Lee, & Rousseau, 2004& Lam, Hui, & Law, 1999). In fact workers who go above and beyond the minimum requirements of their job description and reflect industriousness, affect organizational performance as they bring enhanced workgroup efficiency and decreased inter-group conflict which lets managers to focus on more pressing matters (MacKenzie et al., 2009). Sportsmanship describes employees who are willing to tolerate difficulties in the workplace that are intended to improve the organization, abstaining from unnecessary complaints and criticisms. Civic virtue refers the active involvement, interest, and participation in the life of their organization, such as functions, events, and meetings. Conscientiousness, sometimes referred to as compliance, reflects the genuine acceptance and adherence of workplace rules, regulations, and procedures (Moss, 2016). (Williams and

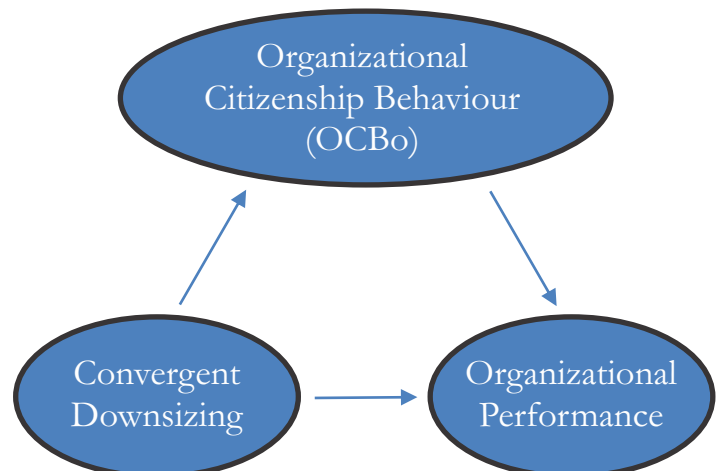


Figure 1

Anderson, 1991), suggested a different taxonomy differentiating behaviours directed towards individuals, called OCBI, and behaviours directed towards the organization, called OCBO. Sportsmanship and Civic virtue (Coleman & Borman, 2000& Hoffman, Blair, Meriac, & Woehr, 2007) reflect OCBO affecting organizational performance.

A review of respective literature streams reveals that convergent downsizing has been used as antecedent to study the consequences, i.e. organizational performance, either studied as financial performance through Return on Assets ratio, Operating profit ratio, Return on sales ratio and Value added per employee ratio, which assess profitability, operational efficiency and productivity. But a mediator variable also exists which represents a mechanism through which an independent variable influences the dependent variable (Baron & Kenny, 1986; Peyrot, 1996). This mediator i.e. OCBo explains how or why a relationship exists between the independent variable, i.e. convergent downsizing and dependent variable, organizational performance. The mediator is often an attribute or an intrinsic characteristic of individuals (Holmbeck, 1997; Lindley & Walker, 1993; Peyrot, 1996). The moderating effects are generally introduced when there is an unexpected weak relationship between independent and dependent variable. There must be a significant relationship between the independent and the dependent variable before testing for a mediating effect (Baron & Kenny, 1986), but relation between the independent and the dependent variable becomes insignificant after introduction of mediator variable.

**Objective of the study:**

The broad objectives of the study are the following-

- i. To analyze the influence of convergent downsizing on organizational financial performance
- ii. To ascertain the constructs related with organizational citizenship behavior (OCBo)
- iii. To find out the relationship between identified (OCBo) constructs and organizational performance



**RESEARCH METHODOLOGY**

The research aims at studying convergent downsizing approaches adopted by the Infosys which make impact upon organizational performance. The financial performance of Infosys has been observed through Return on Assets ratio, Operating profit ratio, Return on sales ratio and Value added per employee ratio from year 2008 onwards, which evaluate profitability, operational efficiency and productivity of the organization. Since organizational performance is the outcome of employees' performance, which again is the aftermath of employee citizenship behaviour; this research paper identifies the constructs associated with organizational citizenship behaviour. It also analyzes the relationship between identified constructs and employee performance. This study consists of two parts. The

first half consists of exploratory analysis based on literature and articles of various experts and researchers. This study is based on both primary as well as secondary data. The secondary data has been collected from various books, journals, business magazines, newspaper reports, published and unpublished business reports as well as company's website and annual reports. The second part of this study has more pragmatic approach as it deals with primary data. Primary data has been collected through semi-structured questionnaires distributed amongst Infosys employees to get information regarding constructs of citizenship behaviour and employee performance. Probability sampling procedure has been followed and to stratify the heterogeneity of population stratified random sampling has been used. Information has been collected from junior level employees and middle level employees. Reliability and validity of the constructs has been measured using Cronbach's Alpha, AVE, and the Square Root of AVE. Principal Component Analysis has been used to reduce the number of variables and to detect structure of relationships between variables. The Kaiser-Meyer-Olkin criterion to measure sampling adequacy and the Bartlett's test of Sphericity have been used. Correlation analysis has been used to locate the relationship between identified constructs and employee performance. The KMO value .714 indicates the presence of sufficient inter-correlations in the data set and appropriateness of factor analysis. Bartlett's test of Sphericity is significant at p=.000, which indicates that correlation matrix is not an identity matrix. Only factors with eigen value greater than 1 have been retained. To check the adequacy of the data for extraction of principal components, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity have been used.

**Data Analysis**

From financial data available on company's website the financial ratios, Return on Assets ratio and Operating profit ratio have been calculated on yearly basis from year 2008 onwards which reflect a meagre increase in profitability. As we see the ROS as well as ROA have dipped during 2010 to 2014, with a slow recovery in 2015 and 2016. Similarly the diving Operating profit ratio is also an indicator of deteriorating operational efficiency in the firm. But the Value added per employee ratio, which evaluates productivity of employees in the organization has shown a rising trend especially after 2014. This signals a different aspect of employees' behaviour, which has been explored with the help of mediating variable organizational citizenship behaviour i.e. Sportsmanship and Civic Virtue. The study tests the following null hypotheses:

**Ho<sub>1</sub>:** There is no significant effect of convergent downsizing on organizational citizenship behaviour

**Ho<sub>2</sub>:** There is no significant effect of organizational citizenship behavior on performance

**Demographic Profile**

Out of 180 questionnaires distributed to the respondents, only

TABLE 1

Year	ROS	ROA
2008	28.57%	33.14%
2009	28.72%	32.67%
2010	27.22%	25.84%
2011	25.38%	26.11%
2012	25.55%	22.30%
2013	24.80%	21.19%
2014	22.99%	19.34%
2015	25.72%	19.68%
2016	29.24%	21.69%

Source: Company's website, www.infosys.com

TABLE 2

Year	Value Added per Employee	Operating Profit Ratio
2008	13.7%	17.47%
2009	19.1%	39.15%
2010	20.6%	6.57%
2011	21.0%	14.32%
2012	22.8%	19.57%
2013	19.8%	9.48%
2014	23.0%	13.73%
2015	24.8%	11.46%
2016	25.9%	12.90%

Source: Company's website, www.infosys.com

137 complete questionnaires were returned, which gives a response rate of approximately 76 % percent. Amongst 137 respondents 116 were males and 21 were females, i.e. 84.67% male respondents and 15.32% female respondents. Approximately 81% respondents were in the age group of 23-32 years whereas 19% respondents were in the age group of 33-42 years. Only 19% respondents were middle level managers and 81% were junior level employee.

Reliability of constructs was checked firstly through loading of each construct as individual items and secondly through Cronbach's alpha. According to the quality of measurement model the loading of each construct was found to be

significant. Cronbach's alpha is another measure of reliability with the threshold limit of 0.7 (Hair et.al.). It is very evident from Table 4 that Cronbach's alpha coefficient for 'Conv DS' is .815, for 'Sportsmanship' .902, for 'Civic Virtue' .865 and for 'Performance' .726 respectively. Since all the constructs are above .7 so the measurement of this study is acceptable as per reliability. Validity of the constructs was verified by Average Variance Explained (AVE) and the Square Root of AVE. The measure of Average Variance Explained (Fornell & Larcker, 1981) is used to measure discriminative validity. To fulfil the condition of discriminative validity the square root of construct's AVE must be greater than the correlation between the construct and other constructs in measurement model. The square root of AVE for the constructs reflected in table 4 is .854, .827, .886 and .819 is more than the value of correlation between them observed in correlation table no.7, which proves there was an adequate discriminative validity between the constructs and the measure for the same is acceptable in the study. Similarly the value of AVE should be greater than the threshold limit of 0.5 to prove the condition of convergent validity in the data set. The Average Variance Explained for these constructs is .727, .684, .783 and .683 respectively, which happens to be greater than threshold limit of 0.5. So these results indicate adequate convergent and discriminate validity in the study.

Correlation table indicates the relationship between antecedent variable i.e. convergent downsizing, mediating variables i.e. Sportsmanship and Civic Virtue and dependent variable i.e. organizational performance. The study analyzes a moderately negative relationship between convergent downsizing and mediating variables namely Sportsmanship,  $r = -0.393$  and Civic Virtue,  $r = -0.302$ ; which signals a mild negative effect on citizenship behaviour in the organization. This is ultimately making a moderately negative impact on employee performance, i.e.  $r = -0.271$  ( $p < 0.01$ ) showing that 27.1% negative

TABLE 3 FACTOR ANALYSIS

1. Convergent DS	Items	Item Loadings			
There is reduction in employment by lay offs	CON 1	0.828			
There are employee pay-hikes on regular basis	CON 2	0.813			
There are systematic departmental promotions	CON 3	0.794			
<b>2. Sportsmanship</b>					
I am enthusiastic about my work	CIV 1		0.973		
I welcome change without any resistance	CIV 2		0.977		
I do not complain about insignificant things at work place	CIV 3		0.899		
I volunteer to take additional tasks at work	CIV 4		0.781		
<b>3. Civic Virtue</b>					
I try to avoid problems with my team-members.	SPO1			0.948	
I encourage my team members when they feel low	SPO2			0.897	
I try to resolve issues between supervisors and my colleagues.	SPO3			0.994	
<b>4. Performance</b>					
I am keen to perform my duties at job promptly	PER1				0.810
I come to my work every day on time	PER2				0.602
I follow rules of the firm while completing the task assigned	PER3				0.882
I have received recommendation from superiors for my good work	PER4				0.715

Extraction Method: Principal Component Analysis  
Source: Author's Findings

TABLE 4 DESCRIPTIVE STATISTICS

Construct	No. of Items	N	Mean	Std. Deviation	Skewness	Kurtosis
Convergent DS	4	137	2.94	0.74	0.58	-0.634
Sportsmanship	4	137	3.13	0.95	0.62	-0.742
Civic virtue	3	137	3.75	0.91	0.85	-1.441
Employee performance	4	137	3.35	0.85	0.57	-0.453

TABLE 5 TOTAL VARIANCE EXPLAINED

Component			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Eigen values	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
17.033	48.546	48.546	17.033	48.546	48.546	14.70	42.227	42.227
5.406	15.447	64.113	5.406	15.447	64.113	4.847	13.105	56.077
3.528	10.108	74.193	3.528	10.108	74.193	4.058	11.591	67.671
1.856	5.302	88.675	1.856	5.302	88.675	3.241	9.261	87.531
1.806	5.161	93.836	1.806					

TABLE 6 CONSTRUCTS' CRONBACH ALPHA AND AVES

Construct	Cronbach's Alpha	AVE	Square Root of AVE
Convergent DS	.815	.727	.854
Sportsmanship	.902	.684	.827
Civic virtue	.865	.783	.886
Performance	.726	.673	.819

TABLE 7 CORRELATION AMONG CONSTRUCTS

	Conv. DS	Sportsmanship	Civic Virtue	Performance
Conv. DS	1			
Sportsmanship	-0.393	1		
Civic Virtue	-0.302	0.645**	1	
Performance	-0.271	0.831***	0.718**	1

\*\* Correlation is significant at the 0.01 level (2-tailed)

impact on employee performance. On the other hand findings reveal that 'Sportsmanship' is positively associated with employee performance with  $r = 0.831$  ( $p < 0.01$ ) indicating a significant i.e. 83.1% positive relationship with employee performance. Further Civic Virtue is also positively and significantly correlated to employee performance with  $r = 0.718$  ( $p < 0.01$ ) showing that it has 71.8% positive relationship with employee performance.

Hypothesis 1 (Ho1) states that convergent downsizing has no significant effect on citizenship behaviour. Findings show that coefficients of estimate which was significant basing on  $\beta_1 = 0.302$  ( $p$ -value = 0.05 which is less than  $\alpha = 0.05$ ). The null hypothesis is thus rejected and it has been concluded that convergent downsizing has a significant effect on citizenship behaviour in the organization. The effect of convergent downsizing was around five times the effect attributed to the error, this has been indicated by the t-test value = 5.003. Hypothesis 2 (Ho2) states that organizational citizenship behaviour has no significant effect on organizational performance. However findings indicate that coefficients of estimate which is significantly based on  $\beta_2 = 0.383$  ( $p$ -value = 0.02). The null hypothesis is thus rejected,  $\alpha$  being less than

0.05 and the t-test value 8.609 showing more than eight times standard error association with the parameter. So organizational citizenship behaviour has significant effect on organizational performance.

Multiple regression analysis offers a mean of objectively assessing the degree and character of the relationship between the independent variables and dependent variables (Sekaran and Bougie, 2013). In the given model first a direct and significant relationship between convergent downsizing and organizational performance has been established. After introducing the mediating variable organizational citizenship behaviour (OCBo) sportsmanship and civic virtue, the path between convergent downsizing and organizational performance becomes nonsignificant. However convergent downsizing now influences organizational citizenship behavior and OCBo (sportsmanship and civic virtue) influence organizational performance. This can be interpreted as convergent downsizing having an indirect effect on organizational performance through organizational citizenship behaviour. After establishing correlation amongst these three, multiple regression analysis has been performed. In the first regression the significance of path from convergent

downsizing to organizational citizenship behavior has been analyzed, which observes the value of Beta .302 at  $p= 0.05$ . In the second regression the significance of path organizational citizenship behavior to organizational performance has been examined using convergent downsizing and organizational citizenship behaviour as predictors of organizational performance, which shows the value of Beta .383 at  $p= 0.02$ . Finally in third regression the significance of path from convergent downsizing to organizational performance has been examined, which indicates the value of Beta .081 at  $p= 0.05$ . R square value is 0.345, implying that 35% of the variance is significantly explained and influenced by the independent variables. The simultaneous entry allows for controlling the effect of convergent downsizing, while the effect of organizational citizenship behavior on organizational performance has been examined. Similarly the effect of organizational citizenship behavior has been controlled, while examining the effect of convergent downsizing on organizational performance. The higher value of Beta i.e. .383 identifies organizational citizenship behavior to be more important variable influencing organizational performance.



## CONCLUSION

To grasp and retain its position in the competition is the major concern of Infosys and organizational strategies devised for this objective have been put under litmus test in the study. The organization's choice of convergence downsizing primarily focuses on improving internal inefficiencies like productivity, profitability and operational efficiency. The financial ratios calculated on yearly basis since 2008, especially Return on Assets ratio, Return on sales and Operating profit ratio have shown a scanty increase in profitability and efficiency due to inward focus called convergent downsizing. As we see the ROS as well as ROA have dipped during 2010 to 2014, when sizeable layoffs were made, but had a slow recovery in the year 2015 and 2016. This goes in conformity with the study made by (DeMeuse et al., 2004) and (McClure, 2009). But the Value added per employee ratio, which evaluates productivity of employees in the organization has shown a rising trend especially after 2014, which is not in line with the observations of (Allen et al., 2001; Cascio, 1993; Hallier and Lyon, 1996; Lewin and Johnston, 2000) as well as (McKinley, Mone and Barker, 1998). On the contrary, it supports the observations made by (Bhattacharya & Chatterjee, 2005), implying layoffs stimulated employees to work harder as it offered promotional and career opportunities within the organization.

The employees' behaviour as a reaction to implementation of convergence downsizing strategies (Bullon, Bueno, 2012) and (Romle, Talib and Shahuri, 2016) cannot be left un-noticed by the organizations. This has directed the study towards mediating variables of OCB, and further focused on OCBo namely Sportsmanship and Civic Virtue, approving the observations of (MacKenzie et al., 2009) and (Moss, 2016). These two identified mediating variables are significant constructs to predict organizational performance, and have

strong positive correlation with organizational performance. This again conforms to the observation made by (Coleman & Borman, 2000 & Hoffman, Blair, Meriac, & Woehr, 2007). Multiple regression studies also indicate significant influence of these mediating factors on performance enhancement. Under given conditions the mediating variable OCBo represented by Sportsmanship and Civic Virtue is explain a strong relationship between downsizing OCBo and performance in comparison to a weak direct correlation between downsizing and performance. This goes in conformance with the studies made by (William and Anderson, 1991) and (Romie, Talib and Shahuri, 2016). For an organization finding itself in a position which calls for change in strategies this study offers an insight. Whereas there is no much evidence of improved financial performance due to convergent downsizing, but findings suggest that if done with consideration the elements of OCBo can improve performance. Since a drastic head count reduction strategy influences internal environment and employees' behaviour, it should be adopted with some caveats. Considering the relatively widespread use of this strategy and its intended effects on the organizations now a day, it is suggested that the set of relationships studied herein should be analyzed extensively to better devise the 'best practices' for organizational downsizing as a strategic option.

## Limitations and future implications of the study

A larger sample size could not be taken up in this study. Along with it the research has been conducted only in one organization of IT sector. These are the major constraints of this research paper. But it can be extended to more organizations of Information technology as well as other sectors of the economy to get a deeper insight of the strategy called 'organizational downsizing'.

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## CORRIGENDUM

All the readers are hereby informed that there have been inadvertent mistakes in the printing of article "Effect of Mutual Funds (MFs) Investments and Foreign Institutional Investors (FIIs) Investments on the Indian Stock Market: An Empirical Analysis" published in 25th Issue of DTR, (Vol. 13, No. 1)

- i. Graph to be shown in Fig. 1.2 has got replaced by equation 1.1 on page no. 12
- ii. Auto-regression expressions have printing error on page no. 12
- iii. The line, 'The critical values of the ADF at 1%, 5% and 10% levels are as represented in Table 2A.' has been replaced by repeated H1
- iv. References' APA format has not been observed.

Hence the aforesaid corrections have been made in soft copy uploaded on our website which may please be noted by all the readers.

# MEASUREMENT OF DIMENSIONS OF CSR INITIATIVES IN AUTOMOTIVE SECTOR IN INDIA

*\*Dr. Shilki Bhatia*



## ABSTRACT

*The corporate scandals and scams challenging the protection of interests of stakeholder groups have highlighted the significance of the Corporate Social Responsibility (CSR) all the more and the study of the concept has become of utmost prominence for the corporate worldwide. The present study seeks to develop and validate a construct of Corporate Social Responsibility initiatives in automotive sector in India through a sample of 152 middle and high level managers of the sample automotive companies on a 5-point Likert Scale. Exploratory factor analysis was then applied to develop the measurement tool for identifying dimensions of measuring CSR. A total of 36 dimensions selected on the basis of literature were reduced to 30 indicator variables and three latent variables: Social, Environmental and Financial which were subject to CFA with AMOS22.*

*Keywords: Corporate Social responsibility, Social dimensions, Environmental dimensions, Financial dimensions.*





## INTRODUCTION

Corporate Social Responsibility is not a mere business buzzword or a fad, rather one of the most promising management topics of mounting significance for companies (Ribers 2010). Although, a huge amount of ambiguity and uncertainty about the real meaning of corporate social responsibility and the drivers for the business to pursue it exists (Abiodun2012), the theme is rapidly flourishing on the domestic and global schema of the corporate sector (Khurana 2011) and has long existence in India. The term CSR conceptualizes analyzing the interdependent relationships existing between economic systems, corporations and the community (Uddin and Hassan 2008). Corporate Social Responsibility (CSR) as a common corporate parlance has proven a foothold in nations which are developing with businesses committing to advance the societal and economic standing of numerous stakeholders by complying with all legal and economic requirements (Krishnan and Balachandran 2010). CSR embraces responsibility for the company's actions and encourages a positive impact through its activities on the environment and its stakeholders (Prateek and Chandan 2010), representing a differentiating factor that may be used successfully by firms to distinguish themselves within their industries (Hill et al, 2006). It is vital for the corporate sector to realise the triple bottom-line effect: profits, protection of environment and fight for social justice of every CSR activity

(Berad 2011). CSR is the DNA of a company and is a business decision responsible for its financial sustainability and value creation of the operating business. Hence, the companies try to trim down the negative impacts and maximize the positive impacts for their benefit and that of the society as well. CSR, generally called charity (Sharma 2011) by the corporate does not treat corporate growth and social welfare as a zero-sum game rather focus and voluntarily assume doing well for the community, the society, the environment and all other aspects (Singh 2010). The CSR dialogue has in last few years taken a new turn because of various regulatory requirements such as Business Responsibility Reporting arising out of the National Voluntary Guidelines for Social and Environmental Responsibility and CSR provisions under the Companies Bill. This has started a new discussion within the business sectors on the appropriate paradigm for CSR. Basically, corporate social responsibility is how companies manage their business processes to produce an overall positive impact on society. However, what constitutes corporate social responsibility varies from company to company, place to place and over the time, as there have been conflicting expectations of the nature of companies' responsibility to society. It is increasingly accepted that in order to define precisely what social responsibility means to a company, it needs to engage with its stakeholders and take into account their needs and aspirations when designing CSR strategies and programmes. The companies may internally adopt employee welfare

activities; but when it comes to external stakeholders they may adopt community & society welfare, environmental protection etc. Even the automotive industry, has to meet the challenges allied with rapid depletion and the mounting cost of fossil fuels, the negative impact of vehicles on the environment and climate change. These are areas of severe concern not only to the Governments worldwide but also to industry experts and automotive leaders across the globe. The CSR initiatives taken by these companies are one step to get an edge over other corporates in the competitive world.



**LITERATURE REVIEW**

The global development of the concept of CSR has led to more and more researchers pay their attention for CSR in the field of business practices.

GhoshSumona (2015) undertook an empirical and analytical study to explore pattern of corporate social responsibility (CSR) activities disclosures made by the private sector companies in the company documents available publicly. The companies' websites were analyzed for the time period of two years and 'number of sentences' was used as the measurement unit of CSR participation. Pearson's correlation, multiple regression analysis and conjoint analysis was applied and the results showed that major contributing and preferred CSR areas were education, environment and health.

BalaMadhu and Singh Narendra (2014) studied and analysed the similarities between the CSR practices or components across private Indian companies, MNCs and public sector companies using Factor analysis. It was analysed that employee welfare, environmental and natural resources protection, community development and affairs are the CSR factors identified by private Indian companies. The MNCs identified employee development & safety, community welfare, law and compliance, environment protection, generation of employment and community support as the factors affecting CSR and public sector undertakings listed employee welfare and social support, sustainable development, community development.

ValmohammadiChangiz (2014), in his study of 207 Iranian organisations provided valid constructs of CSR and a measurement instrument of the core subjects of ISO 26000 standard. The practices like community involvement and development plays an important role in enhancing organizational performance of organizations.

ZaborekPiotr (2014) explored the link between social responsibility involvement and financial performance among Polish small and medium manufacturing companies in food, beverage and cosmetics industries. A structural model was developed and tested on the data from a survey of 187 managers. The outcomes suggested a weak but statistically significant positive correlation between the CSR involvement construct and sales profit margin, no discernible direct effect of CSR on ROA.

Sophie Hadfield-Hill (2014) explored CSR focusing on the banking sector in the Indian context. The study highlighted four levels of CSR engagement which currently exist in the day-to-day operations of Indian companies. Patnaree Srisuphaolarn(2013) investigated the CSR Practices in Thailand corporations and revealed that social and environmental issues are not as important as social and religious values are to the business' core activities.

Khan and Hassan (2013) examined the annual reports descriptively and it was observed that companies CSR activities cover at least two or three pages and companies are involved in approximately three or four areas concerning these activities but not completely covering the monetary aspect. He major areas were quantity consumed on CSR activities or donations.

Gamerschlag Ram et.al (2010) examined company's profitability and firm size as the dimensions affects the CSR disclosure. It was observed that a higher level of environmental disclosures was made by the "polluting industries" companies the disclosure by small companies was less than that by big companies.

SalehMustaruddin and MuhamadRusnah (2010) using longitudinal data analysis, examined the link of CSR to financial performance for PLCs in Malaysia. Although CSR disclosure concept is at a nascent stage in Malaysia, still it was found that CSR disclosure is positively related to financial performance. The findings confirmed that the social activities by local firms help them achieve advanced levels of financial performance.

Sweeney, L (2009) semi structured interviews were carried out with a small sample of large firms and SMEs operating in Ireland, spanning a variety of industries. CSR was found to have a strong positive relationship with social reputation, employee attraction, motivation and retention and consumer attraction and loyalty but a weaker relationship with other business benefits proposed to result from CSR, namely; access to capital and business reputation

**OBJECTIVE OF THE STUDY**

To explore and confirm the dimensions for measuring corporate social responsibility of companies in automotive sector

**RESEARCH DESIGN**

**Sample for the Study**

The list of 26 companies which met the prescribed criteria was finalized as a sample for the study. These were the listed companies which satisfied the mandatory criteria for CSR contribution imposed by the Section 135 and Schedule VII of the Companies Act, 2013, whose five years (2010-2015) financial data was available and CSR initiatives were disclosed through CSR reports.

Since the nature of study was purely exploratory in nature, a

structured questionnaire was served to 450 middle level and senior level employees. A web-enabled version of the questionnaire was developed and sent through mails, by tracking the LinkedIn profiles of the CSR manager, HR managers and Communication Managers, the websites of the companies and some were contacted telephonically. The limitation was that the managers were not available for a one-on-one interaction. With limited sample size and a large size of employees in few sample companies, 34% was the response rate, which is considered to be a reasonably good response rate. (Sweeney 2009) had a response rate of 22.5 % of her survey, (Zaborek 2014) got filled 220 completed interviews for a response rate of 39%. The sample distribution was as follows:

**TABLE 1: THE SAMPLE DISTRIBUTION OF STUDY BASED ON RESPONSES OF EMPLOYEES**

<b>Gender</b>	Males	92
	Females	60
<b>Tenure in Organisation</b>	Less than 5 years	74
	5-Less than 10 years	35
	10-Less than 15 years	31
	15 years and above	12
<b>Level of Management</b>	Senior level	46
	Middle level	106

Source: Ownelaboration

**STATISTICAL TOOLS**

Factor Analysis is a multivariate statistical process that decreases a large number of variables into a smaller set of variables. It ascertains underlying dimensions between measured variables and latent constructs, thus allowing the construction and refinement of theory Malati N and Ruchika (2014). Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are the two modules of Factor Analysis. EFA helps the researcher to explore the observed variables which inter-correlate freely (Anderson and Gerbing 1988) and helps create a theory or a model from a large set of latent constructs, whereas CFA seek to find a model that best fits the data (Sweeny 2009).



**ATA ANALYSIS**

Exploratory factor analysis was applied to develop the measurement tool for identifying dimensions of measuring CSR. A total of 36 dimensions were selected on the basis of literature. The information was collected through a sample of 152 middle and high level managers of the sample automotive companies on a **5-point Likert Scale** (1: Strongly disagree; 2:

**TABLE 2: DIMENSIONS FOR MEASURING CSR**

Production of sustainable goods and services by the company	CSR 1
Corporate image and Market Share of the company	CSR 2
Support to inclusive growth and equitable development	CSR 3
Customers and Consumers satisfaction	CSR 4
Protecting Shareholders and Investors interest	CSR 5
Supplier relations and supply chain management	CSR 6
Industry research and development and innovation	CSR 7
Focusing on Quality as a core value	CSR 8
Public Policy and Regulatory Framework adopted by the company	CSR 9
Handling Investor grievances handling policies	CSR 10
Following Code of Conduct of business with ethics, transparency and accountability followed by the company	CSR 11
Following an Environmental Policy	CSR 12
Following the System of reduce, reuse and recycle	CSR 13
Development and diffusion of environmentally friendly technologies.	CSR 14
Providing regular voluntary information about environmental management to stakeholders	CSR 15
Supply of clear and accurate environmental information on its products, services and activities to stakeholders	CSR 16
Adopting a Policy towards employees	CSR 17
Taking Greater employee satisfaction measures	CSR 18
Following Occupational Health and Safety policies	CSR 19
Skills and Career Development of Employees	CSR 20
Providing a good work-life balance for employees (flexible working hours or work from home facility)	CSR 21
Non-discrimination, Diversity and Equal Opportunity	CSR 22
Prevention of Forced and Compulsory Labor	CSR 23
Adopting Poverty Alleviation measures	CSR 24
Community Development and investment	CSR 25
Creation of Employment	CSR 26
Alliances with NGOs, charities and not for profit organizations	CSR 27
Employee Volunteering	CSR 28
Infrastructural Development	CSR 29
Taking Women Empowerment measures	CSR 30
Direct economic value generated by the company	CSR 31
Profitability of the company	CSR 32
Public image of the company	CSR 33
Increased sales of the firm	CSR 34
Increased earnings per share of the firm	CSR 35
Increased credibility of the firm	CSR 36

Source: Ownelaboration

disagree; 3: neutral; 4: strongly agree; 5: strongly agree).

It was observed that all the variables correlated fairly well and none of the correlation coefficients were particularly large. The Kaiser- Meyer-Olkin (KMO) Test (Table 3) was .875 and chi- square value of Bartlett's Test of Sphericity (Table 3) was found to be significant (chi sq= 2975.435, p= .000). For the KMO test, a score of .70 is considered adequate while .80 or

**TABLE 3: RESULTS OF KMO AND BARLETT TEST OF SPHERICITY**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.875
Approx. Chi-Square		2975.435
Bartlett's Test of Sphericity	df	630
	Sig.	.000

Source: Ownelaboration

higher is excellent (Hair et al. 2010), hence, confirming the acceptance of exploratory factor analysis.

The EFA revealed that some of the measures did not seem to represent their respective constructs satisfactorily and hence were removed from the further analysis and the final rotated

component matrix was generated. The variables that were not retained were CSR\_2 (Corporate image and market share of the company), CSR\_9 (Public policy and regulatory framework adopted by the company), CSR\_12 (Following an environmental policy), CSR\_15 (Providing regular voluntary information about environmental management to stakeholders), CSR\_16 (Supply of clear and accurate environmental information on its products, services and activities to stakeholders) and CSR\_27 (Alliances with NGOs, charities and not for profit organizations).

The 36 dimensions were reduced to 30 through Exploratory Factor Analysis. Maximum likelihood method was used with promax rotation and generated four components with eigen values above 1. The clubbed items in four components along with their factor loadings and the Cronbach alpha values are shown in the table below:

On the basis of Exploratory Factor Analysis, a diagram depicting the preliminary measurement model was designed. The model displayed 30 measured indicator variables and four latent variables which were subject to CFA with AMOS22, a computer program through which all interactions between

**TABLE 4: CSR DIMENSIONS WITH FACTOR LOADINGS AND CRONBACH ALPHA VALUES**

CSR Dimensions	Variables	Factor Loadings	Cronbach Alpha values
CSR_SOC	CSR 26	.821	.911
	CSR 20	.808	
	CSR 21	.785	
	CSR 24	.722	
	CSR 23	.701	
	CSR 19	.683	
	CSR 18	.669	
	CSR 22	.649	
	CSR 30	.629	
	CSR 25	.605	
	CSR 29	.558	
CSR 28	.510		
CSR_ECO	CSR 5	.782	.858
	CSR 1	.774	
	CSR 33	.676	
	CSR 31	.641	
	CSR 7	.622	
	CSR 10	.602	
	CSR 6	.575	
	CSR 8	.525	
	CSR 11	.490	
CSR 4	.489		
CSR ENV	CSR 36	.539	.670
	CSR 14	.521	
	CSR 33	.511	
	CSR 13	.501	
	CSR 17	.408	
CSR FIN	CSR 35	.836	.895
	CSR 34	.801	
	CSR 32	.727	

Source: Ownelaboration

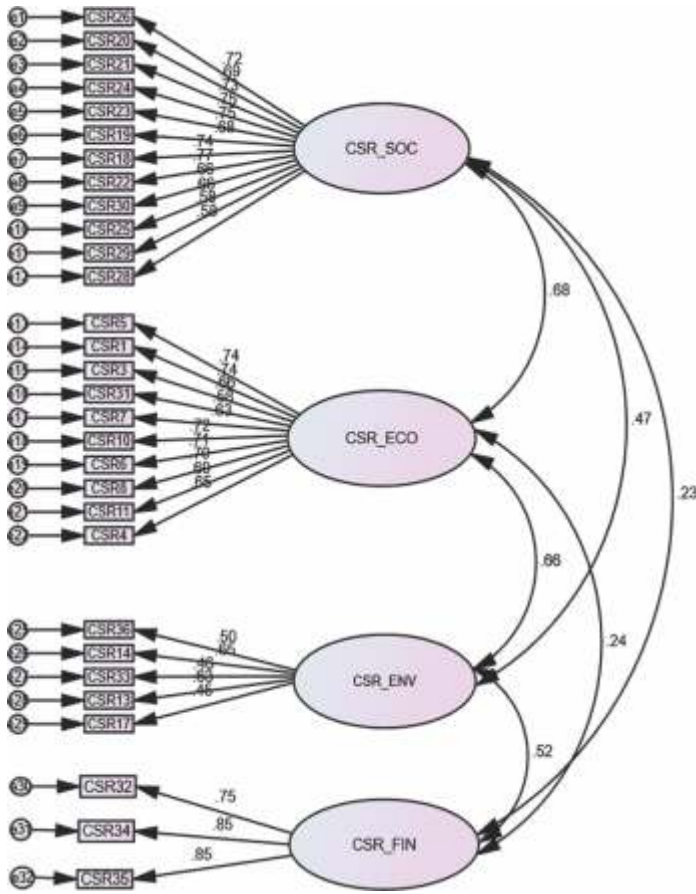


FIG. 1: PRELIMINARY CFA MODEL

variables represented in the conceptual model are captured and examined as a single statistical test.

The latent variables were identified as:

1. The dimensions CSR 26, CSR 20, CSR 21, CSR 24, CSR 23, CSR 19, CSR 18, CSR 22, CSR 30, CSR 25, CSR 29 and CSR 28 got clubbed under the head “CSR\_SOC” which comprised of the social dimensions of the CSR initiatives taken by the companies.
2. The dimensions CSR 5, CSR 1, CSR 3, CSR 31, CSR 7, CSR 10, CSR 6, CSR 8, CSR 11 and CSR 4 were grouped under the head “CSR\_ECO” which comprised of the economic dimensions of the CSR initiatives taken by the companies.
3. The dimensions CSR 36, CSR 14, CSR 33, CSR 13 and CSR 17 were named as “CSR\_ENV” which included the environmental dimensions of the CSR initiatives taken by the companies.
4. The dimensions CSR 32, CSR 34, CSR 35 were named as “CSR\_FIN” which included the dimensions indicating the effect of CSR initiative on financial performance of the companies.

The principal task in CFA model was to determine the goodness of fit between the hypothesized model and model determined by the sample data. The adequacy of model fit was

evaluated using the CFI (Comparative Fit Index), AGFI

TABLE 5: OVERALL GOODNESS OF FIT MEASURES FOR THE PRELIMINARY CFAMODEL

Metric	Value	Base Value	Acceptance
CFI (Comparative FitIndex)	.829	≥ 0.9	Not acceptable
AGFI (Adjusted Goodness of FitIndex)	.711	≥ 0.8	Not acceptable
RMSEA (Root MeanSquare of Approximation)	.07	≤ 0.05	Not acceptable
RMSR (Root MeanSquared Residual)	.06	≤ 0.05	Not Acceptable
NFI (Normal FitIndex)	.71	0 to 1	Acceptable

Source: Ownelaboration

(Adjusted Goodness of Fit Index), RMSEA (Root Mean Square of Approximation), RMSR (Root Mean Squared Residual) and NFI (Normal Fit Index). The table with all the values is below:

The preliminary model was amended to improve the model fit. Modification indices and standardized residuals calculated throughAMOS22 were used to modify the model resulting in the final model.

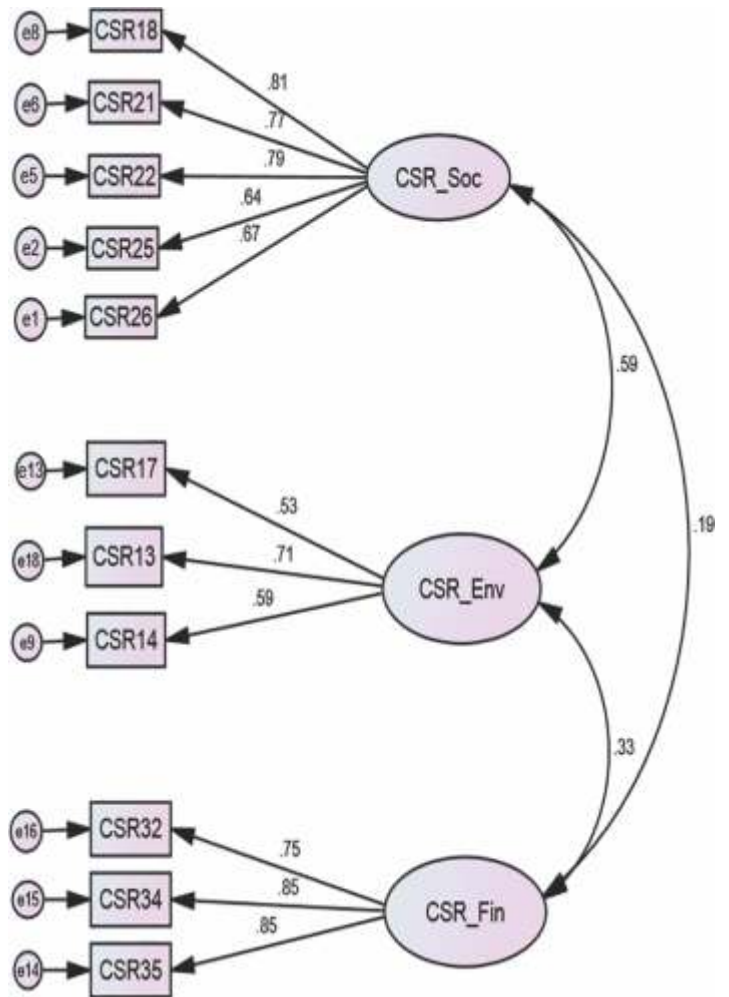


FIG. 2: FINAL CFA MODEL

The results could not be achieved when all the four variables were taken together implying high co linearity between the latent variables. So, the CSR\_ECO and CSR\_FIN variables were clubbed into one: CSR\_FIN. The items CSR\_18, CSR\_21, CSR\_22, CSR\_25, CSR\_26 were included in the construct

**TABLE 6: OVERALL GOODNESS OF FIT MEASURES FOR THE FINALMODEL**

Metric	Value	Base Value	Acceptance
CFI (Comparative FitIndex)	.965	≥ 0.9	Acceptable
AGFI (Adjusted Goodness of FitIndex)	.896	≥ 0.8	Acceptable
RMSEA (Root MeanSquare of Approximation)	.05	≤ 0.05	Acceptable
RMSR (Root MeanSquared Residual)	.041	≤ 0.05	Acceptable
NFI (Normal FitIndex)	.908	0 to 1	Acceptable

Source: Ownelaboration

CSR\_SOC. The items CSR\_5, CSR\_9, CSR\_14 were included in the construct CSR\_ENV. The items CSR\_32, CSR\_34 and CSR\_35 were included in the construct CSR\_FIN in the final model. The improved Goodness of Fit are given below:

The model fit of the final model with all the indices' values beyond the threshold limits is indicative of the fact that the model is offering an adequate approximation of empirical data, hence it is acceptable. The standardized factor loadings of the dimensions of CSR initiatives (CSR\_SOC, CSR\_ENV, CSR\_FIN) ranged from 0.53 for CSR\_17 to 0.85 for CSR\_35. The extent of variance of observed variables of the factor is indicated through the squared multiple correlations. The R2 statistics corresponding to the latent variable (CSR\_FIN) was found highest at 0.72, 0.65 for (CSR\_SOC) and 0.52 for (CSR\_ENV) in the final model. This implies that employee satisfaction, following the system of 3Rs, increase in sales and EPS of the company are the major CSR initiatives taken by companies in the automotive sector. Companies should be responsible for adding value to the community and the environment through their operations and taken strategic decisions to deepen it as a core business.



**CONCLUSION**

The augmenting pressure of the globalized economy has made the concept of CSR a need of the hour. Indian companies, by developing an internationally tolerable socially responsible behaviour (Sharma Seema 2011) are evidently unveiling their ability to make a note worthy change in the society advancing the overall life quality (Berad 2011). CSR has become an effective management strategy and buy-in at all level soft he company (Oron Emmanuel 2011). The present study reveals that the companies are actively representing their participation in the CSR initiatives for the economic, environmental and social benefit. Consumers, stockholders and investors, employees, community environmental friendly technologies, occupational health and safety policies, prevention of forced and compulsory labour poverty alleviation are the significant dimensions of corporate social initiatives taken by the companies. The segregation of the

sustainability factors into economic, social and environmental factors will help companies in achieving the Triple Bottom Line Effect, augmenting the stakeholders' trust in the companies.

Although CSR is still at a nascent stage in India, management should be cognizant of the strategic benefits that firms may comprehend from engaging in CSR activities. A better understanding and practice of CSR among companies will not only augment companies' sustainability, but also advance the development of CSR in India.

The study may promote the introduction of a strict and mandatory internal policy for CSR contribution. The study may result in the introduction of more counselling and motivational programs in the companies to increase the awareness among the employees about the significance of the CSR activities and its effect on company's profitability and public image.



**SUGGESTIONS**

Companies should be responsible for adding value to the community through their operations. The corporate world commitment towards the CSR can give them an opportunity to explore the potentially viable areas to augment the company profits portfolio. It should be taken as a strategic decision by the companies and to deepen it as a core business. It is of utmost importance to the companies to share with their Stockholders the kind and amount of investment they are making in the field of CSR and how are they working towards betterment of the society. This necessitates the creation of awareness about CSR amongst the general public. The companies should increase the intensity and frequency of making CSR disclosure through reporting.

Organizations must realize that upliftment of the society is not the sole responsibility of the government, corporates have a dominant role instead. Hence, the companies should invest more in the projects which helps in societal development at large.

The Government should introduce a regulatory mechanism through an independent agency for mainstreaming and institutionalizing CSR in the main business framework of the companies.

The companies should aim at ingraining CSR into the DNA of core business activities of companies.

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# Assessing Motivation Among Academicians

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# MOTIVATION



Knowledge

Vision

Consulting

## ABSTRACT

Changing the work related needs, motives and values of one person in an organization is a daunting challenge. People work in organizations for a varied variety of reasons. Employees want money, safety, security and recognition for the jobs they are performing. Their requirements vary as per their life styles, background, education and type of organizations they are working with. What each unique person in an organization want from work plays an instrumental role in determining that person's motivation to work. Motivation is vital to all organizations and often the difference between highly effective and less effective ones lies in motivation of their members also it is an important determinant of performance. The motivation among academicians is far more important for development of young generation. The present study aims to understand how faculty performance can be improved by focusing on what motivates a faculty at different hierarchical positions. This study attempts to evaluate, analyse and compare the faculty motivation with their respective designations on the basis of the factors ascertained after thorough literature review through structured questionnaire and sample size of 200 academicians working in various universities and affiliated colleges in Delhi and NCR. Delhi and NCR was identified to confine the study to a manageable boundary to ensure effectiveness, validity and reliability on a 5-point Likert scale. The results clearly showed that the motivational factors vary as per the respective designations of the faculty i.e. Professor, Associate Professor and Assistant Professor in spite of working in same institute or university. Results also depicts that it is the management's responsibility to understand the nature of individual motivation, especially as it applies to work situation of an institution.

**Key Terms:** Academician, Motivation, Commitment, Need for affiliation, Need for achievement.

## INTRODUCTION

Motivation is a process through which a person's efforts are energized, directed, and sustained towards attaining a specific goal (Steers et al 2004). The three elements, on which this definition emphasised, are effort, direction and persistence of effort. Motivation is essential for the success of any kind of organisation may it be a production unit, BPO, KPO or a hospital. Academic institutions are one which involved in transmission of knowledge and the development of the students. A poor performance or low morale can influence the knowledge sharing and the ultimate sufferers are the students (Devesh Kapur, 2010) that's why keeping academicians' motivated is extremely important. On top of all, the higher education scenario in India shows emergence of number of central, state, deemed and private universities (AISHE, 2012). In these universities the faculty members are less in numbers than what is mandatory, or the quality of faculty is very poor in terms of communication skills, subject expertise, industry academia interface etc. This requires the severe need for enhancing the attractiveness of teaching as a profession as well as motivation to select this profession by choice not by compulsion. (Deepti and Navneet 2012).

Main purpose of this study is to help academicians to attract and retain talent amongst the teaching fraternity. The present study aims to analyse how the various motivating factors such as Monetary benefits, Nature of Job, Working environment, Job security, Top management support, Responsibility with authority, Growth opportunities, Market reputation of the organisation student feedback and appreciation, Performance management system, Job recognition and Interpersonal relationship, differ amongst the various hierarchical levels of academicians such as assistant professors, associate professors and professors.



## LITERATURE REVIEW

### Motivation and its influencing factors

The term "motivation" is derived from the Latin term *movere*, which means "to move" (Baron, Henley, McGibbon & McCarthy, 2002). A great many definitions of the motivation construct have been postulated over the several decades during which this multifaceted concept has been researched. Employee motivation can be deliberated through several wide-ranging approaches like reinforcement theories, process theories and content or need based theories. These include Hierarchy of Needs Theory, Theory X and Y, Two Factor Theory, theory of needs, ERG theory, Goal Setting theory, Job Design theory, Equity and Expectancy Theory.

However, the term employee motivation is an intricate and complex term to define; therefore a specific definition of this concept is subtle as the concept comprises the distinctiveness of individual and situation in addition to the perception of that situation by the individual (Ifinedo 2003; Rosenfeld & Wilson 1999).

Different researchers have carried out different employee surveys in order to address the challenge of employee motivation. One of the first surveys was conducted in 1946

(Hersey and Blanchard). The subjects included industrial employees. Similar surveys were administered in 1980 (Kovach 1980), in 1986 (Kovach, 1987), and in 1992 (Wiley 1992). In 1946, industrial employees were asked to rank ten "job reward" factors in terms of personal preference. At the top of the list was appreciation of work done. At the bottom of the list was discipline. In 1980, 200 employees ranked the same ten items presented in the 1946 survey. At the top of the list for employees was interesting work; at the bottom of the list was discipline. In 1986, Kovach (1987) conducted a similar study of 1,000 industrial employees. The list was headed again by interesting work and ended with sympathetic help with personal problems.

Apart from the surveys conducted, different researchers have analyzed the factors of motivation. Carolyn Wiley (1995) research analyzed various factors which motivates employees. The study (1992) highlights the importance of good wages. Main Factors studied were: Full appreciation of work done, Feeling of being in on things, Sympathetic help with personal problems, Job security, Good wages, Interesting work, Promotion and growth in the organization, Personal or company loyalty to employees, Good working conditions.

Wiley's study was designed to explore the factors that motivate employees in job, it used similar subcategories as those used by Kovach in 1987. The assumption in Kovach study was that the motivational potency of the factors might vary according to gender, age, income level, job type and organizational level. Organizational level was studied as one of the subcategories influencing motivation. It was concluded that individuals at different organization levels, with different earning power, may have different motivational values. Hence what motivates individuals at one level of the organization may not motivate those at other level. This necessitates differentiating by income level and other demographic factors when analyzing attitudes for motivational purposes. Wiley used occupational category (Clerical, Plant/Service, Sales, Professional, Technical, Managerial) as one of the subgroup and studied that the occupational category has an influence on motivation.

Smrita Sinha et.al (2010) examined impact of work culture on the contextual performance and motivation level of the employees at the middle management level. The results of the study show that various types of culture impact on the motivation level and therefore, the organization needs to nurture and develop the right type of culture in the organization to foster the motivation level of the employees working in the organization. There is a positive correlation between a strong technocratic culture and the level of motivation. Hence, the organization should focus on strengthening the technocratic culture in the organization, if they want to have higher levels of motivation and lower levels of dissatisfaction. Furthermore, there is a negative correlation between the autocratic culture and motivation, hence the organization should reduce its autocratic culture and strengthen the technocratic culture.

Rajeswari Devadass (2011) presented an integrative literature review of employee motivation in organizations which revealed that employee motivation is influenced by different factors. These factors can be divided into four broad categories: Job characteristics, Employee

Characteristics/Experience of outcomes, Management Practices, Broader Environmental Conditions. In each of these broad categories different factors influencing employee motivation were identified.

### Motivation and Job satisfaction among academicians

Hill's study (1986) proposed that academicians are extrinsically motivated by organisations through factors such as salary, administrative work and fringe benefits, but job satisfaction of academicians should come from intrinsic work like research and teaching. He proposed this through Herzberg's two-factor theory.

In the research study by Lacy and Sheehan (1997), environment of work, university atmosphere, morale, sense of community and relationship with colleagues were found to be the important predictors for job satisfaction among academics' across eight nations. Furthermore, Leung, Siu & Spector(2000) study shows that recognition, organisational practices and financial inadequacy are the predictor of job satisfaction among academicians.

In another study by Pearson & Seiler (1983) revealed that nationwide sample of academicians in USA get satisfaction through teaching dimensions and research while support and compensation aspects give dissatisfaction.

Flora F. Tien and Robert T. Blackburn (1996) studied the relationship between Faculty Rank System, Research Motivation, and Faculty Research Productivity. The analyses provide insight into the relationships between pro-motion and productivity. The study concluded that motivation toward research productivity is neither purely intrinsic nor purely extrinsic. Rather, both appear to operate depending upon the circumstances of the individuals, their values, and the social situation of the moment.

The research study by Ravi Kumar(2013) on teachers of engineering colleges in Krishna District of Andhra Pradesh, analysed the impact of two factors namely, administrative policies and incentives/rewards on their motivation. The results showed that, incentives increase the motivation whereas the administrative policies decrease the motivation of the teachers. The study concluded that a large amount of the teachers are not happy with the managerial policies of their management which is responsible for their low level of motivation and most of them are not motivated and satisfied with their present salary.

"Job satisfaction among college teachers" a study by S. M Sajid (2014) study aims to investigate the job satisfaction levels in college teachers of a private management institution in Delhi and a college of Delhi University. A total of 40 teachers ranging in teaching experience from 2 to 43 years were selected for study. The data was obtained through Paula Lester's Teachers Job satisfaction questionnaire. Job satisfaction level was compared to institution, and gender. The method of analysis used was Mann Whitney test and Kruskal Wallis test. The study found that job satisfaction levels to be average with significant difference between job satisfaction of male and female college teachers, though no such difference was found in institutions.

Mushtaq A. Sajid<sup>1</sup>, Imrab Shaheen (2013) conducted a study to find out what factors increase the motivation level of the faculty members of university academicians. Two factors namely, class room environment, work load stress were analysed. The result showed that class room environment motivates more as compared to workload stress. The main objective of this research study was to assess the impact of factors affecting motivational level. This study was designed to examine those factors which were responsible for high and low motivational level of university academicians.

In his study Jennifer Rowley (1996) has discussed the impact of financial rewards, teaching culture, diversity of roles and experience of staff, autonomy and organisational structure on the motivation of academicians.

The results of the study by Flora F. Tien (2008), Shows that among all rewards, the most important to many faculty is an increase in personal income. Holding one's valence score on promotion constant, faculty with better research performance tends to be those who possess doctoral degrees. The results show that faculty in public institutions perform better than their private-institution counterparts, regardless of promotion valence. Finally, alternative policies to improve faculty research performance are also recommended.

Tulsee Giri Goswami and Harsh Dwivedi (2011) focused their study on factors affecting motivation levels of male and female academicians and have presented that Motivation in simple terms may be understood as the set of forces that cause people to behave in certain ways. A motivated academician generally is more quality oriented. Highly motivated employees are more productive than apathetic employee. Employees join institutions with different needs and expectations. Their values, beliefs, background, lifestyles, perceptions and attitudes are different.

Thomas Li-Ping Tang & Mitchell Chamberlain (2010) in their study, examined the effects of rank, tenure, length of service, and institution on attitude of faculty towards research and teaching. And the Results showed that the length significantly influences the perception of faculty regarding research. The results also showed that the rewards influence teaching, while rank and tenure did not. The faculty members with more than twenty years of experience had the lowest research orientation; those faculty members who are below the rank of professor showed that rewards influence teaching.

### Factors Identified through literature review:

Through the review of literature the following factors were identified:

(I) Motivation among employees is influenced by factors like salary, designation, promotion, working environment and rewards. This is supported by the studies of Carolyn Wiley (1995), Rajeshwari Devadass (2011), Kovach (1980), Smrita Sinha et al(2010).

Carolyn Wiley analysed the various factors which motivates employees. Rajeswari Devadass presented an integrative literature review of employee motivation in organizations which revealed that employee motivation is influenced by

different factors. Kovach (1980) showed that appreciation of work was the most important factor influencing motivation. Smrita Sinha et.al examined impact of work culture on the contextual performance and motivation level of the employees at the middle management level.

(ii) Academicians are motivated by money, promotion, working environment, nature of work. This is concluded from the research studies by:

Jennifer Rowley (1996) study has discussed the impact of financial rewards, teaching culture, diversity of roles and experience of staff, autonomy and organisational structure on the motivation of academicians.

Flora F. Tien (2008), Shows that among all rewards, the most important to many faculty is an increase in personal income.

Mushtaq A. Sajid, Imrab Shaheen (2013) study was designed to examine those factors which were responsible for high and low motivational level of university academicians. Thomas Li-Ping Tang & Mitchell Chamberlain (2010) study, examined the effects of rank, tenure, length of service, and institution on attitude of faculty towards research and teaching. The results also showed that the rewards influence teaching, while rank and tenure did not.

(iii) Amongst the research studies reviewed the researchers have not taken into consideration the comparative analysis of factors affecting academicians' motivation specifically at different designation levels i.e. assistant professor, associate professor and professor. Although some of the researchers have studied impact of designation on motivation of academician as a part of a big study where several other factors are studied simultaneously. Like Thomas Li-Ping Tang & Mitchell Chamberlain (2010) study, examined the effects of rank, tenure, length of service, and institution on attitude of faculty towards research and teaching. Jennifer Rowley (1996) has discussed the impact of financial rewards, teaching culture, diversity of roles and experience of staff, autonomy and organisational structure on the motivation of academicians

(iii) A majority of the researchers have studied the impact of rewards, working environment and Job satisfaction on academician motivation. Some of the studies from which this is concluded are:

Flora F. Tien (2008), study shows that among all rewards, the most important to many faculty is an increase in personal income. Mushtaq A. Sajid, Imrab Shaheen (2013) conducted a study found what factors increase the motivation level of the faculty members of university academicians. Two factors namely, class room environment, work load stress were analysed.

The research study by Ravi Kumar(2013) on teachers of engineering colleges in Krishna District of Andhra Pradesh, analysed the impact of two factors namely, administrative policies and incentives/rewards on their motivation. The study by S. M Sajid (2014) aims to investigate the job satisfaction levels in college teachers of a private management

institution in Delhi and a college of Delhi University. Job satisfaction level was compared to institution, and gender. It was found that job satisfaction levels to be average with significant difference between job satisfaction of male and female college teachers, though no such difference was found in institutions.

(iv) Impact of several other factors like student feedback, performance management system and interpersonal relationships on the motivation of academicians need to be studied. These factors need to be analysed since these are important elements of an academician job. These are also indicators of performance for academicians (UGC guidelines, 2012).



#### RATIONALE AND OBJECTIVE OF THE STUDY

Since each designation level differs in different aspects it can be hypothesized that the motivational factors at each level of academicians are different. The differences at the three levels of academicians are mainly in their salary, extent of teaching & research work, administrative work, responsibility and decision making. Hence there is a need to ascertain the factors motivating the academicians working at different hierarchical levels.

The present research work aims at finding out the difference in the motivational factors at different designation levels of academicians. The study will help to analyse academician motivation to a larger extent and help in formulating motivational techniques among academicians.

#### Hypothesis Formulated:

H1: There is a difference between factors affecting motivational level of academicians working at different hierarchical levels.

H0: There is no difference between factors affecting motivational level of academicians working at different hierarchical levels.



#### RESEARCH METHODOLOGY

##### Data Collection Tools:

The study has been conducted in the form of a survey using questionnaire and interview method that includes the information on different aspects of the research problem. The questionnaire comprises of two sections: first section consists of demographic information and second section explains the various factors affecting motivation among academicians. The related literature studies formed the basis for designing of the questionnaire.

The first section includes questions related to academician's demographic profile like (gender, education, age, income, designation, experience etc.). The second section aims to find out the factors, which motivates the academicians working at various positions. Factors taken into consideration for the purpose of the study are: Monetary benefits, Nature of Job, Working environment, Job security, Top management support, Responsibility with authority, Growth opportunities,

Market reputation of the organisation student feedback and appreciation, Performance management system, Job recognition and Interpersonal relationship. (Table 1)

### Sample

The data is collected through a stratified random sampling method from the universities and affiliated colleges of Delhi and NCR region. The sample included assistant professors, associate professors and professors proportionately.

For collecting the data around 200 questionnaires were distributed amongst the faculties working in universities (Private, Government and State Owned Universities), colleges (Aided and Non Aided both). A total of 165 questionnaires were received back, making response rate of around 82%, which is an acceptable percentage (Nulty 2008). Out of the 165 questionnaires received, 158 were found to be useful for analysis.



### DATA ANALYSIS AND INTERPRETATION

The data so collected have been analyzed by using cross tabulation and Chi Square test. The entire analysis was done using SPSS 19.0 version.

The factors analysed are Monetary benefits, Nature of Job, Working environment, Job security, Top management support, Responsibility with authority, Growth opportunities, Market reputation of the organisation, Student feedback and appreciation, Performance management system, Job recognition and Interpersonal relationship. The responses of the three designations of academicians are analysed on these factors.

### Demographic analysis:

A total of 165 filled questionnaires were received out of which 158 completely filled were found to be suitable for analysis. The respondents included 39% (62) males and 61% (96) females. There are 66% (104) assistant professors, 21.5% (34) associate professors and 12.7% (20) professors.

The demographic analysis amongst the assistant professors, associate professors and professors are shown in Table 2, 3 & 4. The analysis shows that 80% of professors are males, 64% of associate professors are females and 67% of assistant professors are females. Which clearly shows that at assistant and associate professor level more female employees are working in comparison to professor level.

75% of assistant professors are in the age group 25 to 35 years, 60% of professors are above 45 years and 52% of associate professors are between 35 to 45 years.

Only eight assistant professors have doctorate degree, rest are in process of completing it or are simply post graduates. 60% of Professors are working in Govt. Universities/colleges, 52.9% of associate professors are from self financing institutes or private universities 76% of assistant professors are from self financing institutes.

78% of Assistant professors, 85% of associate professors and

70% of professors are regular while 17.3% of Assistant professors, 8.8% of associate professors and 10% of professors are having contractual appointment.

Majority of the respondent faculty are from engineering and management department. Majority of the respondents have no industry experience. 46% of assistant professors have less than 10 years of experience while 20% are having more than 20 years.

### Descriptive Analysis:

A cross tabulation of factors affecting motivation among academicians and Designation of academician is shown in Table 5. The findings are:

(i) Monetary Benefits (Table 5a) motivates assistant professors more in comparison to associate professors whereas professors are not motivated by money. 40% of assistant professors, 44% of associate professors and 35% professors responded that money motivates them high. 45% of professors while only 1.9% of assistant professors and 11.8% of associate professors responded that money motivate low. Results of the Chi-square test shows that there is a significant relationship between monetary benefits and designation (Table 5b). This indicates that money is a motivator for assistant professors and associate professors while this does not play major role in motivating professors. Assistant professors are at the beginning of their career while professors are experienced with good salary.

(ii) Table 6a depicts that nature of appointment (regular, contractual, adhoc) also influence the motivation level. 30% of the professors, 41% of associate professors and 28% of assistant professors are highly motivated. 60% of professors, 35.3% of associate professors and 57% of assistant professors are motivated high. Chi-Square test shows that there is no significant relationship between nature of job and designation (Table 6b). All the three designations have influence of nature of job on their work motivation. It clearly states that an employee with a regular appointment feels more secured as far as his job security and surety is concerned, in comparison to a person who has contractual or ad-hoc appointment. So permanency of job motivates employee at every designation.

(iii) Data shows (Table 7a) that working environment of an institute also influence the motivational level of academicians. Responses given by 50% of assistant professors, 41% of associate professors and 40% of professors clearly depict the same. Total of 46.8% of academicians are motivated high by working environment which clearly shows that cordial environment and work culture motivates an employee more in comparison to any other factor of motivation. Chi-Square results shows that there is a significant relationship between working environment and designation (Table 7b). The working environment motivates the three designations differently. Assistant professors are motivated more by working environment as they are new in the profession and need a proper environment to work. While professors are experienced and are more concerned about the kind of work rather than the working environment.

(iv) The Data shows (Table 8a) 46.8% of total respondent academicians feel very high motivation if they have job security. These 46.8% include 46.2% are assistant professors, 58.8% associate professors and 30% of professors. Results given in Table 8b shows that job security and designation does not have a significant relationship related to motivation. Job security is a source of motivation for all designation.

(v) Responsibility with authority motivates professors (Table 9a). The assistant and associate professors are also motivated by Responsibility with authority but less as compared to professors. 50% of assistant professors, 29.4% of associate professors and 60% of professors are motivated high by responsibility. 26.9% of assistant professors, 23.5% of associate professors and 10% of professors are motivated very high by it. 11.8% of associate professors agree that responsibility motivates them more when it comes with authority. Chi-square test shows that there is a significant difference between influence of responsibility with authority on motivation and designation (Table 9b). Due to seniority and experience, professors feel that when they are provided authority with responsibility they feel more powered. The associate professors are not motivated by responsibility as at their stage they prefer to devote attention towards their research projects etc. Assistant professors are in the initial stage of their career so providing them a responsible task motivates them.

(vi) Image of the institute highly motivates faculty (Table 10a) very high about 50% of assistant professors, 58.8% of associate professors and 30% of professors. 38.5% of assistant professors, 29.4% of associate professors and 70% of professors are motivated high by reputation of the organisation. Professors are motivated very low by reputation of the organisation as compared to 5.9% of associate professors and 1.9% of assistant professors.

The chi-Square test shows that there is no influence of designation on the motivation due to reputation of the organisation. All the three levels are influenced and motivated by reputation of the organisation (Table 10b). Reputation of the organisation is a status symbol for assistant, associate professors and professors.

(vii) Growth opportunities motivates (Table 11a) 48.1% of assistant professors, 47.1% of associate professors and 0% of professors. 3.8% of assistant professors, 11.8% of associate professors and 0% of professors are motivated very low through growth opportunities. Chi-Square test shows that there is a significant difference between designation and motivation due to growth opportunities (Table 11b). As the professors have already attained their qualification and experience, they are no longer motivated by growth opportunities as compared to assistant and associate professors, who are in their growing stage.

(viii) If Top management support assistant professors are motivated highest (38.5%) then associate professors (35.3%) followed by professors (10%). 3.8% of assistant professors, 11.8% of associate professors and 0% of professors are motivated very low by top management support (Table 12a).

The Chi-Square test shows that there is significant difference between designation and motivation to work due to support of

top management (Table 12b). As the assistant professors need to grow they require the support of top management more compared to professors. Professors and associate professors require top management support to conduct the work allotted to them.

(ix) Student feedback motivates very high 48% of assistant professors and 20% of professors. 52.9% of associate professors and 80% of professors have a high influence of student feedback on motivation. 0% of professors, 0% of associate professors and 5.8% of assistant professors are motivated very low through student feedback (Table 13a).

The chi-square test shows that there is a significant difference between designation and motivation due to student feedback & appreciation (Table 13b). The professors feel that through their experience and knowledge they should be able to satisfy the students so student feedback is a source of motivation for professors.

(x) 70% of professors, 41% of associate professors and 46% of assistant professors are motivated high by Performance Management System. 10% of professors, 35.3% of associate professors and 36.5% of assistant professors are motivated very high through proper performance management system. (Table 14a).

The chi-square test shows that there is no significant difference between designation and motivation due to performance management system. The test shows that all designations are motivated by performance management system (Table 14b). The teaching faculty requires that a proper performance management system is essential to keep them motivated. The appraisal system and goal setting helps in efficient work delivery.

(xi) Job recognition motivates very high all the three designations (Table 15a). 42.3% of assistant professors, 41.2% of associate professors and 20% of professors are motivated very high through Job recognition. 42.3% of assistant professors, 23.5% of associate professors and 80% of professors have a high influence of it on motivation. 29.4% of associate professors gave a neutral response.

The chi-square test shows that there is no significant difference between designation and motivation due to job recognition. All the three designations are motivated by job recognition (Table 15b). Professors are motivated more when their job is recognized, as it helps in proving their expertise. Assistant and associate professors are also motivated by job recognition.

(xii) Interpersonal relationship motivates very high 29% of associate professors, 28.8% of assistant professors and 30% of professors. High motivation is provided by interpersonal relationship to 60% of professors, 47.1% of associate professors and 59.6% of assistant professors (Table 16a).

The chi-square test shows that there is no significant difference between designation and motivation due to interpersonal relationships (Table 16b). Good interpersonal relationship helps in building peace and harmony amongst the employees and hence helps them to remain motivated. This is required at

all levels.

The findings show that there is a difference in the extent to which each factor of motivation influence at the three designations of academicians.



## INDINGS

The findings are discussed according to designation.

Assistant professors are motivated very high by reputation of the organisation, followed by student feedback & growth opportunities, finally after these are job security and job recognition. Demographic data shows that about 76% of assistant professors are belonging to self-financing organisations and 67% are females. Also majority of the assistant professors are in the 25 to 35 age groups. 78% are in regular appointment and 17% in contractual. Majority of them are without Phd degree and are working in either engineering or management department. 46% are having less than 10 years academic experience.

Associate professors are motivated highest by the job security followed by reputation of the organisation. Growth opportunities and student feedback are next in the list. 64% of associate professors are females. 52% are in self-financing institutions. 85% are regular and 8.8% contractual. About 50% are having experience between 10-15 years.

Professors are motivated highest by the nature of the job than by job security. Reputation of the organisation and interpersonal relationship are the next two which motivates the professors. 80% of professors are males. The age of 60% of professors is above 45 years. 60% are working in government university/college. 70% are regular and 10% contractual. The experience of 80% is between 15-20 years and rest 20 % above 20 years.

From the analysis it is further found that amongst the three designations, assistant professors are motivated highest by Monetary Benefits, working environment, responsibility with authority, top management support, student feedback, growth opportunities, performance management system and job recognition. The associate professors are motivated highest by the Nature of job, job security and reputation of the organisation. The professors are motivated highest by interpersonal relationships.

The three designations are motivated by nature of job, job security, reputation of organisations, performance management system and interpersonal relationships. The designation is not influencing motivation for these factors.



## CONCLUSION

From the findings it can be concluded that the factors affecting the motivation of academicians are differing in the three designations. Each designation level of academicians varies in several aspects. Due to these differences, there are differences in the factors affecting motivation at the three levels. The influence of gender, qualification, type of organisation, nature of job and experience on the factors of motivation is seen in all the three designations. Due to these differences obtained from cross tabulation and chi-square test conclusion is drawn that assistant professors, associate professors and professors are motivated through a "designation specific" set of factors. This will help in better understanding of motivation amongst the academicians and in designing of motivation techniques for academicians. The study can be further extended by involving a further larger number of academicians and in depth analysis of all the factors( demographic and organisational).

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**ASSESSING MOTIVATION AMONG ACADEMICIANS**

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**TABLE 1: STATE TO WHAT EXTENT FOLLOWING WILL MOTIVATE YOU? KINDLY PROVIDE YOUR ANSWER KEEPING IN MIND YOUR PRESENT DESIGNATION.**

S.No	Influences on your motivation	Very High	High	Neutral	Low	Very Low
1.	Monetary Benefits					
2.	Nature of Job					
3.	Working Environment					
4.	Job security/safety					
5.	Top management support					
6.	Responsibility with authority					
7.	Growth opportunities					
8.	Reputation of the organisation in the market					
9.	Student feedback and appreciation					
10.	Performance management system					
11.	Job recognition					
12.	Interpersonal Relationship					

**TABLE 2**

Designation	Gender		Age			Qualification			Organisation Nature		
	Male	Female	25 to less than 35 years	35 to less than 45 years	Above 45 years	Post Graduation	M.Phil	Ph.D	Government	Aided	self-financing
Assistant Professor	34	70	70	26	0	08	8	8	24	0	80
Associate professor	32.7%	67.3%	75.0%	25.0%	.0%	84.6%	7.7%	7.7%	23.1%	.0%	76.9%
Professor	12	22	16	18	0	16	0	18	16	0	18
	35.3%	64.7%	47.1%	62.9%	.0%	47.1%	.0%	52.9%	47.1%	.0%	52.9%
Total	16	4	0	8	12	0	0	20	12	4	4
	80.0%	20.0%	.0%	40.0%	60.0%	.0%	.0%	100.0%	60.0%	20.0%	20.0%
	62	96	94	52	12	104	8	46	52	4	102
	39.2%	60.8%	59.5%	32.9%	7.6%	65.8%	5.1%	29.1%	32.9%	2.5%	64.6%

**TABLE 3**

Designation	Job Nature				Department					
	Regular	Adhoc	Contractual	Visiting	Commerce	Management	Arts/Humanities	Engg	Any other	
Assistant Professor	82	4	18	0	2	8	4	88	2	
	78.8%	3.8%	17.3%	.0%	1.9%	7.7%	3.8%	84.6%	1.9%	
Associate professor	29	0	3	2	0	1	2	30	1	
	85.3%	.0%	8.8%	5.9%	.0%	2.9%	5.9%	88.2%	2.9%	
Professor	14	4	2	0	2	2	2	14	0	
	70.0%	20.0%	10.0%	.0%	10.0%	10.0%	10.0%	70.0%	.0%	
Total	125	8	23	2	4	11	8	132	3	
	79.1%	5.1%	14.6%	1.3%	2.5%	7.0%	5.1%	83.5%	1.9%	



TABLE 4

Designation	Industry Experience					Academic Experience					
	0	less than 1 year	1 year to less than 3 years	3 years to less than 5 years	5 years to less than 8 years	1 year to less than 5 years	5 years to less than 10 years	10 years to less than 15 years	15 years to less than 20 years	20 years to less than 25 years	25 years to less than 30 years
Assistant Professor	78	4	16	6	0	20	48	30	6	0	0
	75.0%	3.8%	15.4%	5.8%	.0%	19.2%	46.2%	28.8%	5.8%	.0%	.0%
Associate professor	26	4	2	2	0	0	10	17	5	0	2
	76.5%	11.8%	5.9%	5.9%	.0%	.0%	29.4%	50.0%	14.7%	.0%	5.9%
Professor	12	2	0	0	6	0	0	0	16	4	0
	60.0%	10.0%	.0%	.0%	30.0%	.0%	.0%	.0%	80.0%	20.0%	.0%
Total	116	10	18	8	6	20	58	47	27	4	2
	73.1%	6.3%	11.4%	5.1%	3.8%	12.7%	36.7%	29.7%	17.1%	2.5%	1.3%

TABLE 5A: CROSS TABULATION DESIGNATION\*MONETARY BENEFITS

Designation	Monetary Benefits					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	28	42	26	2	6	104
	26.9%	40.4%	25.0%	1.9%	5.8%	100.0%
Associate professor	9	15	6	4	0	34
	26.5%	44.1%	17.6%	11.8%	.0%	100.0%
Professor	4	7	0	9	0	20
	20.0%	35.0%	.0%	45.0%	.0%	100.0%
Total	41	64	32	15	6	158
	25.9%	40.5%	20.3%	9.5%	3.8%	100.0%

TABLE 5B: CHI-SQUARE TESTS(MONETARY BENEFITS AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.355 <sup>a</sup>	8	.000
Likelihood Ratio	38.651	8	.000
Linear-by-Linear Association	2.292	1	.130
N of Valid Cases	157		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .76.

TABLE 6A: CROSS TABULATION DESIGNATION\*NATURE OF JOB

Designation	Nature of Job					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	30	60	12	2	0	104
	28.8%	57.7%	11.5%	1.9%	.0	100.0%
Associate professor	14	12	8	0	0	34
	41.2%	35.3%	23.5%	.0%	.0	100.0%
Professor	6	12	2	0	0	20
	30.0%	60.0%	10.0%	.0%	.0	100.0%
Total	50	84	22	2	0	158
	31.6%	53.2%	13.9%	1.3%	.0	100.0%

TABLE 6B: CHI-SQUARE TESTS(NATURE OF JOB AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.675 <sup>a</sup>	6	.193
Likelihood Ratio	9.154	6	.163
Linear-by-Linear Association	.209	1	.648
N of Valid Cases	157		

a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is .25.

TABLE 7A: CROSS TABULATION DESIGNATION\*WORKING ENVIRONMENT

Designation	Working Environment					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	40	52	12	0	0	104
	38.5%	50.0%	11.5%	.0%	.0%	100.0%
Associate professor	12	14	4	0	4	34
	35.3%	41.2%	11.8%	.0%	11.8%	100.0%
Professor	4	8	7	6	0	20
	20.0%	40.0%	10.0%	30.0%	.0%	100.0%
Total	56	74	18	6	4	158
	35.4%	46.8%	11.4%	3.8%	2.5%	100.0%

TABLE 7B: CHI-SQUARE TESTS(WORKING ENVIRONMENT AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	58.444 <sup>a</sup>	8	.000
Likelihood Ratio	39.793	8	.000
Linear by Linear Association	13.475	1	.000
N of Valid Cases	157		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .51.

TABLE 8A: CROSS TABULATION DESIGNATION\*JOB SECURITY

Designation	Job Security/Safety					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	48	30	16	6	4	104
	46.2%	28.8%	15.4%	5.8%	3.8%	100.0%
Associate professor	20	6	6	0	2	34
	58.8%	17.6%	17.6%	.0%	5.9%	100.0%
Professor	6	10	2	2	0	20
	30.0%	50.0%	10.0%	10.0%	.0%	100.0%
Total	74	46	24	8	6	158
	46.8%	29.1%	15.2%	5.1%	3.8%	100.0%

TABLE 8B: CHI-SQUARE TESTS(JOB SECURITY AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.117 <sup>a</sup>	8	.195
Likelihood Ratio	13.104	8	.108
Linear-by-Linear Association	.013	1	.909
N of Valid Cases	157		

TABLE9B: CHI-SQUARE TESTS(RESPONSIBILITY WITH AUTHORITY AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.042 <sup>a</sup>	8	.000
Likelihood Ratio	31.856	8	.000
Linear-by-Linear Association	6.835	1	.009
N of Valid Cases	157		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .51.

TABLE 9A: CROSS TABULATION DESIGNATION\* RESPONSIBILITY WITH AUTHORITY

Designation	Responsibility with authority					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	28	52	22	2	0	104
	26.9%	50.0%	21.2%	1.9%	.0%	100.0%
Associate professor	8	10	12	0	4	34
	23.5%	29.4%	35.3%	.0%	11.8%	100.0%
Professor	2	12	2	1	0	20
	10.0%	60.0%	10.0%	20.0%	.0%	100.0%
Total	38	74	36	6	4	158
	24.1%	46.8%	22.8%	3.8%	2.5%	100.0%

TABLE 10A

Designation	Reputation of the organisation in the market					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	52	40	8	2	2	104
	50.0%	38.5%	7.7%	1.9%	1.9%	100.0%
Associate professor	20	10	2	0	2	34
	58.8%	29.4%	5.9%	.0%	5.9%	100.0%
Professor	6	14	0	0	0	20
	30.0%	70.0%	.0%	.0%	.0%	100.0%
Total	78	64	10	2	4	158
	49.4%	40.5%	6.3%	1.3%	2.5%	100.0%

TABLE 10B: CHI-SQUARE TESTS(REPUTATION OF THE ORGANISATION AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.084 <sup>a</sup>	8	.109
Likelihood Ratio	14.608	8	.067
Linear-by-Linear Association	.001	1	.981
N of Valid Cases	157		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .25.

TABLE 11A: CROSS TABULATION ( DESIGNATION\* GROWTH OPPORTUNITIES)

Designation * Growth Opportunities Crosstabulation			Growth Opportunities					Total
Designation			Very High	High	Neutral	Low	Very Low	
Assistant Professor	Count		46	40	10	2	6	104
	% within Designation		44.2%	38.5%	9.6%	1.9%	5.8%	100.0%
Associate professor	Count		18	6	1	2	1	31
	% within Designation		52.9%	17.6%	11.8%	5.9%	11.8%	100.0%
Professor	Count		2	14	2	2	0	20
	% within Designation		10.0%	70.0%	10.0%	10.0%	.0%	100.0%
Total	Count		66	60	16	6	10	158
	% within Designation		41.8%	38.0%	10.1%	3.8%	6.3%	100.0%

TABLE 11B: CHI-SQUARE TESTS(GROWTH OPPORTUNITIES AND DESIGNATION)

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi Square	53.310 <sup>a</sup>	8	.000
Likelihood Ratio	53.948	8	.000
Linear-by-Linear Association	22.846	1	.000
N of Valid Cases	157		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.02.

TABLE 12A: CROSS TABULATION DESIGNATION\* TOP MANAGEMENT SUPPORT

Designation	Top management support					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	40	42	12	6	4	104
	38.5%	40.4%	11.5%	5.8%	3.8%	100.0%
Associate professor	12	12	4	2	4	34
	35.3%	35.3%	11.8%	5.9%	11.8%	100.0%
Professor	2	6	8	1	0	20
	10.0%	30.0%	40.0%	20.0%	.0%	100.0%
Total	54	60	24	12	8	158
	34.2%	38.0%	15.2%	7.6%	5.1%	100.0%

TABLE 12B: CHI-SQUARE TESTS(TOP MANAGEMENT SUPPORT AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.958 <sup>a</sup>	8	.003
Likelihood Ratio	20.898	8	.007
Linear-by-Linear Association	7.689	1	.006
N of Valid Cases	157		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 1.02.

TABLE 13A: CROSS TABULATION DESIGNATION\* STUDENT FEEDBACK AND APPRECIATION

Designation	Student feedback and appreciation				Total
	Very High	High	Neutral	Low	
Assistant Professor	50	42	6	6	104
	48.1%	40.4%	5.8%	5.8%	100.0%
Associate professor	16	18	0	0	34
	47.1%	52.9%	.0%	.0%	100.0%
Professor	4	16	0	0	20
	20.0%	80.0%	.0%	.0%	100.0%
Total	70	76	6	6	158
	44.3%	48.1%	3.8%	3.8%	100.0%

TABLE 13B CHI-SQUARE TESTS( DESIGNATION AND STUDENT FEEDBACK AND APPRECIATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.857 <sup>a</sup>	6	.021
Likelihood Ratio	18.648	6	.005
Linear-by-Linear Association	.001	1	.978
N of Valid Cases	157		

a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is .76.

TABLE 14A: CROSS TABULATION DESIGNATION\* PERFORMANCE MANAGEMENT SYSTEM

Designation	Performance Management System				
	Very High	High	Neutral	Low	Total
Assistant Professor	38 36.5%	48 46.2%	16 15.4%	2 1.9%	104 100.0%
Associate professor	12 35.3%	14 41.2%	8 23.5%	0 .0%	34 100.0%
Professor	2 10.0%	14 70.0%	4 20.0%	0 .0%	20 100.0%
Total	52 32.9%	76 48.1%	28 17.7%	2 1.3%	158 100.0%

TABLE 14B: CHI-SQUARE TESTS( PERFORMANCE MANAGEMENT SYSTEM AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.598 <sup>a</sup>	6	.269
Likelihood Ratio	9.198	6	.163
Linear-by-Linear Association	1.800	1	.180
N of Valid Cases	157		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .25.

TABLE 15A: CROSS TABULATION DESIGNATION\* JOB RECOGNITION

Designation	Job recognition				Total
	Very High	High	Neutral	Low	
Assistant Professor	44 42.3%	44 42.3%	12 11.5%	4 3.8%	104 100.0%
Associate professor	14 41.2%	8 23.5%	10 29.4%	2 5.9%	34 100.0%
Professor	4 20.0%	16 80.0%	0 .0%	0 .0%	20 100.0%
Total	62 39.2%	68 43.0%	22 13.9%	6 3.8%	158 100.0%

TABLE 15B: CHI-SQUARE TESTS(JOB RECOGNITION AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.111 <sup>a</sup>	6	.003
Likelihood Ratio	22.086	6	.001
Linear-by-Linear Association	.390	1	.532
N of Valid Cases	157		

a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is .76.

TABLE 16A: CROSS TABULATION( DESIGNATION &amp; INTERPERSONAL RELATIONSHIP)

Designation	Interpersonal relationship					Total
	Very High	High	Neutral	Low	Very Low	
Assistant Professor	30 28.8%	62 59.6%	10 9.6%	2 1.9%	0 .0%	104 100.0%
Associate professor	10 29.4%	16 47.1%	6 17.6%	0 .0%	2 5.9%	34 100.0%
Professor	6 30.0%	12 60.0%	2 10.0%	0 .0%	0 .0%	20 100.0%
Total	46 29.1%	90 57.0%	18 11.4%	2 1.3%	2 1.3%	158 100.0%

TABLE 16B: CHI-SQUARE TEST (INTERPERSONAL RELATIONSHIP AND DESIGNATION)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.850 <sup>a</sup>	8	.276
Likelihood Ratio	9.168	8	.328
Linear by Linear Association	.077	1	.782
N of Valid Cases	157		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .25.

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# China's road to economic growth – Is service sector growth the future?

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This is an opinion paper on the reasons for the past growth of Chinese economy, current challenges, and its future prospects. The paper discusses various factors like labor force, education, population trends, importance of service sector, control of currency etc. that has significantly impacted the growth in the Chinese economy. The paper also makes few comparisons of the Chinese economy with the Indian economy.

China has enjoyed an era of unprecedented economic growth in last three decades. This rapid economic development may have been possible because of availability of cheap labor and investment in the urban infrastructure and factories by the government (Chow, 1993). However, the shrinking labor force, decline in rural migration, and aging population can have significant adverse effect on the Chinese economy in the near future, which poses significant challenges in sustaining current economic growth (Fang and Wang, 2005). Challenge is not unrecognized by policy makers and to overcome this, measures were announced immediately after the third plenum; these measures provide relaxation to the one child policy in China and more recently signals to relax household registry system hukou. These are first steps in addressing mismatch of skills in China that could be an impediment for future economic growth. What China needs in the future is higher productivity from its labor. Unprecedented growth in higher education (a.k.a university education) may be producing graduates with skills that are not needed for the jobs in the market place.

In the context of, population trends, India's position is completely different. For instance, India does not have an issue of aging population. India also has sub-divided its educational system in such a way that it can produce high skilled labor as well as semi-skilled labor. Particularly, India has established vocational training institutions to train young people in different vocational skills. The growing popularity of the vocational training institutions in India since late 1990s may have played an important role in its service sector growth and to compete in the international market (Khadria, 2008; Qu and Brocklehurst, 2003; Russell and Thite, 2008).

Historically, the service sector has played an important role in Indian economy as compared to Chinese economy (Arora and Athreye, 2002; Bosworth and Collins, 2007; Woo, 1996; Yan and Yudong, 2003). For instance, in 1960, the share of service sector to the GDP in India was about 38 percent while in China it was 32 percent. By 1980, the service sector contribution to the GDP increased to 40 percent of GDP in India and for China it decline to 22 percent. However, the role of service sector in GDP has significantly increased in both countries since late 1980. As per 2013 data it is 46 percent and 57 percent respectively for China and India. This implies that the service sector plays a more significant role in Indian economy as compared with Chinese economy. Nevertheless, it is important to note that the service sector is also substantially increasing in China, particularly in the recent periods.

Sometimes growth of service sector in India is viewed with scepticism in light of the hype around IT sector growth

because this sector employs mainly highly skilled labor and there is not much flow on effect on the semi-skilled and unskilled labor force. These economists argue that in the absence of all round growth in employment, this growth may be short lived. Also, unprecedented growth seen over last 15 years may have been one off instance and this may not be sustainable. However, this argument ignores the growth in the other service areas such as education, health, business services etc. Growth in these areas has been similar and the overall ratio of unskilled labor and semi-skilled labor to skilled labor in the service sector is comparable to the manufacturing sector. This negates the argument that the service sector growth in the last 15 years has not produced significant benefits to employment for the unskilled and semi-skilled labor. As such the future of economic growth does not necessarily mean shift of labor from agriculture to the manufacturing sector only. Labor force moving from agriculture to modern high technology sectors is expected to have similar job opportunities as for labor moving from agriculture to traditional manufacturing sector (Ahluwalia, 2002).

Another factor that has not gained much attention for Indian economy is advantages of entrenchment and lack of business dynamism highlighted by Ashoka Mody, Anusha Nath and Michael Walton. Economic growth ought to provide new business opportunities and innovation in the sector. This should result in new businesses to enter in the market thereby increasing efficiency and innovation. In post 2000 period leading business houses and public sector have maintained their market share and there have been few new entrants into the market. This may have potential for future economic development in India.

China has done extremely well in the past in terms of overall economic growth and development of its manufacturing sector and urbanization of its labor force (Zhu, 2007). However, skill mismatch is ever increasing with its strict hukou policy. China has also done extremely well on development of its tertiary education sector. Some of China's universities are world class and attracting foreign students. However, China faces number of challenges in terms of sustaining its growth in the future and its shift from manufacturing to modern service sector. This is important, because no country can sustain its economic growth in the long-run by heavily relying on its manufacturing sector. This will require a fresh thinking in terms of skills development and allowing free movement of labor where jobs are. In terms of skills development it is important to develop vocational training sector that produces graduates who are work ready and not a large number of elite tertiary graduates who are not in demand (Yan and Yudong, 2003).

Another apparent shortcoming for China is, in terms of developing its service sector may be the development (or lack thereof) of English language skills and access to information (Aspray et al., 2006; Farrell and Grant, 2005). Despite excellent English language tuition imparted for most university graduates in China, on average actual communication skills of these students are at best rudimentary. A good grasp of English



language is integral to the export industry especially in the services sector where interpersonal communication becomes very important. China has a potential for developing its education export industry significantly. Specifically China has well developed tertiary education infrastructure and if some of the students move to the vocational sector there will be available capacity that can be used for education export. However, this will require a concerted effort in development of English language and presenting this as a viable option in the global market.

Finally controlled exchange rate and lower value of RMB may have served China in the past in the era of manufacturing export. Chinese currency was valued at RMB 8 per USD in 1994 and was maintained at that level until 2005 during the golden era of manufacturing export. Thereafter China has re-evaluated its exchange rate policies in the wake of declining

manufacturing exports. Therefore, by keeping RMB lower against the US\$, for a long time, may not be in the best interest of Chinese economy in terms of its future economic growth and development of service sector. Consequently, policy makers may consider a more open approach to the exchange rate to provide opportunities for exporters and importers in China to operate in a competitive global environment rather than the controlled system (Chou, 2000; Goldstein, 2004; Goldstein and Lardy, 2009; Marquez and Schindler 2007).

It is evident that both China and India have their own unique problem areas and advantages. China faces challenges from its skills mismatch and aging population whereas India faces challenges from the advantages of entrenchment in business. Policy makers have addressed some of the issues in China but there remains more to be done.

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# JOB SATISFACTION AMONG TEACHERS: A COMPARATIVE STUDY OF PUBLIC AND PRIVATE UNIVERSITIES IN INDIA

*\*Dr. Dimpy Sachar*



## INTRODUCTION

A teacher plays a prominent role in a society. Teachers have a very strong and most prominent influence on the society they live in. They provide great support in building a perfect and progressive society. They carry the responsibility of imparting learning and education. During the initial years of education, teachers help students determine their objective and ambitions in life. They also help students shape up their future plans. Therefore a good and an insightful visionary teacher plays great role in shaping up his/her student's future. A popular and successful educational system requires a well-respected and excellent teaching staff. In other words, the high quality academic staff is the cornerstone of a successful



educational system. The level of satisfaction of teachers towards their job is very important to study. The involvement and commitment of the teachers to their profession is considered most important element of job satisfaction.

It is an undeniable fact that the future of college, either public or private, is highly dependent on the satisfaction level of its teaching staff. The understanding of factors affecting the job satisfaction of university teachers are of utmost importance for implementation of a successful, innovative and vibrant educational system. This study attempts to find out which facet or dimension affects the job satisfaction of university teachers the most. The problem statement of the present study can be stated as:

To study the job satisfaction among teachers - a comparative analysis between public and private university teachers of Delhi and NCR region.

The study has identified the main objective i.e. to find out the level job satisfaction among teachers, a comparative analysis between public and private university teachers with the help of following sub-objectives:

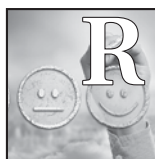
1. To measure different dimensions of job satisfaction among university teachers.
2. To find out the causes for teachers dissatisfaction.
3. To assess the level of job satisfaction prevalent in both type of universities.
4. To make a comparative study on the public and private university teachers regarding job satisfaction on the different factors.
5. To provide useful guidelines to the universities to implement the changes in the institutional environment that will enhance faculty satisfaction.

Researchers who have studied job satisfaction have used varied definitions. That is why the factors affecting the teacher's job satisfaction vary considerably. According to (Michael H. Grunberg, 1972), job satisfaction is the favourableness or unfavourableness with which employees view their work. It expresses the amount of agreement between one's expectations from the job and rewards that the job provides. (Weiss, 2002) states that job satisfaction is an individual's outlook towards his/her job. (Robbins, 2003) has stated that job satisfaction refers to an individual's attitude towards their job. Job satisfaction can be considered as a happy psychological state, which is a result of appraisal of one's job, as well as, attitude and affective reaction towards one's job. In the present study the researcher has tried to find out the present level of job satisfaction among public and private university teachers. The current study has investigated factors contributing to satisfaction and dissatisfaction of the public and private university teachers of Delhi and NCR region. The study has also aims at finding out disparity between job satisfaction of public and private university teachers through different dimensions and density of

satisfaction levels. In the course of this study the following hypotheses have been tested:

*H<sub>0</sub>: "There is no significant difference in Public and Private Universities teachers with respect to different factors of Job Satisfaction."*

For the practical contributions, this study has identified the factors which lead to the dissatisfaction among the teachers. The study has also identified those factors that provide satisfaction to the teachers. The study has provided useful inputs to the universities for increasing the satisfaction level of the teachers.



## RESEARCH METHODOLOGY

The current study is an exploratory cum descriptive research based on a large measure on the collection of primary data and also the secondary data sources. The various steps undertaken in designing the sampling process are as follows:

- **Target population:** Assistant professors, Associate professors and Professors from public and private universities of Delhi and NCR region.
- **Extent:** All the public and private universities from Delhi and NCR region. It includes public universities, such as, University of Delhi, Delhi Technological University, Guru Gobind Singh University (Dwarka), Jawaharlal Nehru University, Jamia Milia Islamia University, Jamia Hamdard University, Indira Gandhi National Open University and so on. It also includes private universities, such as, Amity University (Noida), Manav Rachna University (Faridabad), ITM University Gurgaon, Sharda University (Greater Noida) and so on.
- **Sample:** For the current study a sample of two public and two private universities from Delhi and NCR region representing the universe has been selected. University of Delhi and Delhi Technological University is selected from the list of public universities. Amity University and ITM University is selected from the private universities.
- **Sampling frame:** 100 respondents from each university have been selected ranging from Professors, to Associate professors, to Assistant professors. The respondents were selected in such a way that they belong from both the genders, with different marital status, from different levels of age groups, designations, income levels, experience, and education.
- **Sample size:** A sample of 405 university teachers has been taken into consideration for this study.
- **Sampling Technique:** Judgmental sampling technique has been used for the current study
- **Execution:** 480 questionnaires have been distributed to the respondents, but out of those 480 respondents approached, only 405 usable questionnaires could be

obtained. The researcher has tried to approach the respondents personally.

For the purpose of this study the questionnaire has been self-designed and 90 items were included in it. The pilot study of the research instrument was conducted on 50 respondents. The respondents could understand all the questions with little difficulty. In order to proceed the research, the questionnaires were distributed and collected during the real period of the study and reliability scale has been tested. The reliability coefficient (Cronbach's Alpha) of the items came out to be (0.941) which shows that scale exhibits fairly good level of consistency and reliability. Hence our data is internally consistent and reliable. Also the exploratory factor analysis was applied on the data collected. The results indicate that the ninety variables can be clubbed into 12 factors. Out of these 12 factors 11 factors are found to be relevant. For further study these 11 factors are considered. These eleven factors are named as: Service condition policies, Technological and informational needs, Attitude and behavior of authorities, Working environment conditions, Academic environment conditions, Compensation to the teachers, Research and development facilities, Fringe benefits to the teachers, Coordination and cooperation among the co-faculty members, Attitude and behavior of administrative staff, Attitude and behavior of students.

The exploratory factor analysis has been used to identify the latent factors having variables with high correlation between them. These factors have high factor loadings with the variables. The variables not only have factor loadings with one factor they have factor loadings to all other factors. For convergent validity the variables must have significant factor loadings to one single factor. The condition of discriminant validity explains that a variable does not have significant factor loadings to many factors. The construct validity convergent as well as discriminant can be tested with the help of confirmatory factor analysis. Confirmatory factor analysis not only represents the structure of the constructs along with their measured variables. It also represents the correlation between the constructs. Therefore, the confirmatory factor analysis is applied on all the eleven constructs.

The responses of the faculty members are analyzed with the help of Frequency Distribution and Descriptive Statistics i.e. through mean and standard deviation. Independent Sample t-test is applied to know the difference between two independent sample means. In this research work t-test has been applied on demographics like gender, and type of university. Then ANOVA test is applied to study the difference among more than two independent samples. In this thesis ANOVA has been applied on the demographics like age, designation, and Income of faculty members.

In the course of the study following hypotheses have been framed and tested:

H<sub>0</sub>: "There is no significant impact of gender on factors affecting job satisfaction among university teachers."

H<sub>0</sub>: "There is no significant relationship between designation

and factors affecting job satisfaction among university teachers."

H<sub>0</sub>: "There is no significant impact of age on factors affecting job satisfaction among university teachers."

H<sub>0</sub>: "There is no significant association between income and factors affecting job satisfaction among university teachers."

H<sub>0</sub>: "There is no significant difference in the factors affecting job satisfaction level of Public and Private University teachers."



## INDINGS AND CONCLUSION

The researcher has categorized the data according to personal data and job information. Eight demographic factors namely, age, gender, marital status, designation, type of university, qualifications, teaching experience and income are selected for the study. The data has been collected from assistant professor, associate professor and professors from both the public and private universities. Response rate from the public universities is 49.4% and from private universities is 50.6%, comprising of 63.2% assistant professors, 22.0% associate professors, and 14.8% professors. The gender of respondents comprises of 49.1% males and 50.9% females from public and private universities. With respect to age, 54.1 % respondents are from age group 25-35 years, 35.8% belong to 35-45 years of age group, and only 10.1% are 45 years and above. With respect to qualifications, 52.8% of the respondents have a postgraduate degree whereas 47.2% respondents have doctoral degree. The teaching experience of 62.2% of the respondents is 1-10 years, 24.4% respondents have an experience of 11-20 years, 9.4% of the respondents have taught for around 21-30 years, and only 4.0% respondents have a teaching experience of above 31 years. Around 81.7% of the respondents are married, whereas, 18.3% are unmarried. With respect to income group 41.7% belong to the income group ranging from 30,001-50,000 rupees, 24.7% of the respondents ranges between 50,001-1,00,000 rupees, 31.1% have an income of 1,00,000 rupees and above, and only 2.5% teachers have an income of less than 30,000 rupees.

The data have been analyzed to answer the research questions, which are the driving force of the study.

Objective one is to measure different dimensions of job satisfaction among university teachers. This objective has been achieved by applying exploratory factor analysis on the data collected and the eleven key factors affecting the job satisfaction of university faculty members are identified. It is found that the first three factors, that is, service condition policies, technological and informational needs, attitude and behavior of authorities have the highest Eigen value and explain the maximum variance of the data. Therefore, these are the most influential factors among all followed by the moderately influencing factors, that is, working environment conditions, academic environment conditions, compensation to the teachers, and research and development facilities. These are further followed by the low influencing factors, that is, fringe benefits to the teachers, coordination and cooperation

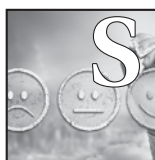
among the co-faculty members, attitude and behavior of administrative staff, and attitude and behavior of students. It is concluded that the factors, such as, service condition policies, technological and informational needs, and attitude and behavior of authorities influence the satisfaction level of the teachers the most, as compared to the other factors.

Objective two aims to find out the causes for teachers dissatisfaction. It has been observed that the dimensions like University rules are influenced by the administration while granting sabbatical leaves, sending teachers on deputation or permitting for attending national or international symposia/conference, the house allotment norms are influenced to accommodate the favorites, and pressurizing authorities for small and legitimate things are the major causes of dissatisfaction of teachers. Teachers are highly dissatisfied with the autocratic behavior of the heads of the teaching departments at the time of assigning teaching courses to them, teachers in the university are victimized if they criticize the functioning of the administration, the remunerative and prestigious assignments in the university are assigned to “yes-man”, and the university authorities are not accessible to the teachers in case they would like to meet them for their departmental and professional problems. The respondents are also dissatisfied on the dimensions that in their university, teacher's participation in decision making bodies is not encouraged, political changes affect the functioning of the university, and that the teachers are free to express their views in and outside the meetings of the different bodies. Obstacles created by administrative staff in the academic affairs, adopting stringent procedures in releasing the grants sanctioned by the central agencies, and unnecessary delays in releasing annual increments in time are also the causes of dissatisfaction.

Objective three has been set to assess the level of job satisfaction prevalent in both types of universities. It is observed from the results that female faculty members are more satisfied than their male counterparts on different variables, such as, attitude and behavior of authorities, research and development facilities, attitude and behavior of students, coordination and cooperation among co-faculty members, working environment conditions and compensation to the teachers. In case of the variables, attitude and behavior of authorities, research and development facilities, fringe benefits to the teachers, attitude and behavior of administrative staff, attitude and behavior of students, working environment conditions, academic environment conditions, and compensation to the teachers, it is found that the associate professor and professor have significantly higher job satisfaction as compares to the assistant professors. The analysis shows that on some dimensions the teachers at 45 and above age level have significantly higher job satisfaction as compared to teachers at the age levels of 25-35, and 35-45. These dimensions are attitude and behavior of authorities, research and development facilities, fringe benefits to the teachers, attitude and behavior of students, coordination and cooperation among the co-faculty members, academic environment conditions, and compensation to the teachers.

Teachers at an income level of 1,00,000 and above have significantly higher job satisfaction as compared to the teachers at income levels of below 30,000, 30,001-50,000 and 50,001-1,00,00. Dimensions on which the difference was found are: attitude and behavior of authorities, research and development facilities, fringe benefits to the teachers, attitude and behavior of students, working environment conditions, academic environment conditions, service condition policies, and compensation to the teachers.

Objective four aims at making a comparative study on the public and private university teachers regarding job satisfaction on different factors. It is perceived that teachers of public universities are more satisfied as compared to the teachers of private universities. The results of the study show that there exists a notable difference in the level of satisfaction of Public and Private University teachers in case of following variables: attitude and behavior of authorities as well as students, research and development facilities, fringe benefits available, working environment and academic environment conditions, service condition policies, and compensation to the teachers.



#### UGGESTIONS

Objective five is framed to provide the useful guidelines or suggestions to the universities to implement the changes in the institutional environment that will prevent faculty stagnation and enhance faculty satisfaction. During the conduct of the research it has been found that there are several dimensions on which university teachers are dissatisfied. Thus the management of the university needs to overcome these situations which in future lead to faculty turnover and attrition. It is recommended that there should not be unnecessary pressure on the teachers from their direct authorities. Also the university should follow all the guidelines prescribed by the apex bodies and keep in mind that no authority should indulge in any kind of bias at the time of granting sabbatical leaves and sending teachers on deputation or permitting them for attending national or international symposia/conference. The universities in India are advised to focus more on the technological advancements. It is the responsibility of the university to provide politics-free environment to teachers and avoid the misuse of teachers by the authorities for their personal and professional gains. Every teacher should receive a fair chance to get rewarded on the basis of their performance and results. The university management should, invites the participation from teachers at the time of making decisions for the welfare of the university. Teachers should not be overloaded so that they can devote their valuable time to enhance their research skills. The apex bodies of the universities should create a compensation system which removes all the financial worries of teachers and generates a sense of financial security among teachers. In order to draw talented professional to work for them and to retain their existing highly-qualified staff, universities should offer fringe benefits and other perks to the teachers. These benefits promote a feeling of economic security and job-

stability within the faculty members and contribute highly in the increasing the satisfaction level of the teachers.. Proper and timely actions should be taken for maintaining harmonious relations, mutual trust and respect for each other between teachers and administrative staff. So that universities can achieve their objectives well on time.

Universities should consider maintaining gender equality, where both male and females are treated equally in all aspects. It is advisable to develop an environment where both male and female teachers enjoy same level of autonomy. It is recommended to provide administrative support, independence to the assistant professors in performing their duties. Providing those opportunities to try new ideas and expressing their creativity in research field will definitely enhance their job satisfaction level. It is advisable that universities should provide an environment where there exists a mutual respect among teachers at same and different age groups, equal research and development opportunities are available for all age groups of teachers. Compensation and benefits level should meet the requirements of all age groups of teachers. It is suggested that the administrative officials behave properly with the teachers at all income levels.



COMPARATIVE ANALYSIS

It is suggested that private universities should provide autonomy to their teachers so that they can discharge their duties well in a fearless environment. Private universities should try to retain their teachers by providing them opportunities of research and publications. This can be achieved only by reducing their overburdened teaching hours and restricts them to only 12-16 hours of productive teaching in a week. It is recommended to the management of private universities that they should follow the norms of regulatory bodies for compensating and providing fringe benefits to their teachers. As the compensation and the facilities is the most common reason of dissatisfaction. It is also advised that they should judge their teachers on the basis of their merit, skills, performance, and results achieved not only on the basis of student's feedback. By taking all these steps, private universities can enhance the sense of security and trust among their teachers, which will further increase their satisfaction level. Retaining their qualified and inspiring teachers will help them in establishing the world-class universities in India.

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