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- References should appear at the end of the paper printed in single space with 10pt. font size. References should be listed as per the APA Citation Format latest Edition.
- The length of the paper should be limited to approximately 12 pages including references (as per the specified layout) excluding tables and figures.
- Tables, figures, etc. should be serially numbered and duly acknowledged. Sources of the data need to be given below each table or figure.
- All but very short mathematical expressions should be displayed on a separate line and centered. Equations must be numbered consecutively on the right margin, using Arabic numerals in parentheses.
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Prof. (Dr.) S.S. Modi
Chief Editor
Indian Journal of Accounting (IJA)
Former Head, Department of ABST, Faculty of Commerce, University of Rajasthan
Jaipur, Rajasthan, India.

INDIAN JOURNAL OF ACCOUNTING (IJA)

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Message from the Chief Editor

Dear Friends

Greetings

Wish you all a very Happy New Year 2019

It has been about two years since I was given the privilege to serve as the Chief Editor of the Indian Journal of Accounting (IJA), an official publication of Indian Accounting Association (IAA). I am grateful to the Indian Accounting Association (IAA) for giving me this opportunity to shape the premiere publication forum in my field. The journal provides a forum for new advances in the field of accounting research and practices that spans a wide swath of topics. Over the past some years, the journal has not undergone major change. However, regular and timely publication is continuously being ensured, which is important for its continuing growth.

Now, we need to respond, as professionals, and to position our response appropriately. We will need to improve results from within and challenge the detractors from outside, to provide a positive response, meaningful dialogue, and self-reflection. The Journal will help to serve as the voice of our profession and provide a forum for open debate. Our main objective will be to strengthen the boundaries of the journal, the reviewer database, and to motivate potential authors from all over the country and from abroad as well, to contribute for the journal. In parallel, we all should join hands in preventing plagiarism, duplicate articles and unreliable research.

We have taken an initiative in the direction of re-including the journal in the list of approved journals by the UGC. We hope to be able to bring about gradual changes in the near future for a successful indexation and more importantly, for further progress of the journal. I invite the authors to submit original and first-hand articles, which will help to achieve our goal of obtaining higher Global Impact Factor for the journal to maintain the relevance of the quality in a highly competitive field.

Finally, I would like to thank Prof. (Dr.) Karamjeet Singh, President IAA and his team, past presidents, past secretaries, the editorial and advisory board, reviewers, technical team, authors and well wishers, who are promoting this journal. I would also like to express my gratitude to those who have supported me during the previous two years and to those who are going to be with me in the journey of the journal for a higher level. With these words, I conclude and promise that the standards will be maintained eventually.

Thanking you.

Prof. (Dr.) SS Modi
Chief Editor
Indian Journal of Accounting
A Journal of Indian Accounting Association

President's Message

Dear Friends,

Greetings!

As a president of the Indian Accounting Association (IAA), it is a matter of great pride for me to present before the accounting professionals, teachers and accountants Golden Jubilee Volume 50 (2) of the 'Indian Journal of Accounting'. I must congratulate the Chief Editor of the Journal, Prof. (Dr.) S. S. Modi for keeping up the tradition of his predecessors for its timely publication with good research articles after getting it reviewed from the experts in the area of accounting.

Indian Journal of Accounting, a biannual research journal, is an official publication of IAA to promote research in accounting education. Inaugurated on February 14, 1970, IAA is proud to have a network of 50 branches in India with more than 5600 life members. The vision of IAA is to shape the future of accounting through teaching & research and developing thought leaders in accounting. Our endeavor is to create an environment, which could provide us an opportunity to refine teaching strategies/materials and perfect the craft of teaching accounting. We need to integrate cutting-edge technology practices into existing accounting courses and focus on critical thinking skills. Contemporary issues like big data analytics, emergence of bitcoin currency, relevance of statutory cost audit, focus on learning outcomes, ethics in classroom and profession, behavioral aspects of accounting etc need to be addressed.

In academics, research and publication have a special place. It is presumed that research enriches teaching and learning process and contributes to the body of knowledge, which results into the enhanced prestige of the publication. Any Journal will be assessed and evaluated on the basis of research output. Over a period of time, editorial team of our journal has worked hard and selected good research articles for publication. After completing almost 49 years of its publication, we are fully conscious to make efforts to enhance quality in terms of research output devoid of plagiarism, duplicate articles and unreliable research.

I am sure that under the stewardship Prof. (Dr.) S.S.Modi, Chief Editor, this Journal will meet the contemporary requirements and his team will work to produce requisite research output.

Best regards,

Prof. Karamjeet Singh
President, IAA
Director, UGC-Human Resource Development Centre
Panjab University, Chandigarh.

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VOLATILITY OF SELECT SECTORAL INDICES OF INDIAN STOCK MARKET: A STUDY

Prof. A. Sudhakar[*]
P.S.Viswanadh[**]

ABSTRACT

The present paper is aimed to analyze the Risk, Return and develop a volatility model of select sectoral indices of Indian stock market from April, 2006 to March 2016. Descriptive statistics such as mean, median, standard deviation, skewness, kurtosis, Jarque-Bera statistics have been applied to analyze the risk and return characteristics of sectoral indices. Augmented Dickey-Fuller model (ADF) test, Philp-Perron tests were used to test the stationarity characteristics, L-Jung box Q Statistics have been used to test the Auto correlation problems of day wise values of select sectoral indices. GARCH, TGARCH and EGARCH methods have been used to estimate the volatility models. It was found that Auto, Bank and IT sectors have provided betters returnwhereas Energy Index provided moderate returns to the investors in the chosen study period. The study also found that negative news caused more volatility as compared to positive news on the select indices.

KEYWORDS: *Sectoral Indices, Volatility, Stationarity, Auto Correlation, Heteroscadasticity.*

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Introduction

Financial experts believe that the stock markets are one of the best investment options for superior returns when compared to other investment avenues. Majority of the people believe that equity markets are like a gambling house. Knowing the fact that, investment in stock markets are risky, investors in aim of higher returns prefer to invest in equities. The major reason behind the difference of opinions could be, the volatility instinct prevailing in these markets. Globally, various researchers have made empirical studies to test the volatility prevailing in various markets, and found that markets are more volatile in the recent times due to presence of global participants, high expectations from the investors and reactions in the equity market.

It is known that the risk and return of any investment is inter related, and the same concept can also been applied to the stock markets. The Indian Stock Market' volatility exhibits similar characteristics to those establish earlier in many of the major developed and emerging stock markets. Hence, one can interpret that the volatility is individual driven, meaning that when an investor has time to observe the market's ups and downs, volatility may not show much impact on their returns. Stock market Volatility is instability in the value of index, significant instability lead to risk of investments. In the recent past many investors have experienced significant volatility, lead to positive as well as negative results on their investments. As investors' fundamental expectations about stocks change, stock prices can move quickly, especially in today's internet driven world. Most of the volatile situations in the market place is simply a result of the over valuations fundamentals.

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Need for the Study

Higher volatility leads to irrational or speculative behavior of the investors and traders, consequently these will create problems such as trading mechanism imperfections, reduced confidence on markets, confusion among policy markets to set appropriate guidelines. In this regard the study focused on analyzing the volatility prevailing in the Indian Stock Market with respect to select sectoral indices.

Review of Literature

(Walid, Chaker, Masood, & Fry, 2011) employed Markov-Switching EGARCH model to find the dynamic relation between stock price volatility and exchange rate variations of four developing countries from the year 1994 to 2009. It was found that foreign exchange rate variations have a notable impact on the probability of shift across regimes.

(Corradi, Distaso, & Mele, 2013) analyzed relation between business cycle and stock market volatility and concluded that volatility risk-premiums are strongly countercyclical, even greater than stock volatility, and moderately explain the large swings of the VIX index.

(Kumari & Mahakud, 2014) empirically examines the issue with two stage estimation techniques such as Conditional volatility and multivariate VAR. is extracted by employing uni-variate ARCH models. Further, multivariate VAR model along with impulse response function, block erogeneity and variance decomposition are carried out to examine the relationship among stock market volatility and macroeconomic volatility and found that there is linkage between volatility in macroeconomic factors and equity market volatility.

(Dimpfl & Jank, 2016) have studied the dynamics of stock market volatility and retail investors' attention to the stock market. The volatility is measured by internet search queries related to the leading stock market index. They found a strong co-movement of the Dow Jones' realized volatility and the quantity of search queries for its name.

(Dhananjhay G 2017) has studied the volatility and co-movement of NIFTY 50 and six sectoral indices of Indian stock market. The volatility and co-movement has been studied with the help of GARCH, GJR-GATCH, EGARCH, Johansen Co-integration and Granger causality tests, and found that there exists co-movement betweenNIFTY-50 and sectoral indices of Indian stock markets.

Research Gap

The NSE (NSE) is one of the leading stock exchange in India and the fourth largest stock exchange in the world in terms of equity trading volume in 2015, according to World Federation of Exchanges (WFE).It began its operations in 1994 and is ranked as the largest stock exchange in India in terms of total and average daily turnover of equity shares every year since 1995, based on annual reports of SEBI. Earlier, many researchers have made enormous studies on volatility analysis of CNX NIFTY, and not much attention given to volatility of sectoral indices. Hence the researcher thought to make a study on volatility of select sectoral indices. The following table exhibits various sectoral indices and their weights on NIFTY.

Table 1: Weight-Age of Various Sectors in NIFTY

S. No.	Name of the Sector	Weigh in NIFTY
1	Banking and Financial Services	31.81
2	IT	15.5
3	Energy	11.1
4	Auto	9.43
5	FMCG	8.02
6	Pharma	7.21
7	Cigarettes	6.04
8	Others	10.89

Source: NSE Website

Based on the above table, the researcher has chosen the first four sectoral indices such as Auto, Bankex, Informational Technology (IT), and Energy. Ten years day wise closing prices of select sectoral indices were considered from April-2006 to March 2016 for the study.

Objectives of the Study

- To analyze the risk return of select sectoral indices of Indian stock market.
- To find the best model for measuring the volatility of select sectoral indices of Indian stock market.

Hypothesis

S. No		Hypothesis Set	Test Conducted
1	H_0:	Day wise return series of select sectoral indices are not stationary	Augmented Dickey Fuller Test (ADF), PhilpPerron test
	H_1:	Day wise return series of select sectoral indices are stationary.	
2	H_0:	There is no auto correlation in the returns of select sectoral indices.	Ljung Box Q Test
	H_1:	There is auto correlation in the return of series of select sectoral indices.	
3	H_0:	There is no heteroskedasticity effect on the return series of select sectoral indices.	GARCH, TGARCH and EGARCH
	H_1:	There is heteroskedasticity effect on the return series of select sectoral indices.	

Tools and Techniques Used for the Study

In order to evaluate the volatility and return relationship, descriptive statistics such as returns, range, mean, standard deviation, covariance, Skewness and Kurtosis. Year wise risk and return were also calculated to measure the performance of indices through the period. Econometric data testing models such as unit root test and auto correlation test were measured to test the data to fit volatility testing models such as ARCH, GARCH, T-GARCH, and E-GARCH. The analysis has been organized into four sections such as analysis of Auto Index, Bankex, Energy Index and IT Index. Further, descriptive statics for daily returns, stationary test, auto correlation test and volatility modeling has been studied for each of the index. The detailed analysis is as follows:

- **Descriptive Statistical Analysis of Daily Returns of Auto Index**

The following table represents the descriptive statistics of return series of Auto Index of NSE for the period of ten years from April 2006 to March 2016.

Table 2: Descriptive Statistics of Daily Returns of Auto Index for Ten Years

Name of the Technique	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
Value	0.063639	0.094144	15.03268	-9.8008	1.529161	0.023231	9.180251	3945.501	0.000000

Source: Compiled data

The above table shows the descriptive statistics of Auto Index daily returns. Mean value represents the average daily returns i.e., 0.063 per cent, median 0.094144, standard deviation is 1.529161. The coefficient of skewness (0.023231)is found to be positive for the returns which imply that the return distribution of the index traded in the market in a given period has very minimum probability of earning less than the mean return value, meaning that the returns of index will closely move with average, which is not supporting the earlier studies conducted by Karmakar (2007) Joshi (2010) in NSE and Shanghai Stock Exchange, Bordoloi and Shankar (2008) in BSE and NSE, Karachi and Dhaka Stock Exchange, Kumar and Dhankar (2009) in Bombay and Abdalla (2012) in the Saudi Stock Market on the Indian Stock Market, mentioned that the returns are higher than the mean returns. The coefficient of Kurtosis higher than 3 indicates that, the distribution is highly leptokurtic as compared to normal distribution for all the returns. A risk-averse investor always prefers a minimum kurtosis value since the distribution with minimum kurtosis value will not have much deviation from the mean value. Jarque-Bera statistic (3945.501) and its respective probability value indicate that the distribution is not normal as supported by Karmakar (2007).

The following table represents the Annual Return offered by Auto Index and its respective risk.

Table 3: Year Wise Risk and Return Analysis of Auto Index

Year	Risk	Return
2006-07	1.837683	-11.6888
2007-08	1.625133	1.58343
2008-09	2.057907	-27.8775
2009-10	1.969432	138.2424
2010-11	1.267782	20.43686
2011-12	1.240508	8.367786
2012-13	1.069991	0.196855
2013-14	1.225002	38.33611
2014-15	1.100415	48.3146
2015-16	1.354395	-7.1538

Source: Compiled data

The above table represents that, the returns of Auto index are high in the year 2009-10 (138.2424) followed by 2014-15 (48.3146), 2013-14 (38.33611) and 2010-11 (20.43686). The annual returns for the Auto Index are negative in the year 2008-09 (-27.8775), 2006-07 (-11.6888) and 2015-16 (-7.1538). The annual returns of Auto Index are high in the year 2008-09 (2.057907), 2009-10 (1.969432) and 2006-07 (1.837683) due to US subprime lending crisis leading to world financial crisis. The above table also indicates that, the negative returns or high positive returns leads to greater risk for the investors.

- **Test of Stationarity for Daily returns of Auto Index**

The following table represents the test of unit root for Auto Index. The basic purpose of the unit root test is to observe whether the data is stationary or not, meaning that the mean and variance values of the data were stable or not. Minimum variations in the mean and variance of the data series are more desirable for performing the analysis. The unit root has been tested with Augmented Dickey fuller (ADF), and Philips Perron (PP) tests. If the data is found to be non-stationary at level (raw data), then the data has to be transformed to first difference and the test must be conducted. Even after considering the first difference, if the data found to be non-stationary, then it has to be transformed to second difference. In order to test the stationarity, to compare the t-statistic value with the critical values at 1 per cent, 5 per cent and 10 per cent depending on the requirement of the study. When the absolute t-statistic value is greater than the respective critical value, then the data can be considered as stationary and vice-versa.

Table 4: Test of Stationarity for Auto Index

Name of the Test	t- Statistic for Level Data	Probability
ADF test	-43.76644*	0.0000
PP	-43.76651*	0.0000

*Critical values at 1%, 5% and 10% are -3.43278, -2.8625 and 2.5677 respectively.

Source: Compiled data

The above table indicates that the level data series is stationary at one per cent level of significance, since the absolute t-statistic value is greater than critical value at 1 per cent (43.76644>3.43278). The probability value also represents that the Auto Index daily return series mean and variances over the period are similar since these values are less than 1 per cent. The findings are opposing the earlier studies of Nisha (2014), Srinivasan and Ibrahim (2010), Karmakar (2005) and Kaur (2004). Hence the available data has scope for further analysis.

- **Autocorrelation and Ljung-Box Q-statistic for Auto Index**

Autocorrelation (AC), also known as serial correlation, is the correlation with its own lag values or the past data. Informally, it is the similarity between observations as a function of the time lag between them. The analysis of autocorrelation is a mathematical tool for finding repeated patterns in the data. It is widely used technique in the field of finance in order to determine the repeated patterns of equity stocks and indices prices, economic data with equal time intervals etc,.

Table 5: Test of Auto Correlation for Auto Index

Lag	AC	Q-Stat	Probability	Lag	AC	Q-Stat	Probability
1	0.128	40.43	0.000	19	0.007	63.89	0.000
2	0.016	41.08	0.000	20	-0.04	68.78	0.000
3	-0.03	42.95	0.000	21	-0.01	69.12	0.000
4	-0.02	43.64	0.000	22	-0.02	70.18	0.000
5	-0.02	44.77	0.000	23	-0.01	70.54	0.000
6	-0.01	45.02	0.000	24	0.024	72.03	0.000
7	0.04	49.03	0.000	25	0.02	72.99	0.000
8	0.004	49.08	0.000	26	0.021	74.1	0.000
9	0.01	49.31	0.000	27	0.01	74.33	0.000
10	0.036	52.54	0.000	28	-0.02	75.58	0.000
11	0.01	52.79	0.000	29	-0.02	76.47	0.000
12	0.03	54.98	0.000	30	0.013	76.91	0.000
13	0.018	55.8	0.000	31	-0.01	76.98	0.000
14	0.014	56.28	0.000	32	-0.01	77.13	0.000
15	0.015	56.85	0.000	33	0.016	77.8	0.000
16	-0	56.86	0.000	34	0.039	81.72	0.000
17	0.049	62.84	0.000	35	-0.01	81.9	0.000
18	0.019	63.76	0.000	36	-0.02	82.66	0.000

Source: Compiled data

The above table shows the test of Auto Correlation for Auto Index. The independent and identically distributed hypothesis was rejected for Auto Index return series as the probability values are less than 1 per cent which indicates the select series returns exhibited dependencies are based on past behavior. The results of autocorrelation and Ljung-Box (LB) Q-statistic are also supported by previous findings of Nisha(2010), Bordoloi and Shankar (2008) showed in BSE and NSE, Abdalla (2012) in the Saudi Stock Market & Mittal and Jain (2009) showed in BSE and NSE.

- **Volatility Analysis of Auto Index with GARCH Models**

The following table - 6 represents the results of GARCH (1,1), T-GARCH (1,1), E-GARCH(1,1), models for return series of Auto Index for a period of ten years from April 2006 to March 2016. C1, C2, C3, C4, C5 and C6 represents constant of mean equation coefficient, constant of variance equation coefficient, ARCH coefficient, TGARCH coefficient, EGARCH coefficient and GARCH coefficients respectively. Q statistics represents the significance of squared residuals at select lag lengths, ARCH LM statistics represents the presence of ARCH effect in the model.

In the following table GARCH model estimates that lagged conditional variance (C3) or ARCH term and lagged squared residuals (C6) or GARCH term has an explanatory power on current volatility of Auto Index since the probability values of C3 and C6coefficients' are less than 1 per cent. The coefficient of C3 (0.082876) is lesser than C6 (0.895544) indicates that there was more impact of past volatility on the present volatility in comparison to effect of past shocks or news on the volatility of Auto Index residuals or conditional volatility. The persistence coefficients or the sum of ARCH and GARCH coefficients in the GARCH (1,1) model is 0.97842 is very close to 1 which is desirable to have a mean reverting variance process, indicating that volatility shocks were quite continual and took longer time to scatter. It is an indication of covariance stationary model with high degree of continual and long memory on variance in the residuals. These results are similar to the findings made by Kour(2004) where the sum of ARCH and GARCH coefficients were near to one indicating long persistence of shocks in volatility.

Standard GARCH (1,1) model assumed that the volatility is symmetric meaning that the impact of favorable and unfavorable news has same effect on the model. In the real market situations this assumption is repeatedly violated particularly in the equity markets. Impact of unfavorable news is generally more than good news in the equity markets due to leverage effect. Negative news will initially reduce the worth of market capitalization of a firm leads to higher proportion of debt capital out of total amount capital of a firm. It leads to greater risk of equity investments which again leads to increased supply and diminishing in the value of stocks. This phenomenon is called as leverage effect or asymmetric behavior of stock prices. In order to tackle the leverage effect on volatility of stock returns, one can use TGARCH and EGARCH models. The major difference between these models is that, the TGARCH coefficients must be positive and significant, whereas EGARCH coefficient can be a significant negative coefficient.

Table 6: GARCH (1,1), TGARCH and EGARCH Models for Auto Index Returns

Variable	GARCH		TGARCH		EGARCH	
	Test Statistic	P value	Test Statistic	P value	Test Statistic	P value
Mean Equation						
C1	0.098499	0.0003	0.074784	0.0063	0.070170	0.0091
Variance Equation						
C2	0.055466	0.00	0.056323	0.00	-0.098575	0.00
C3	0.082876	0.00	0.044854	0.00	0.151124	0.00
C4	NA*	NA*	0.071550	0.00	NA*	NA*
C5	NA*	NA*	NA*	NA*	-0.059155	0.00
C6	0.895544	0.00	0.896491	0.00	0.975692	0.00
R-squared	-0.000520		-0.000053		-0.000018	
Adj.R-squared	-0.000520		-0.000053		-0.000018	
Log likely hood	-4378.245		-4364.805		-4356.059	
AIC	3.535494		3.525457		3.518402	
SIC	3.544878		3.537187		3.530132	
Durban-Weston Stat	1.743828		1.744642		1.744703	
Residual Diagnostic Test						
Q Statistics	2.4116	0.992	2.4255	0.992	1.9313	0.997
ARCH LM Test						
F-statistic	0.635740	0.4253	0.48287	0.8261	0.181212	0.6704
Observed R-square	0.636090	0.4251	0.048325	0.8260	0.181345	0.6702

Source: Compiled Data
*Not Applicable

The asymmetric TGARCH and EGARCH models estimated for the returns of the Auto Index indicate that all coefficients of the models are statistically significant at 1 percent level, the coefficient terms of TGARCH (0.071550), EGARCH (-0.059155) also follows the positive and negative sign conditions, indicating that there is a leverage effect on the returns of Auto Index. The guideline to choose the best model among TGARCH and EGARCH is that the model whose value of Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) is minimum that could be a better model. These two models indicate the variance in the predictive ability of the model. TGARCH model exhibited AIC and SIC as 3.525457 and 3.537187 whereas EGARCH exhibited the values as 3.518402 and 3.530132 respectively. These values indicate that EGARCH model predictive ability is superior as compared to TGARCH model, henceEGARCH model is selected. Karmakar (2007), Bordoloi and Shankar (2008) and Pandey (2005) supports the results. The estimated model must be free from Auto Correlation and ARCH effect in order to consider the appropriate model for the present study. The Auto correlation can be performed by using residual diagnostic check or Q Test. The Null hypothesis statement of Q test is that the estimated model is free from Auto correlation. When the probability value of residual diagnostics is more than 5 percent then we can conclude that the estimated model is free from Auto Correlation. Similarly F statistic and observed R squared probability values are more than 5 percent, when one can consider that the model is from ARCH effect. In the above table the probability values of Q statistics for GARCH, TGARCH and EGARCH models are 99.2, 99.2 and 99.7 percent, F statistic and observed R squared probability values are for GARCH (42.53%, 42.51%), TGARCH (82.61%, 82.6%) and EGARCH (67.04%, 67.02%) indicating that these three models are free from Auto Correlation and ARCH effect.

- **Descriptive statistical analysis of Daily returns of Bankex**

The following table represents the descriptive statistics of return series of Bankex of NSE for the period of ten years from April 2006 to March 2016.

Table 7: Descriptive Statistics of Daily Returns of Bankex

Name of Technique	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
Value	0.070767	0.068353	18.81458	-12.618	2.062317	0.293226	8.090190	2711.815	0.000000

Source: Compiled Data

The above table shows the descriptive statistics of Bankex daily returns. Mean value represents the average daily returns i.e., 0.070767 per cent, median 0.068353, standard deviation is 2.062317. The coefficient of skewness (0.293226)is found to be positive for the returns which imply that the return distribution of the index traded in the market for a given period have very minimum probability of earning less than the mean return value, meaning that the returns of index will closely move with average, which is not supporting the earlier studies conducted by Karmakar (2007) Joshi (2010) in NSE and Shanghai Stock Exchange, Bordoloi and Shankar (2008) in BSE and NSE, Karachi and Dhaka Stock Exchange, Kumar and Dhankar (2009) in Bombay and Abdalla (2012) in the Saudi Stock Market on the Indian Stock Market, mentioned that the returns are higher than the mean returns. The coefficient of Kurtosis (8.090190) higher than 3 indicates that, the distribution is highly leptokurtic as compared to normal distribution for all the returns. A risk-averse investor always prefers a minimum kurtosis value since the distribution with minimum kurtosis value will not have much deviations from the mean value. Jarque-Bera statistic (2711.815) and its respective probability value (0.00)indicate that the distribution is not normal as suggesting lack of symmetric nature in the equity returns. The results are supported by previous findings of Srinivasan and Ibrahim (2010) in BSE, Mahajan and Singh (2008) in BSE,Leon (2008) in regional stock exchange BRVM and Pandey (2005) in NSE. The following table represents the Annual Return offered by Bankex and its respective risk.

Table 8: Year Wise Risk and Return Analysis of Bankex

Year	Risk	Return in Percent
30-Mar-07	2.109086	12.3718
31-Mar-08	2.426186	34.18286
31-Mar-09	3.480152	-37.4525
31-Mar-10	2.37968	124.6162
31-Mar-11	1.526463	23.11483
30-Mar-12	1.514457	-11.8903
28-Mar-13	1.218186	10.25196
31-Mar-14	1.930248	11.52242
31-Mar-15	1.340558	44.62923
31-Mar-16	1.463381	-13.3001

Source: Compiled Data

The above table represents that, the returns of Bankex are high in the year 2009-10 (124.6162) followed by 2014-15(44.62923), 2007-08(34.18286)and 2010-11 (23.11483). The annual returns for the Bankex are negative in the year 2008-09 (-37.4525), 2015-16(-13.3001) and 2013-14(-11.8903). The annual risk of Bankex are high in the year 2008-09 (3.480152), 2007-08 (2.426186), 2009-10 (2.37968) and 2006-07 (2.109086). The above table also indicates that, the negative returns or high positive returns leads to greater risk for the investors.

- **Test of Stationarity for daily returns of Bankex**

The following table represents the test of unit root for Bankex.

Table 9: Test of Stationarity for Bankex

Name of the Test	t- statistic for level data	Probability
ADF test	-43.91689*	0.0000
PP	-43.64679*	0.0000

*Critical values at 1%, 5% and 10% are -3.43278, -2.8625 and 2.5677 respectively.
Source: Compiled data

The above table indicates that the level data series is stationary at one per cent level of significance, since the absolute t-statistic value is greater than critical value at 1 per cent (43.91689>3.43278) critical value. The probability value also represents that the Bankex Index daily return series mean and variances over the period are similar since these values are less than 1 per cent. The findings are opposing the earlier studies of Mehta and Sharma (2011) and Joshi (2010). Therefore the data can be used for the further analysis.

- **Autocorrelation and Ljung-Box Q-statistic for Bankex**

The results of thirty six orders sample autocorrelation coefficients and Ljung- Box statistics return series of the Bankex for the total period of ten years from April 2006 to March 2016 are presented in Table 10.

Table 10: Test of Auto Correlation for Bankex

Lag	AC	PAC	Q-Stat	Probability	Lag	AC	PAC	Q-Stat	Probability
1	0.124	0.124	38.445	0.000	19	-0.018	-0.014	70.021	0.000
2	-0.02	-0.036	39.443	0.000	20	-0.034	-0.029	72.997	0.000
3	-0.006	0.001	39.548	0.000	21	0.003	0.015	73.021	0.000
4	-0.026	-0.026	41.193	0.000	22	0.027	0.026	74.866	0.000
5	-0.053	-0.048	48.244	0.000	23	-0.013	-0.022	75.288	0.000
6	-0.05	-0.039	54.356	0.000	24	-0.011	-0.011	75.572	0.000
7	0.007	0.015	54.461	0.000	25	0.014	0.008	76.054	0.000
8	0.044	0.039	59.218	0.000	26	0.051	0.046	82.475	0.000
9	0.029	0.018	61.367	0.000	27	-0.013	-0.021	82.891	0.000
10	0.002	-0.006	61.379	0.000	28	0.022	0.031	84.08	0.000
11	0.021	0.02	62.495	0.000	29	-0.014	-0.025	84.587	0.000
12	0.012	0.007	62.827	0.000	30	0	0.006	84.587	0.000
13	-0.012	-0.008	63.177	0.000	31	0	0.003	84.587	0.000
14	0.021	0.03	64.296	0.000	32	-0.001	0.003	84.591	0.000
15	0.017	0.012	65.007	0.000	33	0.012	0.009	84.98	0.000
16	0.025	0.023	66.591	0.000	34	0.013	0.009	85.394	0.000
17	0.032	0.028	69.17	0.000	35	-0.03	-0.032	87.638	0.000
18	-0.006	-0.012	69.249	0.000	36	-0.002	0.006	87.649	0.000

Source: Compiled Data

The above table shows the test of Auto Correlation. The independent and identically distributed hypothesis was rejected for Bankex return series as the probability values are less than 1 per cent, which indicates that the select series returns exhibited dependencies are based on past behavior. The results of autocorrelation and Ljung-Box (LB) Q-statistic are also supported by previous findings of Nisha (2010), Bordoloi and Shankar (2008) in BSE and NSE, Abdalla (2012) in the Saudi Stock Market & Mittal and Jain (2009) in BSE and NSE.

- **Volatility Analysis of Bankexwith GARCH Models**

Table 11 represents the results of GARCH (1,1), T-GARCH (1,1), E-GARCH(1,1), models for return series of Bankex for the total period of ten years from April 2006 to March 2016. In table 11, GARCH model estimates that lagged conditional variance (C3) or ARCH term and lagged squared residuals (C6) or GARCH term had an explanatory power on current volatility of Bankex since the probability values of C3 and C6coefficients' are less than 1 per cent. The coefficient of C3 (0.063110) is lesser than C6 (0.927367) indicates that there was more impact of past volatility on the present volatility in comparison to effect of past shocks or news on the volatility of Bankex residuals or conditional volatility. The persistence coefficients or the sum of ARCH and GARCH coefficients in the GARCH (1,1) model is 0.990978is very close to 1 which is desirable to have a mean reverting variance process, indicating that volatility shocks were quite continual and took longer time to scatter. It is an indication of covariance stationary model with high degree of continual and long memory on variance in the residuals. These results are similar to the findings made by Kour(2004) and mentioned that the sum of ARCH and GARCH coefficients are near to one, indicating long persistence of shocks in volatility.

Table 11: GARCH (1,1), TGARCH and EGARCH Models for Bankex Returns

Variable	GARCH		TGARCH		EGARCH	
	Test Statistic	P value	Test Statistic	P value	Test Statistic	P value
Mean Equation						
C1	0.096060	0.0040	0.067628	0.0444	0.068376	0.0413
Variance Equation						
C2	0.040202	0.00	0.041377	0.00	-0.082220	0.00
C3	0.063110	0.00	0.025132	0.00	9.343729	0.00
C4	NA*	NA*	0.067540	0.00	NA*	NA*
C5	NA*	NA*	NA*	NA*	-0.047229	0.00
C6	0.927367	0.00	0.931607	0.00	0.987212	0.00
R-squared	-0.000150		-0.000002		-0.000001	
Adj.R-squared	-0.000150		-0.000002		-0.000001	
Log likely hood	-5006.252		-4989.516		2.062319	
AIC	4.042156		4.029461		4.028071	
SIC	4.051540		4.041190		4.039801	
Durbon-Weston Stat	1.750421		1.750681		1.750682	

Residual Diagnostic test						
Q Statistics	5.5791	0.849	4.7374	0.992	5.5101	0.855
ARCH LM Test						
F-statistic	0.366710	0.5449	0.945636	0.3309	1.785078	0.1816
Observed R-square	0.366952	0.5447	0.946039	0.3307	1.785233	0.1815

Source: Compiled Data
*Not Applicable

The asymmetric TGARCH and EGARCH models estimated for the returns of the Bankex indicate that all coefficients of the models are statistically significant at 1 percent level, the coefficient terms of TGARCH (0.067540), EGARCH (-0.047229) also showed positive and negative sign conditions, indicating that there is a leverage effect on the returns of Bankex. The guideline to choose the best model among TGARCH and EGARCH is that the model whose value of Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) is minimum that could be a better model. These two models indicate the variance in the predictive ability of the model. TGARCH model exhibited AIC and SIC as 4.029461 and 4.041190 whereas EGARCH exhibited the values as 4.028071and 4.039801 respectively. These values indicate that EGARCH model predictive ability is superior as compared to TGARCH model in this phenomenon. Karmakar (2007), Bordoloi and Shankar (2008) and Pandey (2005) supports the results. In the above table the probability values of Q statistics for GARCH, TGARCH and EGARCH models are 84.9, 99.2 and 85.5 percent, F statistic and observed R squared probability values are for GARCH (54.49%, 54.47%), TGARCH (33.09%, 33.07%) and EGARCH (18.16%, 18.15%) indicating that these three models are free from Auto Correlation and ARCH effect.

- **Descriptive Statistical Analysis of Daily Returns of Energy Index**

The following table represents the descriptive statistics of return series of Energy Index of NSE for the period of ten years from April 2006 to March 2016.

Table 12: Descriptive Statistics of Daily Returns of Energy Index

Name of Technique	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
Value	0.031620	0.046806	16.69967	-13.524	1.693321	-0.00276	11.27280	7069.209	0.000000

Source: Compiled Data

The above table shows the descriptive statistics of Energy Index daily returns. Mean value represents the average daily returns i.e.,0.031620 per cent, median 0.046806, standard deviation is 1.693321. The coefficient of skewness (-0.002762)is found to be negative for the returns which imply that the return distribution of the index traded in the market for a given period have very minimum probability of earning more than the mean return value, meaning that the returns of index will closely move with average, which is supporting the earlier studies conducted by Karmakar (2007) Joshi (2010) in NSE and Shanghai Stock Exchange, Bordoloi and Shankar (2008) in BSE and NSE, Karachi and Dhaka Stock Exchange, Kumar and Dhankar (2009) in Bombay and Abdalla (2012) in the Saudi Stock Market on the Indian Stock Market, mentioned that the returns are higher than the mean returns. The coefficient of Kurtosis (11.27280) higher than 3 indicates that, the distribution is highly leptokurtic as compared to normal distribution for all the returns. A risk-averse investor always prefers a minimum kurtosis value since the distribution with minimum kurtosis value will not have much deviations from the mean value. Jarque-Bera statistic (7069.209) and its respective probability value (0.00) indicate that the distribution is not normal as suggesting lack of symmetric nature in the equity returns. The results are supported by previous findings of Srinivasan and Ibrahim (2010) in BSE, Mahajan and Singh (2008) in BSE, Leon (2008) in regional stock exchange BRVM and Pandey (2005) in NSE.

The following table represents the annual return offered by Energy Index and its respective risk.

Table 13: Year wise Risk and Return Analysis of Energy Index

Year	Risk	Return in percent
30-Mar-07	1.681326	7.738037
31-Mar-08	2.408089	50.98667
31-Mar-09	2.666868	-25.9861

31-Mar-10	1.821402	36.28211
31-Mar-11	1.095381	4.687307
30-Mar-12	1.237792	-19.7835
28-Mar-13	0.964521	0.120651
31-Mar-14	1.35184	9.662236
31-Mar-15	1.342049	-1.92082
31-Mar-16	1.364122	1.340647

Source: Compiled Data

The above table represents that, the returns of Energy index are high in the year 2007-08 (50.98667) followed by 2014-15(36.28211). The annual returns for the Energy Index are negative in the year 2008-09 (-25.9861), and in 2011-12(-19.7835). The annual risk of Energy Index are high in the year 2008-09 (2.666868), and in 2007-08 (2.408089), the overall return and risk of Energy index is moderate. This phenomenon is due to variations in the prices of crude oil and currency values. The above table also indicates that, the negative returns or high positive returns leads to greater risk for the investors.

- **Test of Stationarity for Daily returns of Energy Index**

The following table represents the test of unit root for Energy Index.

Table 14: Test of Stationarity of Energy Index

Name of the Test	t- Statistic for Level Data	Probability
ADF test	-47.25712*	0.0001
PP	-47.1933*	0.0001

*Critical values at 1%, 5% and 10% are -3.43278, -2.8625 and 2.5677 respectively.
Source: Compiled data

The above table indicates that the level data series is stationary at one per cent level of significance, since the absolute t-statistic value is greater than critical value at 1 per cent (47.25712>3.43278) critical value.   The probability value also represents that the Energy Index daily return series mean and variances over the period are similar since these values are less than 1 per cent. The findings are opposing the earlier studies of Mehta and Sharma (2011) and Joshi (2010). Therefore the data can be used for the further analysis.

- **Autocorrelation and Ljung-Box Q-statistic for Energy Index**

The results of thirty six orders sample autocorrelation coefficients and Ljung- Box statistics return series of the Energy Index for the total period of ten years from April 2006 to March 2016 are presented in Table15.

Table 15: Test of Auto Correlation for Energy Index

Lag	AC	PAC	Q-Stat	Prob	Lag	AC	PAC	Q-Stat	Prob
1	0.052	0.052	6.5924	0.01	19	-0.038	-0.019	74.911	0.000
2	-0.008	-0.01	6.74	0.034	20	-0.073	-0.062	88.306	0.000
3	-0.044	-0.043	11.589	0.009	21	-0.009	-0.017	88.513	0.000
4	-0.015	-0.01	12.126	0.016	22	-0.005	-0.017	88.569	0.000
5	-0.024	-0.023	13.549	0.019	23	-0.018	-0.031	89.384	0.000
6	-0.046	-0.046	18.826	0.004	24	0.012	0.003	89.755	0.000
7	0.044	0.048	23.728	0.001	25	0.02	0.022	90.772	0.000
8	0.051	0.044	30.204	0.000	26	0.016	0.014	91.403	0.000
9	0.021	0.013	31.322	0.000	27	-0.006	-0.002	91.494	0.000
10	-0.005	-0.003	31.376	0.001	28	0.004	0.007	91.541	0.000
11	-0.04	-0.036	35.265	0.000	29	-0.003	-0.007	91.564	0.000
12	-0.01	-0.004	35.517	0.000	30	0.025	0.024	93.176	0.000
13	0.03	0.037	37.732	0.000	31	-0.031	-0.034	95.532	0.000
14	0.089	0.087	57.622	0.000	32	-0.043	-0.032	100.22	0.000
15	0.02	0.008	58.572	0.000	33	0.014	0.024	100.7	0.000
16	0.024	0.021	60.017	0.000	34	0.02	0.029	101.75	0.000
17	0.02	0.021	61.023	0.000	35	-0.045	-0.044	106.89	0.000
18	-0.064	-0.061	71.366	0.000	36	-0.021	-0.01	108	0.000

Source: Compiled Data

The above table shows that the independent and identically distributed hypothesis is rejected for Energy Index return series since the probability values are less than 1 per cent, which indicates that the select series returns exhibited dependencies on its past behavior. The results of autocorrelation and

Ljung-Box (LB) Q-statistic are also supported by previous findings of Nisha (2010), Bordoloi and Shankar (2008) in BSE and NSE, Abdalla (2012) in the Saudi Stock Market & Mittal and Jain (2009) in BSE and NSE.

- **Volatility Analysis with GARCH Models**

The following table represents the results of GARCH (1,1), T-GARCH (1,1), E-GARCH(1,1), models for return series of Energy Index for the total period of ten years from April 2006 to March 2016. In the following table 16, GARCH model estimates that lagged conditional variance (C3) or ARCH term and lagged squared residuals (C6) or GARCH term which has an explanatory power on current volatility of Energy Index since the probability values of C3 and C6 coefficients' are less than 1 per cent. The coefficient of C3 (0.042054) is lesser than C6 (0.89795) indicates that there was more impact of past volatility on the present volatility in comparison to effect of past shocks or news on the volatility of Energy Index residuals or conditional volatility. The persistence coefficients or the sum of ARCH and GARCH coefficients in the GARCH (1,1) model is 0.940004is very close to 1 which is desirable to have a mean reverting variance process, indicating that volatility shocks were quite continual and took longer time to scatter. It is an indication of covariance stationary model with high degree of continual and long memory on variance in the residuals. These results are similar to the findings made by Kour (2004) and mentioned that the sum of ARCH and GARCH coefficients are near to one is an indicates long persistence of shocks in volatility.

Table 16: GARCH (1,1), TGARCH and EGARCH Models for Energy Index Returns

Variable	GARCH		TGARCH		EGARCH	
	Test Statistic	P value	Test Statistic	P value	Test Statistic	P value
Mean Equation						
C1	0.036484	0.1688	0.017103	0.5197	0.019306	0.4411
Variance Equation						
C2	0.042054	0.00	0.045541	0.00	-0.13365	0.00
C3	0.089580	0.00	0.63533	0.00	0.196531	0.00
C4	NA*	NA*	0.057794	0.00	NA*	NA*
C5	NA*	NA*	NA*	NA*	-0.046796	0.00
C6	0.89795	0.00	0.894048	0.00	0.979046	0.00
R-squared	-0.000008		-0.000074		-0.000053	
Adj.R-squared	-0.000008		-0.000074		-0.000053	
Log likely hood	-4472.939		-4466.726		1.693366	
AIC	3.611891		3.607685		3.604637	
SIC	3.621275		3.619415		3.616367	
Durbon-Weston Stat	1.896878		1.896754		1.896793	
Residual Diagnostic test						
Q Statistics	1.8442	0.997	2.0884	0.996	2.5120	0.991
ARCH LM Test						
F-statistic	0.0026	0.9593	0.032383	0.8572	0.037772	0.8459
Observed R-square	0.002603	0.9593	0.32408	0.8571	0.037802	0.8458

Source: Compiled Data *Not Applicable

The asymmetric TGARCH and EGARCH models estimated for the returns of the Bankex indicate that all coefficients of the models are statistically significant at 1 percent level, the coefficient terms of TGARCH (0.057794), EGARCH (-0.046796) also showed the positive and negative sign conditions, indicating that there is a leverage effect on the returns of Bankex. The guideline to choose the best model among TGARCH and EGARCH is that the model whose value of Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) is minimum that could be a better model. These two models indicate the variance in the predictive ability of the model. TGARCH model exhibited AIC and SIC as 3.607685 and 3.619415 whereas EGARCH exhibited the values as 3.604637 and 3.616367 respectively. These values indicate that EGARCH model predictive ability is superior as compared to TGARCH model in this phenomenon. Karmakar (2007), Bordoloi and Shankar (2008) and Pandey (2005) supports the results. In the above table the probability values of Q statistics for GARCH, TGARCH and EGARCH models are 99.7, 99.6 and 99.1 percent, F statistic and observed R squared probability values are for GARCH (95.93%, 95.93%), TGARCH (85.72%, 85.71%) and EGARCH (84.59%, 84.58%) indicating that these three models are free from Auto Correlation and ARCH effect.

- **Descriptive Statistical Analysis of Daily Returns of IT Index**

The following table represents the descriptive statistics of return series of IT Index of NSE for the period of ten years from April 2006 to March 2016.

Table 17: Descriptive Statistics of Daily Returns of IT Index

Name of Technique	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
Value	0.052870	0.049207	12.43480	-11.742	1.751513	0.051664	7.797686	2378.648	0.000000

Source: Compiled Data

The above table shows the descriptive statistics of IT Index daily returns. Mean value represents the average daily returns i.e., 0.05287 per cent, median 0.049207, standard deviation is 1.751513. The coefficient of skewness (0.051664)is found to be positive for the returns which imply that the return distribution of the index traded in the market in a given period have very minimum probability of earning less than the mean return value, meaning that the returns of index will closely move with average, which is not supporting the earlier studies conducted by Karmakar (2007) Joshi (2010) in NSE and Shanghai Stock Exchange, Bordoloi and Shankar (2008) in BSE and NSE, Karachi and Dhaka Stock Exchange, Kumar and Dhankar (2009) in Bombay and Abdalla (2012) in the Saudi Stock Market on the Indian Stock Market, mentioned that the returns are higher than the mean returns. The coefficient of Kurtosis higher than 3 indicates that, the distribution is highly leptokurtic as compared to normal distribution for all the returns. A risk-averse investor always prefers a minimum kurtosis value since the distribution with minimum kurtosis value will not have much deviations from the mean value. Jarque-Bera statistic (2378.648) and its respective probability value indicate that the distribution is not normal as supported by Karmakar (2007). The following table represents the Annual Return offered by Bankex and its respective risk.

Table 18: Year wise Risk and Return Analysis of IT Index

Year	Risk	Return in percent
30-Mar-07	1.924772	16.14747
31-Mar-08	2.005995	-25.0078
31-Mar-09	2.854525	-36.9035
31-Mar-10	2.047434	146.069
31-Mar-11	1.249839	19.45354
30-Mar-12	1.458289	-8.3525
28-Mar-13	1.296912	10.24817
31-Mar-14	1.459056	27.99493
31-Mar-15	1.178566	28.00127
31-Mar-16	1.138376	-5.37893

Source: Compiled Data

The above table represents that, the returns of IT index are high in the year 2009-10 (146.069) followed by 2014-15(28.00127), and in 2013-14 (27.99493). The annual returns for the IT Index are negative in the year 2008-09 (-36.9035), and in 2007-08(-25.0078). The annual risk of IT Index are high in the year 2008-09 (2.854525), 2009-10 (2.047434), and in 2007-08 (2.005995). The overall return and risk of IT index is moderate due to existing volatile conditions in the global economy. The above table also indicates that, the negative returns or high positive returns leads to greater risk for the investors.

- **Test of Stationarity for Daily Returns of IT Index**

The following table represents the test of unit root for IT Index.

Table 19: Test of Stationarity of IT Index

Name of the Test	t- Statistic for Level Data	Probability
ADF test	-48.67804*	0.0001
PP	-48.72757*	0.0001

*Critical values at 1%, 5% and 10% are -3.43278, -2.8625 and 2.5677 respectively.
Source: Compiled Data

The above table indicates that the level data series is stationary at one per cent level of significance, since the absolute t-statistic value is greater than critical value at 1 per cent

(48.67804>3.43278) critical value. The probability value also represents that the IT Index daily return series mean and variances over the period are similar since these values are less than 1 per cent. The findings are opposing the earlier studies of Mehta and Sharma (2011) and Joshi (2010). Therefore the data can be used for the further analysis.

- **Autocorrelation and Ljung-Box Q-statistic for IT Index**

The results of thirty six orders sample autocorrelation coefficients and Ljung- Box statistics return series of the IT Index for the total period of ten years from April 2006 to March 2016 are presented in table 20.

Table 20: Test of Autocorrelation for IT Index

Lag	AC	PAC	Q-Stat	Probability	Lag	AC	PAC	Q-Stat	Probability
1	0.022	0.022	1.1965	0.274	19	0.048	0.056	40.913	0.002
2	-0.059	-0.059	9.7972	0.007	20	-0.037	-0.033	44.393	0.001
3	-0.048	-0.045	15.417	0.001	21	-0.02	-0.008	45.366	0.002
4	-0.025	-0.027	16.98	0.002	22	-0.002	-0.006	45.378	0.002
5	0.034	0.03	19.858	0.001	23	-0.029	-0.033	47.466	0.002
6	0.009	0.003	20.068	0.003	24	-0.01	-0.018	47.739	0.003
7	0.009	0.01	20.248	0.005	25	0.029	0.023	49.917	0.002
8	0.027	0.03	22.043	0.005	26	0.026	0.02	51.627	0.002
9	0.003	0.005	22.068	0.009	27	0.027	0.024	53.433	0.002
10	0.007	0.01	22.189	0.014	28	0.013	0.02	53.829	0.002
11	0.001	0.003	22.19	0.023	29	-0.031	-0.025	56.168	0.002
12	0.008	0.01	22.334	0.034	30	-0.006	0.001	56.245	0.003
13	-0.008	-0.009	22.484	0.048	31	-0.034	-0.037	59.148	0.002
14	0.007	0.008	22.591	0.067	32	-0.002	-0.004	59.163	0.002
15	0.002	0	22.597	0.093	33	0.026	0.016	60.842	0.002
16	0.004	0.004	22.647	0.124	34	0.042	0.033	65.19	0.001
17	0.07	0.07	35.062	0.006	35	-0.009	-0.011	65.383	0.001
18	0.009	0.007	35.248	0.009	36	-0.009	-0.008	65.579	0.002

Source: Compiled Data

The above table shows the test of Auto Correlation for IT Index. The independent and identically distributed hypothesis was rejected for ITIndex return series since the probability values are less than 1 per cent, indicates that the select series returns exhibited dependencies are based on past behavior. The results of autocorrelation and Ljung-Box (LB) Q-statistic are also supported by previous findings of Nisha (2010), Bordoloi and Shankar (2008) in BSE and NSE, Abdalla (2012) in the Saudi Stock Market & Mittal and Jain (2009) in BSE and NSE.

- **Volatility Analysis of IT Index with GARCH Models**

The following table 21, represents the results of GARCH (1,1), T-GARCH (1,1), E-GARCH(1,1), models for return series of IT Index for the total period of ten years from April 2006 to March 2016. GARCH model estimates that lagged conditional variance (C3) or ARCH term and lagged squared residuals (C6) or GARCH term which has an explanatory power on current volatility of IT Index since the probability values of C3 and C6 coefficients' are less than 1 per cent. The coefficient of C3 (0.158293) is lesser than C6 (0.781815) indicates that there was more impact of past volatility on the present volatility in comparison to effect of past shocks or news on the volatility of IT Index residuals or conditional volatility. The persistence coefficients or the sum of ARCH and GARCH coefficients in the GARCH (1,1) model is 0.940108is very close to 1 which is desirable to have a mean reverting variance process, indicating that volatility shocks were quite continual and took longer time to scatter. It is an indication of covariance stationary model with high degree of continual and long memory on variance in the residuals. These results are similar to the findings made by Kour (2004) and mentioned that the sum of ARCH and GARCH coefficients are near to one indicates long persistence of shocks in volatility.

Table 21: GARCH (1,1), TGARCH and EGARCH Models for IT Index Returns

Variable	GARCH		TGARCH		EGARCH	
	Test Statistic	P value	Test Statistic	P value	Test Statistic	P value
Mean Equation						
C1	0.103543	0.0002	0.088002	0.0022	0.098345	0.0005
Variance Equation						
C2	0.192393	0.00	0.194266	0.00	-0.132921	
C3	0.158293	0.00	0.126222	0.00	0.249958	0.00
C4	NA*	NA*	0.072287	0.04	NA*	NA*
C5	NA*	NA*	NA*	NA*	-0.049750	0.00
C6	0.781815	0.00	0.777928	0.00	0.941525	0.00
R-squared	-0.000837		-0.000402		-0.000674	
Adj.R-squared	-0.000837		-0.000402		-0.000674	
Log likely hood	-4622.266		1.7518266		-4613.577	
AIC	3.732365		3.730640		3.726161	
SIC	3.741749		3.742370		3.737891	
Durbon-Weston Stat	1.954427		1.955276		1.954745	
Residual Diagnostic test						
Q Statistics	3.7966	0.956	4.7086	0.910	3.7966	0.956
ARCH LM Test						
F-statistic	0.046918	0.8285	0.037418	0.8466	0.271703	0.6022
Observed R-square	0.046955	0.8284	0.037448	0.8466	0.271892	0.6021

Source: Compiled Data *Not Applicable

The asymmetric TGARCH and EGARCH models estimated for the returns of the IT Index indicating that all coefficients of the models are statistically significant at 1 percent level, the coefficient terms of TGARCH (0.072287), EGARCH (-0.049750) also showed positive and negative sign conditions, indicating that there is a leverage effect on the returns of IT Index. The guideline to choose the best model among TGARCH and EGARCH is that the model whose value of Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) is minimum that could be a better model. These two models indicate the variance in the predictive ability of the model. TGARCH model exhibited AIC and SIC as 3.730640 and 3.742370 whereas EGARCH exhibited the values as 3.726161 and 3.737891 respectively. These values indicate that EGARCH model predictive ability is superior as compared to TGARCH model in this phenomenon. Karmakar (2007), Bordoloi and Shankar (2008) and Pandey (2005) supports the results. In the above table the probability values of Q statistics for GARCH, TGARCH and EGARCH models are 95.6, 91.0 and 95.6 percent, F statistic and observed R squared probability values are for GARCH (82.85%, 82.84%), TGARCH (84.66%, 84.66%) and EGARCH (60.22%, 60.21%) indicating that these three models are free from Auto Correlation and ARCH effect.

Findings

The major findings of the research study are as follows:

- The average daily returns and risk of Auto Index are 0.063 per cent and 1.52 per cent. The probability of getting lower returns than the average return is also low since the coefficient of skewness is positive. High variations were found in the risk of Auto index. In the year 2009-10 the returns were high, negative returns were found in different years during the studyperiod. This phenomenon is due to high correction in the previous period and favorable expectations about the industry growth rate. In the year 2015-16 index has generated negative returns due to high inflation rates.
- The average daily returns and risk of Bankex are 0.07 per cent and2.062 per cent. The probability of getting lower return than the average return is also low since the coefficient of skewness is positive. There is much variations in the risk of Bankex index through the period of ten years where as the returns were high in the year 2009-10 and negative in different years

during the study period. This phenomenon is due to high correction in the previous period and strong fundamental in the Indian banking industry. Due to high inflation the rates of interest have been increased by banks with RBI instructions in this regard the banking stocks have faced losses in the year 2015-16.

- The average daily returns and risk of Energy Index are 0.031 per cent and 1.69 per cent. The probability of getting lower return than the average return is high since the coefficient of skewness is negative. There is much variations in the risk of Energy index during the period of ten years where as the returns were high in the year 2007-08 and negative in the year 2008-09 and 2011-12. This phenomenon is due to ongoing high production of crude oil by Iraq in the beginning of 2007-08 financial year. Later the crude oil production has been reduced and there exists oil price shocks to the market lead the energy index to face losses in the year 2008-09.

- The average daily returns and risk of IT Index are 0.052 per cent, 1.75 per cent and the probability of getting lower return than the average return is low since the coefficient of skewness is positive. There is much variations in the risk of IT index during the period of ten years where as the returns were high in the year 2009-10 and negative in the year 2007-08, 2008-09 and 2015-16. This phenomenon is due to US subprime crisis. The index have provided highest positive returns in the year 2009-10 due to huge losses in the stock prices in previous years. In the year 2015-16 IT index has witnessed negative returns due to downfall in estimated earnings.

- ADF and PP tests reveals that the Auto, Bank, Energy and IT indices are free from non-stationary problem at level data where as it suffers from Auto correlation problem since the Ljung-Box Q-statastic probability values are less than 0.05 for different lag series. In this regard, it is felt that there is need to apply ARCH models to analyze the volatility of select indices.

- ARCH family models such as GARCH, TGARCH and EGARCH have been constructed and found that EGARCH model is best fit model to forecast the volatility of select indices. It is also found that the model is free from ARCH effect.

- The other important finding of EGARCH model is that the returns of Auto, Bank, Energy and IT Indices reacted differently to that of positive and negative information. Negative information have showed more effect and the index experienced high volatility than that of positive information. This may be due to leverage effect on stock prices.

Conclusion

The study concludes that Auto, Bank and IT sectors have provided better returns during the study period where as Energy Index has provided only moderate returns to the investors. The variations in the stock prices were high during the period of the study i.e., from the year 2006 to 08 the indices have provided less returns and from 2010 to 2014 all these indices have offer considerable returns, where as in 2015 and 16 years the returns are negative. The composite index NIFTY has offered comfortable returns to the investors with minimum risk due to shifting of risk from one sector to another sector in the market. The ARCH models reveal that the investor are reacting more quickly for negative information than positive information prevailing in the market and the negative trends were continuing for long period due to leverage effect. In order to understand and make effective investment decisions, one has to make a study on the factors contributing the volatility in the markets.

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IMPACT OF AGRICULTURAL CREDIT SCHEMES ON IRRIGATED AREA IN INDIA

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Dr. Jatin Yadav[**]

ABSTRACT

Agricultural credit schemes have become necessity for most of the farmers. Government has introduced various credit schemes for them. Proper benefit of these schemes can only be given to the farmers by proper and efficient process. In this research we study the impact of agricultural credit schemes on irrigated area. Data collected during this study reveals that there is positive impact of agricultural credit schemes on irrigated area. Suggestions for better implementation of various agricultural credit schemes and removal of bottlenecks for improving the impact on irrigated area are also given in research paper.

KEYWORDS: *Agriculture Credit Schemes, Net Cropped Area, Net Irrigated Area.*

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Introduction

Agricultural credit is considered as one of the basic input for conducting all agricultural development programs. In India, there is immense need of agricultural credit schemes for development and growth of agriculture. Many agencies like co-operative banks, commercial banks, rural banks, etc provide adequate credit to farmers, at a cheaper rate of interest. Moreover, with growing modernization of agriculture the requirement of agricultural credit has increased further in the recent years. Water is an inseparable component for enhancing agricultural productivity, and therefore development of irrigation system has been a key strategy in the growth of agriculture in the country. The net irrigated area in India is 69.09 mha (million hectares) out of 139.97 mha net cropped area. This shows a huge gap between net cropped and net irrigated area. So there is a lot of work has to be done in this field so that maximum output can be taken.

Review of Literature

Agricultural credit has been a significant area of research for decades. Various measures have been taken to improve the availability of credit sources to farmers. Studies have been conducted to evaluate the scope and execution of credit schemes for farmers and their relationship with country's total irrigated area.

Sourovi De in an essay **Agricultural Credit in India: An Overview** attempted to ask apt questions about the situation of land and water resources, input management, terms of trade, agricultural marketing, credit facilities etc. Conditions with limitations on expanding crop area, increase in productivity; totally depend on sustained infusion of credit. Availability of credit at reasonable rates, therefore, becomes a pre-requisite for agricultural growth. The essay established the conclusion that India's rural sectors need credit policies that could support surplus production.

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Kumar Gaurav in "Water irrigation by using wireless sensor network" Emphasizes on the need of conservation of available water resources, develop and use modern techniques of irrigation i.e. drip irrigation, net house or poly house can be of vital importance for this purpose.

Daniel W. Bromley in "Improving irrigated agriculture: institutional reform and the small farmer" is of the view that in modern situations we have used various techniques to irrigate the ill-suited lands for cultivation but we have focused much lesser on the environment in which the modern techniques are applied. So there is a lot of work is supposed to done in the field of institutional environment so that we can get maximum output with the modern irrigating techniques.

Objectives of Study

- To analyze the impact of agricultural credit schemes on irrigated area.
- To give suggestions for improvement in impact of agricultural credit schemes on irrigated area.

Hypothesis

A hypothesis is an idea or explanation that can be tested through study and experimentation. It is a proposal intended to describe certain facts and observations.

H_0:   Agriculture Credit Schemes doesn't have any positive impact on irrigated area.

H_1:   Agriculture Credit Schemes have positive impact on irrigated area.

Data Collection

The proposed study is based on secondary data related to irrigated area and agriculture credit schemes. Secondary data are collected from Annual Reports of Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare, NABARD, Agriculture at a Glance and some web sites of various organizations related to agriculture.

Tools and Techniques

For the analysis of the data I took help of various tools like Arithmetic Mean, Standard Deviation, Co-efficient of Standard Deviation, Correlation, T Test (SE of Two Sample Mean), T Test (Observed Correlation Co-efficient) and F Test (Ratio of Variation).

Data Analysis

The study is based on gross/net cropped area and gross/net irrigated area and the impact of agricultural credit schemes on irrigated area in India for the years of 2012-13 to 2016-17.

First of all I am analyzing gross/net cropped area and gross/net irrigated area and then analysis of agricultural credit scheme with its impact on irrigated area in India is given:

Gross/Net Cropped Area and Gross/Net Irrigated Area (Million Hectares)

S. No.	Classification	2012-13	2013-14	2014-15	2015-16	2016-17
1	Total Geographical Area	328.73	328.73	328.73	328.73	328.73
2	Total/Gross Cropped Area	194.25	200.95	198.36	197.85*	198.47*
3	Net Cropped Area	139.94	141.43	140.13	140.03*	139.97*
4	Gross Irrigated Area	92.25	95.77	96.46	95.91*	97.11*
5	Net Irrigated Area	66.29	68.12	68.38	68.33*	69.09*

Source: 1. Directorate of Economics & Statistics
                2. Department of Agriculture, Cooperation & Farmers Welfare
                3. Agriculture at a Glance 2017

* Provisional

[Gross Cropped Area (Yc = 191.3455 + 0.3097105x)
Net Cropped Area (Yc = 140.668 - 0.0302932x)
Gross Irrigated Area (Yc = 83.2985 + 0.6003721x)
Net Irrigated Area (Yc = 60.277 + 0.3833458x)]
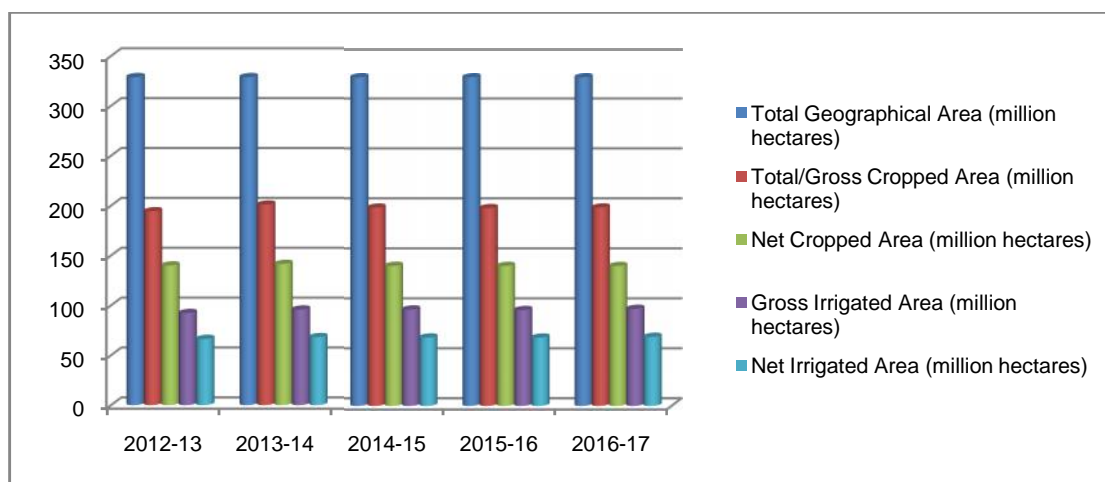
Interpretation

       Data in above table show that total cropped area and net cropped area in India have little change through years (2012-13 to 2016-17) but gross irrigated area and net irrigated area are increasing through these years except slight decrease in the year 2015-16. Average gross cropped area in these five years is around 198 million hectares while average net cropped area is around 140 million hectares. Gross irrigated area in these five years increased continuous from 92.25 million hectares in year 2012-13 to 97.11 million hectares in year 2016-17 except slight decrease in the year 2015-16 and net irrigated area increased 66.29 million hectares in year 2012-13 to 69.09 million hectares in year 2016-17 except slight decrease in the year 2015-16.

Impact of Agricultural Credit Schemes on Irrigated Area
(Amount in Crore)
(Area Million Hectares)

Years	Agriculture Credit	% Increase (Decrease)	Net Irrigated Area	% Increase (Decrease)
2012-13	6,07,375	18.85	66.29	0.88
2013-14	7,30,123	20.21	68.12	2.76
2014-15	8,45,328	15.78	68.38	0.38
2015-16	9,15,510	08.30	68.33	(0.07)
2016-17	10,65,756	16.41	69.09	1.11

(Agriculture Credit & Net Irrigated Area in the year 2011-12 are 5,11,029 & 65.71 respectively)
Source: 1. Directorate of Economics & Statistics
           2. NABARD, based on data reported by banks and IBA
           3. Department of Agriculture, Cooperation & Farmers Welfare
           4. India in Figures
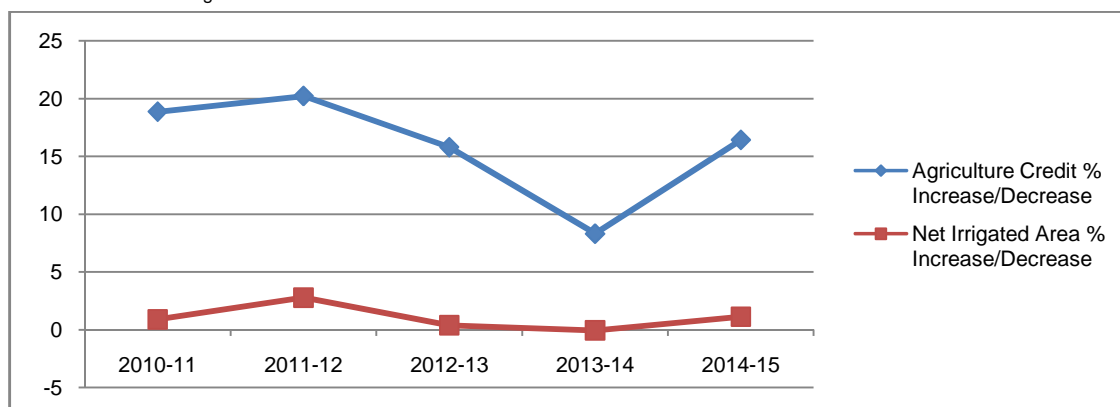
Interpretation

In year 2012-13 agriculture credit increased about 19% and net irrigated area increased by 0.88% while in year 2013-14 agriculture credit increased about 20% and net irrigated area increased by 2.76%. In year 2014-15 agriculture credit increased about 16% while net irrigated area increased by 0.38%. In year 2015-16 agriculture credit increased only 8.30% and net irrigated area decreased by 0.07% while in year 2016-17 agriculture credit increased about 16% and net irrigated area increased by 1.11%.

Above analysis shows that net irrigated area increased continuously with increase in agriculture credit from year 2012-13 to 2016-17. When agriculture credit has comparatively lesser increment of 8.3% in the year 2015-16 then the net irrigated area shows negative impact and decreases by 0.07%. This shows that increase in agriculture credit has a positive impact on net irrigated area.

Testing of Hypothesis

Values	Agriculture Credit (X) (amount in thousands crore)	Net Irrigated Area (Y) (area million hectares)
Arithmetic Mean	832.8184	68.042
Standard Deviation	156.60484	0.93
Co-efficient of Standard Deviation	0.188042	0.0137414
Correlation (r)	0.90	
PE under Correlation	0.0573126 (r is significant)	
T Test (SE of Two Sample Mean)		
H_o	No significant difference between two sample mean.	
H_1	Significant difference between two sample mean.	
Significance Level	.05	
SE	9.77	
Table Value	2.306	
Compare	SE > Table Value, H_o Rejected, H_1 Accepted.	
Conclusion	It is proved that there is a significant difference between two sample mean.	
T Test (Observed Correlation Co-efficient)		
H_o	No significant difference in the co-efficient correlation between two samples.	
H_1	Significant difference in the co-efficient correlation between two samples.	
Significance Level	.05	
SE	3.58	
Table Value	3.18	
Compare	SE > Table Value, H_o Rejected, H_1 Accepted.	
Conclusion	It is proved that there is a significant difference in the co-efficient correlation between two samples.	
F Test (Ratio of Variation)		
H_0	Both the samples have been taken for normal population having the same variance.	
H_1	Both the samples have been taken for normal population not having the same variance.	
Significance Level	.05	
SE	28054	
Table Value	6.39	
Compare	SE > Table Value, H_0 Rejected, H_1 Accepted.	
Conclusion	It is proved that both the samples have been taken from normal population not having the same variance.	

Interpretation

Above statistical analysis shows that arithmetic mean of agriculture credit is 832.8184 thousand crore while net irrigated area is 68.042 million hectares. Standard deviation of agriculture credit is 156.60484 and standard deviation of net irrigated area is 0.93. This shows that there is lesser variation in net irrigated area in comparison to variation in agriculture credit. Coefficient of standard deviation shows that there is 18.80% variation in agriculture credit while it is 1.37% for net irrigated area.

Correlation between agriculture credit and net irrigated area is 0.90 which is high degree positive correlation. Probable error under correlation is 0.0573126. Since value of correlation is greater than 6 times of probable error hence '**r**' is significant.

It is proved from T test (SE of two samples mean) that there is a significant difference between two sample mean. It is also proved by T test (Observed Correlation Co-efficient**)** that there is a significant difference in the co-efficient correlation between two samples. F test (ratio of variation) proves that both the samples have taken from normal population not having the same variance.

"As per the above analysis correlation between agriculture credit and net irrigated area is 0.90. Being greater than 6 times of probable error hence 'r' is significant. Hence the hypothesis i.e. Agriculture Credit Schemes have positive impact on irrigated area, is proved".

Suggestions & Recommendations

There are following suggestions & recommendations for improvement in irrigated area:

- Farmers should be well informed about the available agriculture credit schemes related to irrigation.
- Training programmes for farmers should be organized for drip irrigation system and other water efficient systems.
- More budget should be infused for agriculture research, seed development and other water conservation techniques.
- Government should take care of execution for small irrigation project as well as large irrigation projects because there are lots of farmers with small land holding.
- Inspiring and imparting knowledge and information to the farmers about Rain Water Storage so that the rain water can be utilized even after the draught or famine.

Conclusion

This study establishes that the impact of agricultural credit schemes on irrigated area is apparent. Present scenario of irrigated area is somewhat satisfactory but there is massive opportunity to disseminate it beyond our thought. There are maximum farmers with small land holdings while maximum government projects are for large land holding farmers so it is advisable to pay more attention on small land holding farmers so that irrigated area can be increased to a large extent. Application of various suggestions given in this research paper can help in improving the impact of agricultural credit on irrigated area.

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REVENUE RECOGNITION FOR LONG-TERM CONTRACTS UNDER IFRS 15: AN ANALYSIS WITH REFERENCE TO THE REAL ESTATE COMPANIES IN BANGLADESH

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ABSTRACT

Accounting practices for revenue recognition for long-term construction contracts was followed under two separate standards, IAS 11: Construction Contracts and IAS 18: Revenue, until recently guided in concrete by the IASB, one of the main standard setting bodies in the world. The FASB, another giant standard setting body in the USA, on the other hand, guided the same with the same purpose by formalizing different rules in detailed. Realizing the importance of bringing convergence in the issues concerned, that were getting complicated day-by-day, IASB and FASB finally introduced a new standard on revenue recognition, IFRS 15: Revenues from Contracts with Customers by repealing all existing standards related to this purpose. This article aims to highlight on a review basis the state of practicing this new standard as to revenue recognition for long-term contracts with special reference to the real estate companies of Bangladesh. It is revealed that the real estate companies to a great extent follow IAS 11 and that adoption of IFRS 15 was not mandatory till 1 January 2018. As it has been made mandatory from 1 January 2018, the companies reportedly are committed to adopt the same and some preparations are reportedly made to this end.

KEYWORDS: IASB, IAS 11, IFRS 15, IAS 18, FASB, Accounting Practices.

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Introduction

Revenue recognition, to depict the transfer of promised goods or services to customers in an amount, interferes with the process of assessment. In an uncertain world with imperfect and incomplete markets (financial crisis), no particular measurement objective should be regarded as having a monopoly, and different measurements should be regarded as complementing one another (Oncioiu and T nase, 2016). Recognition of revenue for a long-term contract also requires some measurement with some sound rules so that profits and losses over a long period of time and tax liability can be calculated based on those rules. For this, it was felt necessary that the timing of revenue recognition may need to change in the near term preparing IFRS (International Financial Reporting Standard) financial statements (Cross, 2017).IAS (International Accounting Standard) 11,very recently(on 1 January 2018)became former standard for construction contracts. In the past, this standard was considered sufficient to achieve progressive revenue recognition over time where an arrangement met the definition of a construction contract. But the practitioners realised and thereafter the preparers of the standard carefully considered that the revenue recognition over time would not actually be appropriate if the customer did not enjoy recurring services from the contract, or the assets were not built at customer sites, or the customer did not hold the right for use of the asset only by him/her. As a result, the IASB (International Accounting

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Standards Board) and the FASB (Financial Accounting standards Board) jointly released a new standard in order to get clear understanding about revenue recognition of a long-term construction contract named IFRS 15: Revenues from Contracts with Customers. IFRS 15 prescribes detailed guidance for revenue recognition both over time and at a point in time. Thus the application of IFRS 15 on or after 1 January 2018 ceased the use of some specific standards, the most mentionable ones are IAS 11: Construction Contracts and IAS 18: Revenue, and will appear as a single set of accounting standard for revenue recognition for long-term contracts with full convergence.

Under the above backdrop, it is expected that the users of financial information will get more convergence with IFRS 15 as to revenue recognition for long-term contracts. This study attempts to examine this aspect by a comparative analysis of IFRS 15 with IAS 11.The analysis has been made by reviewing the existing literature and evaluating typical example relating to the real estate businesses in Bangladesh that are typical for their contracts with customers of a long-term nature. The organization of this paper has been made by splitting off it into seven sections. The introduction is in the first section followed by the objectives, methods, literature review of the relevant standards, comparative analysis of revenue recognition under IAS 11 and IFRS 15 with a special attention to the practice of real estate companies of Bangladesh, concluding remarks and implications, and references. An abstract of this paper has also been taken place at the top.

Objectives of the Study

The main objective of this study is to evaluate the structure and guidance as to revenue recognition for long-term contracts under IFRS 15. To this end, the following aspects have been examined:

- Reviewing the provisions of IAS 11 and IFRS 15;
- Highlighting the improvement of IFRS 15 over IAS 11 with respect to revenue recognition for long-term construction contracts;
- Scrutinizing as to whether the real estate companies in Bangladesh are practicing the accounting process as prescribed in IFRS 15; and
- Focusing on the implications of IFRS 15 to the businesses engaged in long-term construction contracts and the challenges faced that need to be overcome for its easy admissibility and application.

Methods of the Study

This study is basically based on relevant literature available in the human communication records, such as books, journals, and materials on websites. The contents of IAS 11 (in Bangladesh it was renamed as Bangladesh Accounting Standard, BAS 11 and IFRS 15 (in Bangladesh it has been renamed as Bangladesh Financial Reporting Standard, BFRS15)have been studied meticulously for this purpose. A metaphorical example related to the accounting practices of long-term construction contracts for revenue recognition under IFRS 15 and IAS 11 has been developed to indicate the differences between these two standards. Further, for evaluating the use of IFRS 15 in real estate business in Bangladesh, an in-depth search has been made on the Internet for reviewing the annual reports prepared for the period of 2016 and 2017 (i.e. before 1 January 2018) of some listed and unlisted real estate companies in Bangladesh. However, due to unavailability of published financial reports of unlisted companies, a sample of 25 companies located in Dhaka and Chittagong has been randomly selected where telephonic contacts with the concerned officials of those companies were made to collect the relevant information. With this limitation as to the published information of unlisted real estate companies, this study also suffers from its limitations as to coverage of all aspects of IFRS 15. Against this backdrop of preliminary aspects of the study, the following sections are devoted to depict the important features of old standard AS 11 and the new standard IFRS 15.

IAS 11 and IFRS 15 – An Overview

- **IAS 11: Construction Contracts**

IAS 11 is set out with an objective of prescribing the accounting treatment of revenue and costs associated with construction contracts. This standard applies only to the contractor, i.e. the entity carrying out the work; it does not apply to the customer for whom the work is being carried out (ICAEW, 2008).

Under IAS 11, contract revenue and costs should only be recognized, using percentage of completion method, where the outcome of the contract can be measured reliably (ICAEW, 2008). This

means that revenue, expenses and therefore profit are recognized gradually as contract activity occurs over time. Actually, the principal concern of IAS 11 is how to allocator venue and costs to the different accounting periods to reflect the reality of the construction activity as it takes place (ICAEW, 2008). When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately (PwC, 2017). Here the loss should not be deferred until the project is completed or spread over the period of the contract. This means that when a loss has been identified, there is no need to estimate the contract's stage of completion (ICAEW, 2008).

- **IFRS 15: Revenues from Contracts with Customers**

The backdrop of IFRS 15 is the long-awaited converged accounting standard on revenue recognition issued by the combined effort of the IASB and the FASB which replaces the standards used until recently for the same purpose under U.S. GAAP (United State Generally Accepted Accounting Principles), IAS 18 and IAS 11. A single new five-step revenue recognition model emerged by the introduction of IFRS 15 based on the principle that revenue is recognized when control is transferred to the customer. As a result, the companies in the real estate and property construction and development industry in the world, and so also in Bangladesh, may confront strong challenges while applying this new standard in the areas where IAS 11, IAS 18 and other related standards were not unerringly organized.

The biggest area of impact of IFRS 15 on the real estate and property construction and development industry is inthe accounting practice for revenue recognition – over time (spread between the periods during contract duration) or at a point in time (upon completion of the contract) (Silvia, n. d.).Against this backdrop, the most significant challenges the real estate managers and developers are going to confront are the new accounting practices - the five-step revenue recognition model prescribed by IFRS 15and relevant more disclosures. These five steps in the model are 1) identifying the contract with a customer, 2) identifying the performance obligations in the contract, 3)determining the transaction price of the contract, 4) allocating the transaction price to separate performance obligations, and 5) recognizing revenue as the entity satisfies a performance obligation (BDO, 2016a)

Due to these new and revised guidelines in IFRS 15,the real estate companies in Bangladesh may need to commit for more disclosures than earlier. However, there are no qualms in this point of view that the business operators of real estate industry are in transition as to this new standard and thus they may need some times to get accustomed with. Till then it needs to address the loose proximity within its scope, if any, for which it gets slow in action. Against this backdrop, a comparative analysis is made in the following section highlighting the improvement in IFRS 15 over IAS 11 as to revenue recognition and the disclosure requirements for revenue, assets, and liabilities.

Comparative Analysis

- **IAS 11 vs. IFRS 15: Revenue Recognition for Long-term Contracts**

The most notable change for long-term construction contracts for revenue recognition is the timing and process and that under IAS 11, for all contracts that meet the definition of a construction contract, an entity recognizes revenue and profits over time by reference to the stage of completion of the contract activity (KPMG, 2014), but IFRS 15 clearly defines that revenue is recognized when, or as, performance obligations are satisfied through the transfer of control of a good or service to a customer, i.e. at the point in time. IFRS 15 does not allow any automatic right to recognize revenue over time on a progressive basis for long-term construction contracts unless at least one of the following criteria is met and the entity is able to estimate progress toward completion(KPMG, 2014): i) the customer simultaneously receives and consumes the benefit provided by the entity's performance as the entity performs (in case of routine or recurring services); ii) the entity's performance creates or enhances an asset that the customer controls as the asset is created or enhanced (in case of building an asset on a customer's site); or iii) the entity's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date (in case of building a specialized asset that only the customer can use, or building an asset to a customer order). In essence, it can be added that the entities that currently use percentage of completion or proportional performance method will need to reassess under IFRS 15 whether to recognize revenue over time or at a point in time. To apply the new criteria, an entity will need to evaluate the nature of its performance obligations and review its contract terms, considering what is legally enforceable in its jurisdictions (KPMG, 2016).An example can be cited here to show how the change in the contractual terms can drastically affect a real estate company's revenues.

- ▪ **Typical Example:** It is supposed that X Company gets two contacts with two different clients, A and B, for the apartment buildings of identical shape and price of TK. 5,000,000 per apartment. The contract with A is cancellable and with B is non-cancellable. The contract period is two years from the date of contract. As per the IFRS 15 guidelines for revenue recognition, X Company will recognize the revenue at a point in time for Contract A and over time for Contract B, because at least third criterion mentioned above is met in Contract B but none is met in Contract A. But IAS 11 requires that the revenue for both Contract A and Contract B will be recognized over time. Further, if the percentage of work completion is 40 percent in Year 1 and 60 percent in Year 2, the revenue recognition pattern for Contract A and Contract B under IAS 11 and IFRS 15 as will feature can be seen from the comparative Table 1 as presented below.

Table 1: Revenue Recognition for Contracts Under IAS 11 and IFRS 15

Period	IAS 11		IFRS 15		
	Revenue for				
	Contract A and Contract B		Contract A		Contract B
	Figure in million Taka				
Year 1	2	40 percent of 5	0	2	40 percent of 5
Year 2	3	60 percent of 5	5	3	60 percent of 5
Total	5	100 percent	5	5	100 percent

Source: Typical example and authors' calculation. Under percentage of completion method used for recognising revenue over time, the entity will determine whether input (cost-to-cost) or output (units-of-production) method would be appropriate to depict its performance under the contract.

Table 1 reveals that the amount of revenue collection is the same (over time as per their percentage of completion), TK. 2,000,000 in Year 1 and TK. 3,000,000 in Year 2for both the Contracts, A and B, under IAS 11 though the contracts are not identical in terms of their performance obligation done, cancellation clause, using right, etc. On the other hand, IFRS 15 clearly defines the contacts first, and then allows the company to recognize revenue of TK. 5,000,000 at a point in time (at the end of project completion, i.e. when the building is delivered to client A) for Contract A and over time (as per the performance completed to date, i.e. the percentage of completion) of TK. 2,000,000 in Year 1 and TK. 3,000,000 in Year 2 for Contract B. Here timing of revenues matters in cases of the payment of taxes, payment of dividends, financial ratios, etc. which will differ from one contract to another. Moreover, it is usual that customer is obliged to pay for work completed to date in the reasonable amount, at the same time, it is also crucial to assess whether the real estate company has an enforceable right to payment for performance completed to date or not. Apart from this, making sure that the contract for the assets created by the real estate company will not have alternative use, i.e. the contract prevents directing the assets to another customer, is also crucial. In this circumstance, it is clear that IFRS 15 paves the more explicit way to recognize the revenue of construction contract than IAS 11. In addition to addressing revenue recognition, IFRS 15 also addresses the requirements of contract costs for accounting purpose. The following section briefly highlights in this respect.

- • **Contract Assets and Contract Liabilities**

IFRS 15 is explicit in requiring certain costs to be capitalized and is prescriptive on the nature and conditions that must be met, which may lead to entities capitalizing more costs than in the past (BDO, 2016b). IFRS 15 also specifies the accounting treatment for certain costs an entity incurs in obtaining and fulfilling a contract to provide goods and services to customers for both contracts obtained and contracts under negotiation. However, the requirements in IFRS 15 only apply if another standard does not apply to those costs. IAS 11 permits a broader range of pre-contract costs to be capitalized, i.e. not just those that are incremental, when it is probable that the contract will be obtained (KPMG, 2014). But IFRS 15 allows incremental costs of obtaining a contract and fulfillment costs to be capitalized and recognized as an asset if the entity expects to recover them. IFRS 15 also specifies how to account for costs incurred in fulfilling a contract that are not in the scope of another standard. Costs to fulfill a contract that is accounted for under IFRS 15 are divided into two categories: i) those that give rise to an asset; and ii) those that are expensed as incurred. Under this new standard, entities will recognize an asset when costs incurred to fulfill a contract meet all of the following criteria (BDO, 2016b): i)the costs relate directly to a contract or to an anticipated contract that the entity can specifically identify, ii) the costs generate or enhance resources of the entity that will be used in satisfying performance obligations in the future, and iii) the costs are expected to be recovered. So construction in progress is an asset

under IFRS 15 and progress billings is a liability for construction contract. In this regard, for clarity, it may be useful to show how IFRS 15 lets the entities present contract assets and contract liabilities in their statement of financial position.

▪ **Presentation of Contract Assets and Contract Liabilities:** IFRS 15 is based on the notion that a contract asset or contract liability is generated when either party to a contract performs. IFRS 15also requires that an entity shall present the performance of a contract in the balance sheet as a contract asset or contract liability, depending on the relationship between the performance done by the entity by transferring goods and services and the payment of consideration made by the customer to the entity at the reporting date. Chart 1below shows clearly when IFRS 15 requires contract assets and contract liabilities to be recognized and presented in the balance sheet.

Chart 1: Recognition of Contract Assets and Contract Liabilities

(Net) contract asset	Rights (conditional) and	(Net) contract liability
If rights >obligations	Obligations	If obligations > rights
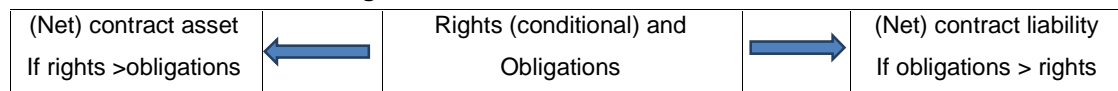
Source: KPMG, 2016.

Chart 1 reveals that a conditional right to consideration be considered as a contract asset if it exceeds the performance obligation, on the contrary, a performance obligation be considered as a contract liability if it exceeds the right. But any unconditional rights to consideration shall be presented separately as a receivable (GTIL, 2016).In this respect, a summary presentation of the circumstances as to the flow of various assets (cash, receivables, and contract assets) and liabilities (contract liabilities) of a contract under IFRS 15 can be seen from Chart 2 as show below.

Chart 2: Circumstances under which various assets and liabilities of a contract arise under IFRS 15
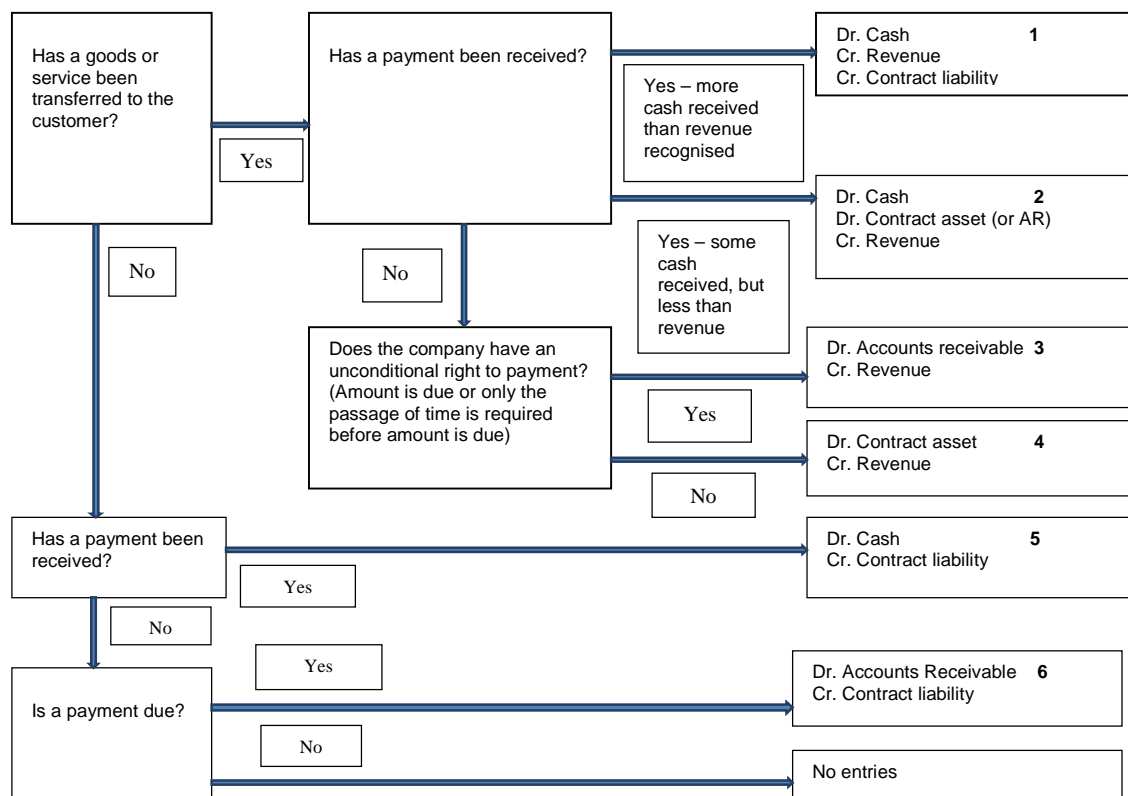
Source: GTIL, 2016.

It is seen from Chart 2 that entries 1, 5, and 6 will be passed if an entity presents a contract as a liability whenever the consideration received (or due) from the customer exceeds the revenue recognized for performance to date. On the contrary, entries 2, 3, and 4 will be given if the entity recognizes either a contract asset or a receivable for transferring goods or services as of the reporting date which is not yet paid for by the customer. An entity recognizes a receivable to the extent that only the passage of time is required before payment of the amount is due; otherwise, it recognizes a contract asset. Under current accounting standards, entry 6 is discouraged based largely on a definition on deferred revenue that focuses on the receipt of cash in advance of revenue being recognized. But under IFRS 15, entities will be required to recognize this entry whenever an amount is due under a contract (but not yet received) and performance has not yet occurred. This will represent a change in practice for many (GTIL, 2016). Though IFRS 15 does not specifically consider the loss-making contracts, it seems to be important to focus on the necessary provisions that are relevant to accounting of such contracts.

- **Loss-Making Contracts**

IAS 11 sets out how to account for expected contract losses, but no guidance is contained in IFRS 15, rather it refers to IAS 37: Provisions, Contingent Liabilities and Contingent Assets. Two types of losses can occur under long-term contracts:

- Loss in current period on a profitable contract: This condition occurs when, during construction, there is a significant increase in the estimated total contract costs but the increase does not eliminate all profits on the contract. Under the percentage of completion method only, the estimated cost increase requires a current-period adjustment of excess gross profit recognized on the project in prior periods. This adjustment is recorded as a loss in the current period because it is a change in accounting estimate (Kieso et. al., 2016).

- Loss on an onerous contract: IAS 37 requires a provision to be recognized for an onerous contract. Under IAS 37, an entity considers only the unavoidable costs of fulfilling an obligation when identifying onerous contracts. But the costs that are not considered unavoidable are expensed as incurred under IAS 11 because they are considered to be the costs to operate the business. This distinction between what is and isn't considered unavoidable may have a significant impact on whether a contract is considered onerous and how a contractual loss is calculated (KPMG, 2014), that is,the timing for when these losses from loss-making contracts are recognized and how they are measured. Here the recognition guideline for the entire loss that is expected on the contract is that the loss must be recognized in the current period (Cross, 2017). Now the disclosure requirements as given by IFRS 15 are summarized in the ending part of this section.

- **Disclosures under IFRS15**

IFRS 15 requires additional qualitative and quantitative disclosures about contracts with customers which are not included in IAS 11. Many of these requirements are narrative in nature. However, Table 2 below depicts a summary of the most significant disclosures entities need to disclose under IFRS 15.

Table 2: A summary of disclosures for long-term contracts under IFRS 15

Disclosure areas for long-term contracts
Revenue recognized from contracts with customers
Disaggregation of revenue
Information about contract balances
Information about performance obligations
Information about significant judgments
Assets recognized from the costs to obtain or fulfill a contract

Source: Watchman, 2014.

In addition, reconciliations between opening and closing contract balances are required in respect of contract assets and contract liabilities; revenue recognized in the reporting period that was included in the contract liability (i.e. billings in advance) balance at the beginning of the period; and revenue recognized in the reporting period from performance obligations satisfied in previous periods (KPMG, 2014).Updates and changes, however, to the systems and processes of entities may be required to ensure that they are able to comply with the disclosure requirements (DTTL, 2015).

Revenue Recognition in the Real Estate Companies of Bangladesh: Analysis

Real estate business in Bangladesh started its journey in the private sector inmid-60swhen EHL (Eastern Housing Ltd.)undertook land development project for the first time in Dhaka. But due to the construction boom and increasing number of high-rise buildings in the major cities of the country, mainly Dhaka and Chittagong, it has got its real motion in the near past. Owners of this business then formed an association named REHAB (Real Estate and Housing Association of Bangladesh) in 1991 with only 11 members in order to bring all concerned issues of their interest under an umbrella. In 2016, its membership number has been raised to 1151 (REHAB, n. d.).Among them, only EHL was found to go public through two stock markets, DSE (Dhaka Stock Exchange) and CSE (Chittagong Stock Exchange).

- **Accounting Practices with Reference to IFRS 15**

To examine the position of real estate companies in Bangladesh as to the accounting practice of IFRS 15, the authors attempted either to study their financial reports published before 1 January 2018 or to contact to the concerned officials of those companies in case of unavailability of published reports. 1 January 2018 is seen as the turning point, because the application of IFRS 15 must be followed compulsorily by the entities for construction business on or after this date. It was revealed in the field study that EHL, the only listed real estate company so far in Bangladesh, produced the published financial reports every year. But all other real estate and housing companies registered with REHAB neither publish their financial activities and results nor make reports by month, quarter or year. As a result, the authors could extensively study the EHL's annual reports prepared for the year of 2016 and 2017 (EHL used the period of 2015-2016 and 2016-2017). Table 3 below depicts the position of EHL as to following the accounting standards relevant to recognition and disclosure of contract revenue, work completion, and cost incurred for work completion during the above mentioned period.

Table 3: EHL's Position as to Practice Accounting Standards for Construction Contracts

Accounting Standards	EHL's Position	
	2015-2016	**2016-2017**
IAS 11: Construction Contract	Followed	Followed
IAS 18: Revenue	Followed	Followed
IFRS 15: Revenues from Contracts with Customers	Not Followed	Not Followed

Source: Annual Report 2016 (EHL, 2016) and 2017 (EHL, 2017)

It is revealed from Table 3 that EHL followed IAS 11 and IAS 18 but did not follow IFRS 15 as to revenue recognition for construction contract during last two consecutive reporting years 2015-2016 and 2016-2017, and in fact the application of IFRS 15 was voluntarily obligated until before 1 January 2018. It was further noticed that the disclosure of information relating to IAS 11, such as amount of work completion and cost incurred thereon was not clearly reported in the EHL's annual reports. In this context, it may be worth mentioning that WMSL (Western Marine Shipyard Ld.), though not a real estate company but an engineering company doing vessel construction business in Bangladesh, was found to be only the company listed both in the DSE and CSE that practiced IFRS 15 before 1 January 2018. Table 4 below depicts this picture.

Table 4: WMSL's Position as to Practice Accounting Standards for Construction Contracts

Accounting Standards	WMSL's Position	
	2015-2016	**2016-2017**
IAS 11: Construction Contract	Followed	Not Followed
IAS 18: Revenue	Not Followed	Not Followed
IFRS 15: Revenues from Contracts with Customers	Followed	Followed

Source: Annual Report 2015-2016 (WMSL, 2016) and 2016-2017 (WMSL, 2017).

Table 4 shows that in its annual reports, WMSL followed both IAS 11 and IFRS 15 as the accounting standards in reporting contract revenue recognition and for related disclosure in 2015-2016, and in 2016-2017.But nothing was mentioned about IAS 18 in either period. It was also found that despite stating IFRS 15, WMSL disclosed its contract revenues as needed to be estimated under IAS 11, i.e. percentage of stage of work completion, and cost incurred for work completion as percentage of completion. Further, due to unavailability of published financial reports, a sample of 25 unlisted real estate companies were requested over telephone to inform about their accounting practices as to contract revenue recognition and its disclosure. They reported that they applied IAS 11 and IAS 18 for construction contract revenue recognition until before 1 January 2018, and since it is made compulsory to

apply IFRS 15 for the same purpose on or after the same date they will follow it henceforth. Their opinions as to adoption of IFRS 15 are shown in Table 5 below.

Table 5: Respondents' Opinion as to Follow IFRS 15

State of Opinion as to follow IFRS 15	Frequency	Percentage
Agree to follow IFRS 15 on or after 1 January 2018	25	100
Necessary training and other education completed for IFRS 15	15	60
Still continuing the training for IFRS 15	6	24
Yet to initiate any training for IFRS 15	4	16
Total	25	100

Source: Field survey.

Table 5 puts out that the respondents of the sample companies fully agreed to follow IFRS 15 on or after 1 January 218 as a part of the mandatory compliance of the same. 60 percent of the respondents reported that they have already completed necessary training and educational activities to concerned persons for practicing accounting processes under IFRS 15; 24 percent of them were continuing the training activities; and the remaining 16 percent yet to launch training and other activities. These 16 percent respondents further added that they would begin the practice of IFRS 15 by hiring the concerned experts and then would take necessary initiatives for enhancing the capabilities of its own resources in this regard.

Under the above backdrop, the authors got the real picture of accounting practices of both listed and unlisted sample real estate companies in Bangladesh in terms of IAS 11, IAS 18, and IFRS 15 during the period of 2016 and 2017. It is revealed that none of the sample companies started to adopt IFRS 15 for recognition of revenues from contracts with customers, instead, they were following IAS 11 and IAS 18 for the accounting practices with reference to revenue recognition until 2017. Respondents further reported that the compliance of IFRS 15 was left voluntary until before 1 January 2018. This is likely the main cause of unsatisfactory compliance of IFRS 15 made by the real estate companies in Bangladesh. However, the sample companies showed their strong commitments in favour of the compliance of IFRS 15 from 2018 onward.

Concluding Remarks and Implications

IFRS 15 addresses the issues relating to revenue recognition for long-term contracts. The entities in the IASB member countries and the USA(country of origin of the FASB) are to apply IFRS 15 for reporting periods beginning on or after 1 January 2018.Although this article does not address all aspects of the new standard, the authors have tried to highlight some important changes made in IFRS 15 over IAS 11. Companies can continue to evaluate how IFRS 15 might change current business activities, including contract negotiations, contract costs, contract modifications, taxes, budgeting, controls, etc. However, the success or failure of this new standard can only be determined after its implementation.

Further, real estate businesses in Bangladesh seem to commit strongly to adopt IFRS 15 from 2018 and to this end the real estate companies in Bangladesh can adopt IFRS 15 by using a simplified approach as suggested by PwC (2017). The approach refers to i) applying this standard to all existing contracts as of the effective date and to contracts entered into subsequently, ii) recognising the cumulative effect of applying IFRS 15 in the opening balance of retained earnings on the effective date, and iii) disclosing the impact of adopting the new standard on all affected financial statement line items in the period the standard is adopted. In fact, a real estate company using this simplified approach can fulfill the requirements of the new standard by disclosing this fact in its financial statements. Against this background, this review article is expected to be useful as an introduction to the academic readers as well as to the practitioners in concerned areas to perceive this new IFRS just at the beginning of its compulsory application in real life situation. Moreover, the authors also believe that reaction of real estate companies as to revenue recognition and the presentation of the same in the financial statements before and after the implementation of IFRS 15 can be revealed as an important issue for further studies.

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FINANCIAL REPORTING REFORMS IN THE INSTITUTIONS OF HIGHER EDUCATION IN INDIA

CA Vikram Nayyar*

ABSTRACT

Purpose: The present research paper, with conceptual/theoretical approach, is an attempt to comprehend the accounting reforms undertaken by the Government of India in the Government institutions of Higher Education (GIHE).

Design/Methodology: The first part of this paper deals with the initial reforms undertaken by the Government of India in the beginning of new millennium. Such reforms were made applicable to all autonomous bodies of Government of India (GAB) uniformly. The second part of this paper explains how the initial reformatory measures could not address the specific requirements of the Government institutions of higher education, because of their distinctive features vis-à-vis the other Government autonomous bodies. The third part of this paper examines the next phase of reforms introduced by the Government of India, which were fully oriented towards the specific requirements of the GIHE.

Findings: During the past one decade there is paradigm shift the way Governments accounts are looked at. The accounting in Government institutions in India, now, is no more perceived merely as a tool for recording the actual cash received and disbursements made. A well-structured financial statements and reports, based on widely accepted accounting principles and standards, are an important aid to the Government and other stakeholders to gauge financial state of affairs of the organization and in framing strategic policies and plans for future. The Uniform Financial accounting and reporting standard notified by the Government found to be fully aligned with the specific needs of the institutions except in the treatment of assets created out of sponsored projects and the compliance of AS 15 (ICAI).

Practical Implication: The identified issues and the suggestions incorporated in the paper is expected to help proper recognition and measurement of the economic costs and benefits arising out of assets created from sponsored projects as well as expenditure on retirement benefits.

KEYWORDS: *Financial Reporting, Reforms in Accounting and Financial Reporting.*

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Introduction

As a part of Public Financial Management, the need of reforms in Government Accounting and financial reporting (especially in Government autonomous bodies) has attained the special focus of the Government for quite some time in the recent past. Prior to the year 2002, most of the Government autonomous bodies had been following cash basis - single entry accounting system. The financial statements of such autonomous bodies primarily reflected the total receipts and payments made during the period of a given financial year. Some of the organization also prepared income and expenditure account and a Balance Sheet. There was no uniformity in the formats and presentation of accounts of these bodies. The preparation of accounts primarily oriented towards the budgeting process of the institution. The Statements of annual accounts were presented in the shape of actual receipts and payments in reference to budgeted figures. Such statements did not provide adequate details concerning the overall financial health of the entity. Under this system, assets of the organization, it's written down value after providing for the depreciation, liabilities of the organization, income and expenditure accrued as distinct from actual receipt and payment did not find a mention in the financial statements. Recognizing the need to remove these inadequacies and keeping in view the global reforms taking place

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in the government accounting, there is paradigm shift, the way Governments accounts are looked at. Now, the accounting in Government sector in India is no more perceived merely as a tool for recording the actual cash received and disbursement made. A well-structured financial statements and reports, based on widely accepted accounting principles and standards, are an important aid to the Government and other stakeholders to gauge financial state of affairs of the organization. It also helps the Government in framing strategic policies and plans for future. The reformative steps taken by the Government in this direction are clearly manifested in various policies such as Government Accounting Rules, 1990, The Financial Responsibility and Budget Management Act, 2003 (FBRM) read with General Financial Rules, 2005 (GFR), Indian Government Accounting Standards (IGAS), Outcome Budget to name a few.

Initial Reforms

With a mission to bring reforms in the accounting of these bodies and to ensure uniformity and transparency in the presentation of accounts, the Central Government constituted an expert committee headed by Controller General of Accounts (CGA) to devise standard formats of accounts. The committee submitted its report dated Feb 2nd, 2001, wherein, standard format of accounts consisting of Statement of receipts and Payments, Income and expenditure account, Balance Sheet and schedules with significant accounting policies and notes to the accounts forming integral part of the financial statements. The Central Government accepted the report and made it mandatory for all the Central autonomous bodies to prepare its account on the standard formats with effect from April 2001. The common formats of account were also notified by the Ministry of Human resource development on 18th February 2002 for implementation by all the Central universities and other institutions of higher education under the purview of the Ministry. These common formats of accounts could not serve the purpose of educational institutions as these were not devised keeping in view the specific nature of activities and the financial practices prevailing in most of the government institutions.

Distinctive Feature of Government Institutions of Higher Education

Unlike most of the Government Autonomous Bodies, the profit is not the objective of Government educational institutions. It is not that all the institutions of higher Education in India are in public sector. There are considerable numbers of institutions of higher education in private sector also.[1]According to the All India Survey on Higher education (AISHE) for the year 2015-16 issued by the MHRD, there are 799 universities, 39,071 colleges and 11,923 stand-alone institutions in India, as tabulated here below.

Table 1

University	Central University	43
	State Public University	329
	Deemed University	122
	State Private University	197
	Central Open University	1
	State Open University	13
	Institution of National Importance	75
	State Private Open University	1
	Institutions under State Legislature Act	5
	Others	13
	Total	**799**
College		**39071**
Stand Alone Institution	Diploma Level Technical	3867
	PGDM	435
	Diploma Level Nursing	3060
	Diploma Level Teacher Training	4403
	Institute under Ministries	158
	Total	**11,923**

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[1]MHRD Report "Educational Statistics- At a Glance" 2016(website:
http://mhrd.gov.in/statist)http://mhrd.gov.in/sites/upload_files/mhrd/files/statistics/AISHE2015-16.pdf

So far as academic standards are concerned, the private institutes are regulated in the same manner as the Government institutions. However, unlike Government institutions, the private institution of higher education operates like a business entity, in the sense that such institutes not only recover the total cost of its services from the students and other users but also generates an appropriate surplus to fulfill their future needs. Such private institutes have to prepare their accounts following the same Accounting Standards as prescribed for other organizations. Thus, the accounting system in Government institutions of higher education can neither be similar to the one being followed by other Government autonomous bodies, which are working on commercial lines, nor with the private institutions of higher education.

The Government institutions are largely dependent on Government grants for its maintenance as well as developmental activities. The major source of internal revenue of these institutes comprises fee from students, donations, consultancy works, rent from University estate, interest from endowments, etc. In most of the GIHEs, the total annual internal revenue from all these components can hardly meet the total annual operation and maintenance expenditure of such institutes. As such, the resultant deficit of such institutions, i.e., excess of expenditure over income, is met by the government in the shape of annual grant(s) to these institutions.

Here, it will be relevant to make a brief analysis of public expenditure on the education sector. The total expenditure of Government (Central, State and Union Territories) in 2013-14, on Education, was Rs 472011.27 crores.[1]A table showing total expenditure of Government (Central, State and Union Territories) in 2013-14 is as below: -

Table 2   (Rs in crores)

	Revenue	Capital	Loan & Advances	Total
Expenditure on Education by Education Department	365965.23	6841.71	26.76	372833.70
Expenditure on Education by Other Departments	99177.57	0.00	0.00	99177.57
Total	465142.80	6841.71	26.76	472011.27

The table 2 depicts the total public expenditure on education, which includes the expenditure on school education as well as higher education. Out of the total public expenditure (revenue) on education of Rs 465142.80 crores, the government outlay towards higher and technical education was Rs 142044.92 crores as tabulated here below:

Table 3

Sector	Expenditure Higher Education (Rs in crores)			Expenditure (% of GDP)		
	States/ UTs	Centre	Total	State/ UTs	Centre	Total
University & Higher Education	45571.69	25567.34	71139.03	0.40	0.23	0.63
Adult Education	637.42	686.65	1324.07	0.01	0.01	0.01
Technical Education	36320.90	33260.92	69581.82	0.32	0.30	0.62
Total	82530.01	59514.91	142044.92	0.73	0.54	1.26

Given such a huge public expenditure on Government institutions of higher education, it was required on part of the Government to formulate a standard format of annual accounts and financial reporting & disclosure standards for all the central funded institutions of higher education, keeping in view their specific requirements. Another special feature of Universities and other institutions of Higher Education is that these institutions carry out various Government(s) sponsored research projects and schemes, which require special accounting treatment and disclosures.

These institutions frequently receive donations, contributions and endowments with some restriction and stipulations concerning utilization of these funds. These funds are thus applied and utilized in such predetermined manner in consonance with the prescribed stipulations. Such institutions also set aside or earmark a portion of their own income for some specific activities. All such funds constitute *'Restricted funds'* which require different accounting treatment, presentation, and disclosure in the

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[1]MHRD Report "Educational Statistics- At a Glance" 2016(website: http://mhrd.gov.in/statist)

financial statements. Owing to these distinct and special features, there was aneed to formulate sound accounting and financial reporting framework, specific to the requirements of education sector.

In the above background, the Ministry of Human Resource Development (MHRD)in partnership with the Institute of chartered accountants of India (ICAI), New Delhi, constituted a working group. This group was tasked to formulate an appropriate method of accounting, a uniform reporting framework, application of sound accounting principles pertaining to recognition, measurement, and disclosure of various items of income & expenses and assets & liabilities in the financial statements of educational institutions, keeping in view the peculiarities of the activities of Institutions. After an extensive study and keeping in view the legislative environment governing the education sector, prevalent accounting and disclosure practices, and elements of financial statements specific to the education sector, on Jan 18, 2012, the working group submitted a detailed report and its recommendations. The recommendations of the group include[1]:

- All educational institutions should be mandated to apply accrual basis of accounting.
- Accounting standards issued by the ICAI should be made mandatory to educational institutions.
- Fund based accounting may be introduced to ensure appropriate use of Earmarked funds by the institution.

Devising and Notification of Common Financial Reporting Format and Accounting Standards, Entirely Oriented Towards the Distinctive Requirements of GIHE

Based on the recommendations of the fore mentioned working group, MHRD in the month of April 2015 notified[2]a standard common format for presentation of financial statements of Central Higher education Institutions. Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI), with certain exceptions, were made applicable to meet the requirements of all stakeholders. Such common formats aimed to bring not only uniformity and comparability of financial statements of different institutions, but also to promote accountability and transparency. Some special characteristics of this standard format are as follows.

Fund Based Accounting and Reporting

The educational institutions generally receive funds and contributions for some specified purposes. E.g., a person may donate a lump sum amount to an Institution to create an endowment, the income of which is to be utilized for payment of award of scholarship to meritorious students. In other case, a donor may make a contribution to an Institution for utilization towards the construction of a building or a laboratory, etc. In some cases an Institution may on its own earmark a portion of its own funds for utilization towards some specific objectives, such as construction of buildings, financial assistance to research scholars, to name a few. Accordingly, such restricted/earmarked funds and contributions are applied for the specified purposes and objectives only. The accounting treatment of receipt and application of such funds is not similar to that of other (unrestricted) income and expenditure of the organisation. In order to enable the concerned stake holders to have a true and fair view of the receipt, application and unutilized balance of the restricted/earmarked funds, the standard format has prescribed a separate schedule to reflect the state of affairs of such funds as follows:

Table 4

1	Opening Balance		xxxx
2	Additions during the year		
	i.) New Contribution	xxxx	
	ii.) Income from Fund (e.g. interest)	xxxx	xxxx
3	Total **(1+2)**		xxxx
4	Application of Funds		
	i.) Revenue Expenditure	xxxx	
	ii.) Capital Expenditure	xxxx	
	Total **(i+ii)**		xxxx
5	Closing Balance **(3-4)**		xxxx
6	Closing balance represented by		xxxx
	i.) Bank Balance		xxxx
	ii.) Securities		xxxx

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[1]Report on implementation of accounting standards in Educational Institutions of Department of Higher Education, Ministry of Human Resource Development.
[2]MHRD notification No.29-4/2012-IFD dated 17/04/2015

iii.)	Receivables		

The closing balance of the earmarked funds as reflected in point five of the above schedule on the liability side of the balance sheet of institution. The assets held against such fund, as detailed in point 6 of the above schedule are reflected on the assets side of the balance sheet. The capital expenditure made out of earmarked funds, leading to creation of fixed assets, are added in the schedule of Fixed of assets with corresponding addition to Capital Fund of the Institution.

Special Treatment of Grant(s) Received for Sponsored Projects and Schemes

Various Government departments/its agencies, such as DST, DBT, UGC, AICTE, etc., sanction grant(s) to Universities/Institutions to carry out specific research projects and other schemes. Such grant(s) are not similar to earmarked funds. In case of earmarked funds, though there exists some restriction on its usage but, the ownership of such fund as well as the assets created there from vest with the Institution only. Whereas, in case of the grant(s) received by an institution to carry out some specific projects and schemes(sponsored by various Govt. agencies), the ownership of such fund continue to vest with the project sponsoring agency. Even the ownership of the assets created during the execution of such sponsored projects remains with the Govt., though the concerned institution continue to possess the same for utilization during the useful life of the assets so created. The status of receipt of such grant(s), utilization thereof and the closing balance (pending utilization) at the end of year is reflected in the financial statement through a separate schedule as follows:

Table 5

Sr. No.	Name of Project	Amount received During the Year (Cr)	Expenditure During the Year (Dr)	Closing Balance (Unspent Grant)

Unlike earmarked funds, the capital expenditure out of grants for sponsored projects is not reflected separately in the financial statements. Even the fixed assets created out of such grants are not reflected in the balance sheet of the institution as the ownership of such assets continues to vest with the sponsoring agency. The unspent grant (pending utilization) is treated as a current liability of the Institution and accordingly reflected in the liability side of the balance sheet.

Accounting of Expenditure on Employee Benefits and Disclosure Thereof

Most of the GIHEs are dependent on the govt. grants to meet their substantial portion of maintenance expenditure that largely includes expenditure on employee benefits. Therefore, it is very important for the institution to properly account for and make adequate disclosure of expenditure on employees benefits As per the Accounting Standard (AS) 15 issued by the Institute of Chartered Accountants of India (ICAI), the employee benefits have been classified into four types, i.e., Short term benefits (which includes monthly payment of salaries, wages, bonus, etc), long term benefits (that includes benefit of sabbatical leave, leave travel concession, etc), post-retirement benefits (e.g., gratuity & pension) and terminal benefits. Depending upon the type of the employee benefit and the period within which a liability is falling due, the AS 15 (ICAI) has prescribed different method of measurement and recognition of expenditure on employee benefits. For example, if a liability is falling due beyond twelve months then the expenditure has to be measured after discounting. With regard to post-retirement benefits the AS 15 (ICAI) prescribes use of actuarial techniques to measure the amount of employee benefit which is attributable to a given financial year.

However, keeping in view the specific pay structure of the Government institutions and its reporting requirements, the financial reporting standard (FRS) notified by the MHRD classified the employee benefits into two categories instead of four. The first category includes the service benefits and the second category includes retirement and terminal benefits. The yearly expenditure on service benefits are directly charged to the income and expenditure account. Even the employer's contribution towards pensioner funds under a defined contribution scheme (commonly known as New Pension Scheme or NPS) is also directly charged to income and expenditure account along with salaries, wages, medical facilities, etc. In case of retirement and terminal benefits (that includes payments towards Gratuity, Pension under a defined pensionary benefit scheme and leave encashment), only the provision required to be made in the given financial year is charged to income and expenditure account. Such yearly provision is calculated by using the actuarial techniques. The FRS (MHRD) has prescribed a

separate sub schedule of Staff Payments and benefits to disclose the working and calculation of yearly provision towards the retirement benefits as detailed here below:

Table 6

Particular	Pension	Gratuity	Leave Encashment	Total
(a) Opening balance of retirement Fund				
(b) Addition: Capitalized value of Pensionary Contribution received during the year				
(c) Total (a+b)				
(d) Less actual payments made during the year				
(e) Balance at the end of the year (c-d)				
(f) Provision required as per Actuarial valuation at the end of the Financial Year				
(g) Provision to be made during the Financial Year (f-e)				

After the implementation of FRS (MHRD) in 2015, the major issue faced by the institutions is as to how to build up the required Retirement Fund as per the actuarial valuation at the beginning of the financial year 2015-16, which is a prerequisite for the proper implementation of FRS (MHRD) on the basis of principles enunciated in AS 15 (ICAI). In case an institution makes the provision of an amount required as opening balance of Retirement Fund (as per the calculation under Actuarial valuation), without having a corresponding asset base, it is most likely that the whole of the capital of the Institution would get depleted. The possible solution to this is one-time financial support to all GIHEs to build up the required opening balance of Retirement Fund. In the absence of such support, those institutions could not build up the required Retirement Fund and thus are constrained to follow the principle of 'pay as one goes' to book the expenditure on retirement benefits.

Conclusion and Suggestions

To conclude, during the past one decade the Central Government has indeed brought in the much-desired financial accounting and disclosure standard which are uniformly applicable to all the centrally funded higher education institutions. These standards are fully aligned with the specific needs of such institutions. However, most of the public institutions of State Government are still following their own traditional method and format of financial statements and reporting thereof, which are not in conformity with FRS (MHRD). There is also a need to review the accounting treatment of assets created out of sponsored projects. In specific following suggestions are made to ensure effective implementation of Uniform Financial Reporting Standard notified by the MHRD;

- All the State Governments may be pursued to adopt such standard for implementation by all the public institutions established by respective State Legislation.

- With respect to the assets created out of fund released by any Governmental agency (to carry out any specific research project or a scheme), the ownership of which continue to vest with the sponsoring agency even after the completion of tenure of project, the FRS (MHRD) prescribes that such assets shall not be reflected in the balance sheet of the concerned institution disregarding the fact that after the completion of the project such assets are actually utilized by the institution for its other operations/activities . This standard missed out the fact that irrespective of the ownership of such an asset, the economic benefit and costs relating to such asset are actually enjoyed/borne by the institution. By not including such assets in the balance sheet, neither the book value/written down value get reflected in the books nor does the depreciation. This results in understatement of operational costs on the one hand and the understatement of assets employed in such institution on the other hand. To address this anomaly there is a need to review this standard.

- In order to provide an adequate asset base corresponding to the provision Retirement Fund (to be calculated by following Actuarial Valuation technique), the Government may sanction a one-time grant to the concerned Institutio**ns.**

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SIZE OF FIRMS AND ITS IMPACT ON FINANCIAL PERFORMANCE OF SELECT INDIAN PUBLIC LIMITED COMPANIES

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ABSTRACT

The large size firms will grab up the opportunities of being big. Production costs are generally lower in case of large size firms when compared to the small size firms. Production costs will be lower because of availability of number of economies for producing on a large scale by availing particularly the internal economies. They enjoy the cost advantages from the expansion of their size. The internal economies are available to a particular firm and give the firm an advantage over other firms. This is because, internal economies results due to firms own expansion. The present study is carried out to identify whether these internal economies derived from different functional areas are truly enjoyed by the large size firms when compared to small size firms. 9335 Public Limited Companies operating in India are selected. The data has been collected from the Reserve Bank of India data base for a period of three years from 2014 to 2016. These companies are divided into seven categories. Analysis of variance indicates greater difference among the different categories of public limited companies with respect to their profitability, expenditure and turnover positions.

KEYWORDS: *Profitability, Expenditure, Turnover, ANOVA and Post Hoc Test.*

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Introduction

The large size firms will grab up the opportunities of being big i.e they enjoy the advantage of reducing different elements of costs in terms of economies of scale and thereby increase their profits when compared to other sizes of firms. Production costs are generally lower in case of large size firms when compared to the small size firms. Production costs will be lower because of availability of number of economies for producing on a large scale by availing particularly the internal economies. They enjoy the cost advantages from the expansion of their size. The internal economies are available to a particular firm and give the firm an advantage over other firms. This is because, internal economies results due to firms own expansion. Labor cost per unit will be reduced by practicing division of labor, if a firm expands its scale output. Very often large firms enjoy technical economies from use of sub-size machines for producing on large scale and also by utilizing their by-products and waste to produce other products.

Greater specialization in managerial staff and mechanization of data processing is possible if the size of the firm increases. Managerial economies results from all these activities. A big size firm can avail marketing economies in its bulk purchases as well as sales. There will be a greater scope for spreading of risks through diversification of output and market for a large producer. With this backdrop, the present study is carried out to identify whether these internal economies derived from different functional areas are truly enjoyed by the large size firms when compared to small size firms. The cost advantage will result in increase in profit, as such the profitability ratios are taken up for the study. To examine the extent of availability of marketing, managerial, storage and labor economies, expenses ratios are considered. The relationship between the level of activity and the effective usage of assets are

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measured by the Turnover ratios also known as asset management ratios. These ratios measure how efficiently the assets are employed by a firm. Therefore an attempt is made in this study, to identify whether the different sizes of the firms differ with respect to their profitability and expenditure and also to test their efficiency with respect to turnover ratios.

Literature Review

J.M. Samuels,. D.J. Smyth, (1969) in their study examined the relationship between size of the firm and rate of return of 186 UK companies. Companies were divided into ten groups based on net assets, a measure of firm's size. Ratio of profit before tax to net assets is used as a measure of profitability. Using ANOVA, they found evidences that a firm's size is a significant factor in the determination of its profits.

Massimiliano Celli. (2013) contributed to identify the determinants of economies of scale in large businesses. The study identifies and analyzes the economies of cost that, according to most of the well-established literature, contribute jointly to originate the phenomenon at stake. The study analyzed the information collected through specially designed questionnaires form a sample of business listed on regulated European markets. The aim of the questionnaires is to verify if such companies obtain economies of scale in their productive processes and, if so, to identify which of the cost economies previously analyzed are actually achieved. Specifically, the study tried to overcome a one-way and sole interpretation of the economies of scale phenomenon in favour of distinction in economies of scale.

Ragupathi, Aparna K. (2017) have identified that firms with different size differ with respect to their profitability. The study was conducted on seventy five manufacturing Central Public Sector Enterprises (CPSEs) operating in India. These enterprises were divided into three categories based on total assets. Analysis of variance indicates greater difference among the different categories of enterprises with respect to their profitability. No two sizes of enterprises are grouped in a homogeneous subset. From this we can conclude undoubtedly that the large size firms are enjoying the advantage of being big in terms of high profits.

Ranasalman, Anwarsalman Ali. (2015) stressed on the need for availability of information about economies of scale which are essential for regulatory and organization decisions. Because of its arrangement, the financial business also provides us with an outstanding source of data for measuring the cost function. Economies of scale give a way to businesses for maximizing their production and minimizing the cost of that production. Businesses control their cost with the help of internal economies of scale and external economies of scale analysis. This study proposed a critical review of the publish literature for clarification of the concept.

Tucker, K. A,(1972) examined the relationship between the size of supermarkets and various aspects of their operating performance. There is in fact very little evidence which relates to size of supermarkets and various aspects of their operating performance. Rather, concerned with more general relationships between size and performance.

Tilley, R.P.R., Hicks, R. (1970) observed that supermarket trading is one of the most competitive forms of retailing, and an area in which modern techniques of management, accounting and marketing are often to be found. One major factor in determining the profitability and performance of retail outlets is the size of their selling areas. For this reason, this study has analyzed the operating performance of a range of supermarkets of deferent sizes. The study has suggested that the trend toward larger supermarkets may not lead to commercial efficiency and profitability at the branch.

Rajindar.K and Koshal (1970) examined economies of scale in bus transport as experienced in India. Estimates of the long-run marginal cost (per passenger-kilometer) for sections of the bus industry are compared with bus fares and with railway costs. The study compared various costs which influenced price with profits in the long run.

Objective of the Study

The objective of the study is to identify whether different sizes of the firms differ with respect to their profit, expenses and turnover position.

Hypotheses of the Study

The hypotheses designed for the study are:

H_{01}:   Different sizes of companies do not differ with respect to their profitability ratios.

H_{02}:   Different sizes of companies do not differ with respect to their expenditure ratios.

H_{03}:   Different sizes of companies do not differ with respect to their turnover ratios.

Methodology of the Study

In an attempt to know whether the large size firms will grab up the opportunities of being big, 9335 Public Limited Companies operating in India are selected. Data has been collected from the Reserve Bank of India data base for a period of three years from 2014 to 2016. These companies are divided into seven categories based on total assets which are a measure of firm's size as on March 2014 (J.M.Samuels and D.J.Smyth, 1969). Category seven consists of 475 companies with total assets of one Billion and above, 396 companies comes under category six with a total assets of less than one Billion but more than 50 Million, 664 companies whose total assets are less than 500 Million but more than 250 Million form category five, 1613 companies whose total assets are less than 250 Million but more than 100 Million are grouped under category four, 1494 companies whose total assets are less than 50 Million but more than 100 Million form category three, 2659 companies whose total assets are less than 50 Million but more than 20 Million comes under category two and 2034 companies whose total assets are less than 20 Million but more than 10 Million are categorized as one. Table 1 exhibits the information about the category wise distribution of public limited companies selected for the study.

Table 1

S. No	Size based on Total Assets	Number of Public Limited Companies
1	10 Million to 20 Million	2034
2	20 Million to 50 Million	2659
3	50 Million to 100 Million	1494
4	100 Million to 250 Million	1613
5	250 Million to 500 Million	664
6	500 Million to 1 Billion	396
7	1 Billion and Above	475
	Total	9335

Source: RBI Data Base

Ratio of Profit after tax to sales (PAT/SALES) and ratio of Profit after tax to Net worth (PAT/NW) are used as a measure of profitability to test the first hypothesis designed for the study. To test the second hypothesis designed for the study, Ratio of Employee expenses to total expenditure (EMP/TE) and ratio of cost of raw material to total expenditure (COM/TE) are used as a measure for cost effectiveness. To test the third hypothesis designed for the study, Ratio of trade receivables to sales (DR/SALES) and ratio of inventory to sales (STOCK/SALES) are used as a measure for turnover position. The data is analyzed using statistical technique ANOVA.

Analysis and Inferences

- **Analysis of Profitability Ratios**

To test the hypotheses designed for the study, Analysis of Variance (ANOVA) is applied. As ANOVA is a parametric test, before analyzing the data, the data has to satisfy two important assumptions. First the data should be normally distributed and the second is that the variance of each sample group should be same. To test the normality of the data, the Shapiro-Wilk test is used and to test the equality of variance, Levene's Homogeneity of variance test is applied.

Table 2: Profitability Ratios and Shapiro-Wilk Test of Normality

Size of the Public Limited Companies	Ratio of PAT to Sales			Ratio of PAT to Net worth		
	Statistic	DF	Sig.	Statistic	DF	Sig.
1	1.000	3	1.000	.993	3	.843
2	.964	3	.637	.976	3	.702
3	.832	3	.194	.881	3	.328
4	.998	3	.915	.970	3	.668
5	.964	3	.637	.949	3	.567
6	.999	3	.927	.800	3	.114
7	.985	3	.765	.972	3	.679

Source: Authors' Calculations

Results of Shapiro-Wilk test are presented in Table 2. From the Shapiro-Wilk test which is applied for the seven different sizes of Public Limited Companies shows that the data is normally distributed as the significance value is more than 0.05 (p>0.05) for both the profitability ratios. Hence, the first assumption to analyze the data using ANOVA is satisfied.

Table 3: Profitability Ratios and Test of Homogeneity of Variance

	Levene Statistic	DF1	DF2	Sig
Ratio of PAT to Sales	2.296	6	14	.094
Ratio of PAT to Net worth	1.423	6	14	.274

Source: Authors' Calculations

The second important assumption i.e equality of variance among the sample groups is equal is tested by applying Levene's Homogeneity of variance test and is presented in Table 3. The test indicates that the variance of the seven sizes of firms is equal with a significance value of 0.094 and 0.274 respectively for the data on both profitability ratios (p>0.05). Another pre-requisite of ANOVA is also satisfied.

Table 4 exhibits the results of ANOVA test for Profitability Ratios. ANOVA decomposes the variance into two parts. First one is 'between the groups' and the second is 'within the groups'. F-statistic is obtained by dividing mean squares between the groups by mean square within the groups. In the present analysis, the mean square between the groups is more than mean square within the groups and the resulting F value is 12.423 with respect to ratio of PAT to Sales. This is significant at 1 per cent level (p<0.01) and the null hypothesis is rejected at 5 percent level of significance and concluded that the seven categories of firms differ from one other. However, with respect to ratio of PAT to Net worth of these Public Limited Companies, the null hypothesis is accepted at 5 percent level of significance and concluded that the seven categories of firms do not differ from one another as also observed from table 5.

Table 4: Profitability Ratios and Analysis of Variance (ANOVA)

	F-Statistic	p-value
Ratio of PAT to Sales	12.423	.000
Ratio of PAT to Net worth	2.393	.084

Source: Authors' Calculations

The results of ANOVA clearly indicate that the Public Limited Companies differ significantly with respect to their profitability ratio i.e ratio of PAT to sales and now there is a need to analyze further which of the seven categories differ from one other. Table 5 reveals the results of homogeneous subsets which classify the companies into homogeneous groups. Alpha 0.05 indicates the null hypothesis that the companies in the same column do not differ significantly. Three subsets are defined with respect to ratio of PAT to sales with a significant value (p>0.05). This reveals that the seven categories differ significantly with respect to their profitability ratio i.e PAT to sales.

Table 5: Homogeneous Subsets

Ratio of PAT to Sales					Ratio of PAT to Net worth		
Size of the Public Limited Companies	N	Subset for alpha=0.05			Size of the Public Limited Companies	N	Subset for alpha=0.05
		1	2	3			1
2	3	4.63			3	3	10.73
3	3	4.76			2	3	10.90
5	3	5.13	5.13		5	3	11.16
4	3	5.66	5.66		1	3	11.33
1	3	6.20	6.20		7	3	11.66
6	3		6.96	6.96	4	3	11.76
7	3			8.60	6	3	12.96
Sig.		.153	.069	.126	Sig.		1.00

Source: Authors' Calculations

- **Analysis of Expenditure Ratios**

To apply ANOVA for the expenditure ratios, the data is to be normally distributed and the variance among the sample groups should be equal. These assumptions are tested by applying Shapiro-Wilk test and Levene's homogeneity of variance test. The results of Shapiro-Wilk test (Table 6) for the seven different sizes of Public Limited Companies shows that the data is normally distributed as the significance value is more than 0.05 (p>0.05) for both the expenditure ratios. Hence, the first assumption to analyze the data using ANOVA is satisfied.

Table 6: Expenditure ratios and Shapiro-Wilk Test of Normality

Size of the Public Limited Companies	Employee Expenses to Total Expenditure			Cost of Raw Material to Total Expenditure		
	Statistic	DF	Sig.	Statistic	DF	Sig.
1	.964	3	.637	.951	3	.576
2	.987	3	.780	.996	3	.878
3	.942	3	.537	.923	3	.463
4	.991	3	.817	.929	3	.485
5	.991	3	.817	.942	3	.537
6	.980	3	.726	.838	3	.209
7	.990	3	.811	.988	3	.789

Levene's homogeneity of variance test is used to test the second important assumption i.e variance among the sample groups is equal is tested and is presented in Table 7. The test indicates that the variance of the seven sizes of firms is equal with a significance value of 0.12 and 0.055 respectively for the data on both turnover ratios (p>0.05). Another pre-requisite of ANOVA is also satisfied.

Table 7: Expenditure ratios and Test of Homogeneity of Variance

	Levene's Statistic	DF1	DF2	Sig
Employee Expenses to Total Expenditure	2.093	6	14	.120
Cost of Raw Material to Total Expenditure	2.761	6	14	.055

Source: Authors' Calculations

Table 8 exhibits the results of ANOVA test for expenditure ratios. The F value is 15.738. This is significant at 1 per cent level of significance (p<0.01)with respect to ratio of employee expenses to total expenditure and the F value is 7.066 with respect to ratio of cost of raw material to total expenditure which is also significant at one percent level. In both the ratios indicating efficiency in reducing expenses with increase in size, the null hypothesis is rejected at 5 percent level of significance and it is observed that these seven categories of firms differ from one other as also observed from table 9.

Table 8: Expenditure Ratios and Analysis of Variance (ANOVA)

	F-Statistic	p-value
Employee Expenses to Total Expenditure	15.738	.000
Cost of Raw Material to Total Expenditure	7.066	.001

Source: Authors' Calculations

Table 9 reveals the results of homogeneous subsets which classify the firms into homogeneous groups. Alpha value of more than 0.05 indicates the acceptance of the null hypothesis that the companies in the same column do not differ significantly. Four subsets are defined with respect to ratio of employee expenses to total expenditure with a significant value of more than ten (p>0.099). This reveals that the seven categories differ significantly with respect to their expenditure ratios.

Table 9: Expenditure Ratios and Homogeneous Subsets

Ratio of Employee Expenses to Total Expenditure						Ratio of Cost of Raw Material to Total Expenditure				
Size of the Public Limited Companies	N	Subset for alpha=0.05				Size of the Public Limited Companies	N	Subset for alpha=0.05		
		1	2	3	4			1	2	3
2.00	3	4.33				7.00	3	56.73		
1.00	3		6.83			4.00	3	60.23	60.23	
5.00	3		7.06	7.067		1.00	3	60.80	60.80	
6.00	3		7.13	7.13		6.00	3	62.63	62.63	62.63
3.00	3		7.50	7.50		5.00	3		65.00	65.00
4.00	3			8.86	8.86	3.00	3		65.56	65.56
7.00	3				9.56	2.00	3			67.43
Sig		1.00	.912	.099	.892	Sig		.10	.162	.052

Source: Authors' Calculations

Three subsets are defined with respect to ratio of cost of raw material to total expenditure with a significant value of more than ten (p>0.05). This reveals that the seven categories differ significantly with respect to their expenditure ratios.

- **Analysis of MTurnover Ratios**

Two assumptions to apply ANOVA for the data on turnover ratios are tested by applying Shapiro-Wilk test and Levene's homogeneity of variance test. Results of Shapiro-Wilk test are presented in Table 10. The Shapiro-Wilk test for the seven different sizes of Public Limited Companies shows that the data is normally distributed as the significance value is more than 0.05 (p>0.05) for both the turnover ratios. Hence, the first assumption to analyze the data using ANOVA is satisfied.

Table 10: Turnover Ratios and Shapiro-Wilk Test of Normality

Size of the Public Limited Companies	Trade receivables to Sales			Inventories to Sales		
	Statistic	DF	Sig.	Statistic	DF	Sig.
1	.800	3	.114	.964	3	.637
2	.855	3	.253	.893	3	.363
3	1.000	3	1.000	.987	3	.780
4	.855	3	.253	.964	3	.637
5	.964	3	.637	1.000	3	1.000
6	.980	3	.726	.949	3	.567
7	.871	3	.298	.964	3	.637

Results of Levene's Homogeneity of variance test are presented in Table 11. The test indicates that the variance of the seven sizes of firms is equal with a significance value of 0.069 and 0.334 respectively for the data on both turnover ratios (p>0.05). Another pre-requisite of ANOVA is also satisfied.

Table11: Turnover Ratios and Test of Homogeneity of Variance

	Levene Statistic	DF1	DF2	Sig
Trade receivables to Sales	2.566	6	14	.069
Inventories to Sales	1.263	6	14	.334

Source: Authors' Calculations

Table 12 exhibits the results of ANOVA test for Turnover Ratios. The F value is 30.832 which is significant at 1 per cent level of significance (p<0.01)with respect to ratio of trade receivables to sales and the F value is 117.504 which is also significant at one percent level respect to ratio of inventories to sales. In case of both the ratios indicating turnover position, the null hypothesis is rejected at 5 percent level of significance and it is observed that these seven categories of firms do differ from one other.

Table 12: Turnover Ratios and Analysis of Variance (ANOVA)

	F-Statistic	p-value
Trade receivables to Sales	30.832	.000
Inventories to Sales	117.504	.000
Source: Authors' Calculations		

Table 13 reveals the results of homogeneous subsets which classify the companies into homogeneous groups. Alpha value of more than 0.05 indicates the acceptance of the null hypothesis that the companies in the same column do not differ significantly. Three subsets are defined in with respect to ratio of trade receivables to sales with a significant value of more than ten (p>0.10).

Table 13: Turnover Ratios and Homogeneous Subsets

Ratio of Trade receivables to Sales					Ratio of Inventories to Sales					
Size of the Public Limited Companies	N	Subset for alpha=0.05			Size of the Public Limited Companies	N	Subset for alpha=0.05			
		1	2	3			1	2	3	4
2	3	12.43			7.00	3	13.56			
3	3		17.03		5.00	3		15.70		
5	3		17.96	17.96	3.00	3			17.23	
4	3		18.10	18.10	4.00	3			17.33	
1	3		18.43	18.43	2.00	3			17.40	
6	3		18.73	18.73	1.00	3			17.43	
7	3			19.56	6.00	3				19.66
Sig.		1.00	.134	.176	Sig.		1.00	1.00	.979	1.00
Source: Authors' Calculations										

Four subsets are defined with respect to ratio of Inventories to Sales with a significant value of more than ten (p>0.10). This reveals that the seven categories of firms differ significantly with respect to their turnover ratios.

Findings and Conclusion

The data which is collected for the study is normally distributed and the variance is equal among the seven different categories of public limited companies. Analysis of variance indicates greater difference among the different categories of public limited companies with respect to their profitability, expenditure and turnover positions. With a significance value of more than 0.05 they differ from one another except in case of ratio of profit after tax to net worth. From this we can conclude that the large size firms are grabbing up the opportunities of being big in terms of high profits. They are enjoying economies of scale in terms of reduced expenses. Efficiency is also observed in case of turnover ratios which is a measure for the relationship between the level of activity and the usage of assets. Hence, it can be inferred that the size of a company in terms of total assets plays a major role in determining its financial performance, soundness and health.

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AUDIT COMMITTEE: A TOOL FOR SUCCESS IN BOARD MANAGEMENT
(A CASE STUDY OF IT AND TELECOM SECTOR COMPANIES)

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ABSTRACT

The study aims to examine the status of audit committee in IT and Telecom Sector Companies in IT and Telecom Sector Companies included in BSE Sensex viz. Infosys, TCSL, Wipro and Bharti Airtel for the financial years 2014-15, 2015-16 and 2016-17. The methodology has been adopted to analyze the various aspects of audit committee as transparency in the composition of audit committee, number of meetings held, audit committee charter, information about literacy ad financial expertise of the committee members etc. The study reveals that all the sampled companies have independent director as chairman, chairman attended the AGM. All companies have disclosed charter and terms of reference of audit committee. The study suggests that all members should attend all committee meetings to review the company's performance.

KEYWORDS: *Corporate Governance, SEBI, LODR, ID, Audit Committee, AGM.*

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Introduction

Several corporate frauds, scams and scandals in the recent past have occurred in India as well as worldwide. So the need of corporate governance was first realized when public confidence began to lose and market became fragile after a series of corporate failure all over the world. Corporate Governance is a formal system of accountability of senior management to corporate stakeholders. Corporate Governance includes company's accountability to shareholders and other stakeholders such as employees, suppliers, customers and local community. According to Kanan, S. "A good corporate governance principles should aim at generating, nurturing and sustaining wealth not just to the corporate but to all its stakeholders and equally distribute it among all."

Further he quotes, Tamil saint Vallurar in chapter 39, couplet 385

"Iyartralumeetalumkattalumkaathha

VaghuthalumValladhuarasu"

Translation of the same in Sanskrit would read as:

कुर्याद्विनार्जनोपायमार्जयत्तेपालयेद्वनम्।

रक्षितं खयथा गास्तां दधान् पात्रेशुभुमिप।।

The English Translation of the above couplet read as follows:

"A great king will be able to acquire wealth, develop and guard it; for equitable distribution on state expenditure and public good."

Though this couplet is for king and the government but it can be connected to a corporate house and its management team. Present corporate governance norms for all listed companies are regulated by the Companies Act, 2013. Now, the regulatory body security market, SEBI has notified on 2nd September 2015 in the extraordinary Gazette of India the Listing Obligation and Disclosure Requirements Regulations, 2015(LODR). So, all the listed companies are now governed by (LODR) regulations, 2015. Further, it is also necessary to mention here that every listed company should comply with the stricter provisions of Companies Act, 2013 and SEBI (LODR) Regulations, 2015.

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Board of Directors has the power to constitute various mandatory and non-mandatory committees; Audit Committee is the one of the most important statutory committee of the BOD.

As per Companies Act 2013 and SEBI's (LODR) Regulations, a qualified and independent audit committee shall be set up by every listed company. The Audit Committee shall have minimum three directors as members in which two third of the member shall be independent directors. The chairman of the committee shall be an independent director. The chairman should be present at AGM to answer shareholder's queries. All members of the audit committee should be financially literate and at least one member shall have accounting or related financial management expertise. The company secretary shall act as the secretary to the audit committee. The audit committee at its discretion shall invite the finance director or head of the finance function, head of internal audit and a representative of the statutory auditor and any other such executives to be present at the meetings of the committee. The audit committee shall meet at least four times in a year and not more than four months gap between two meetings. The quorum for audit committee meeting shall either be two members or one third of the members of the audit committee, whichever is greater, with at least two independent directors. The audit committee shall have powers to investigate any activity within its terms of reference, seek information from any employee, obtain outside legal or other professional advice and secure attendance of outsiders with relevant expertise, if it considers necessary.

Research Methodology

- **Research Questions**
  - Has transparency been maintained by sampled IT and Telecom Sector Companies in the composition of audit committee?
  - Has the minimum requirement of number of ID been fulfilled by sampled companies?
  - How many committee meetings held in sampled companies?
  - Information about literacy & financial expertise of the committee members has been displayed or not?
  - Has audit committee charter and terms of reference of the sampled companies been disclosed?
  - Has committee's report been disclosed by the sampled companies?
  - Has the chairman of the sampled IT and Telecom sector companies attended AGM?

- **Scope of the Study**

  This research paper attempts to focus light on the composition pattern and meetings of the audit committee in the IT and Telecom Sector Companies for the financial years 2014-15, 2015-16, 2016-17 as per Companies Act 2013 and LODR 2015. Infosys Ltd., TCS Ltd., Wipro Ltd., Bharti Airtel Ltd. have been taken for the study.

Review of Literature

Tait & Loosemore (2012) compared the compliance level of various construction & non-construction firms listed in Australian Stock Exchange (ASX) as per the guidelines for sound corporate governance issued by ASX Corporate Governance Council. The status of audit committee has also been observed and analyzed. The sample of 20 ASX listed construction & non-construction companies have been taken for the study and their annual reports have been analyzed quantitatively and qualitatively. It is found that audit committee is in place to safeguard integrity of company's financial reporting and ensuring the protection of shareholder's interest in financial reporting.

Al-Baidhani (2014) in his paper asserted the powers, responsibilities, functions and relationships of audit committee as per the framework of corporate governance. The study had overseen and delineated in a descriptive way. It came into consideration that major collapses of leading corporate houses and emergence of U.S. Sarbanes-Oxley Act, 2002 and analogous laws has intensified the magnitude of authority and responsibility of Audit committee in context of corporate governance. The organization's board of directors bases their decisions on report of audit committee. It further proclaimed that though audit committee is crucially associated with corporate governance, it should evaluate itself annually in terms of performance and best practices to recognize opportunities for refinement.

Sairi (2015) investigated the impact of level of disclosure of one of the crucial element i.e. audit committee on the performance of 27 Islamic banks by developing corporate governance disclosure index.

The mechanism of content analysis using annual reports of selected banks has been adopted for analysis of the data and regression analysis provided evidence for the derived results. Low level of disclosure on grounds of average dimensional index has been reckoned that accounted for mere 46%. It has been recommended to develop robust governance practices that will ensure winning public confidence and boosting trust of the parties dealing with Islamic banks.

Data Analysis and Discussion

Table 1: Status of Audit Committee of IT and Telecom Sector Companies

for the Financial Year 2014-15

S. No.	Particulars	Infosys	TCSL	Wipro	Bharti Airtel
1.	Transparency in composition of the committee (Minimum three Directors)	Total Member-4 C/M-ID ID-4	Total Member-6 C/M-ID NED-1 NED /ID-5	Total Member-3 C/M-ID ID-3	Total Member-5 C/M-ID ID-5
2.	Compliance of minimum requirement of number of IDs in the committee (2/3 of the member)	Yes	Yes	Yes	Yes
3.	Compliance of minimum requirement of the number of the committee's meeting (At least four times)	Total Meeting-4 1 Attended-3 3 Attended-4	Total Meeting-5 1 Attended-4 5 Attended-5	Total Meeting-7 1 Attended-6 2 Attended-7	Total Meeting-4 1 Attended-1 1 Attended-2 1 Attended-3 2 Attended-4
4.	Information about literacy & financial expertise of the committee	Information Provided	Information Provided	Information Provided	Information Provided
5.	Information about participation of Head of Finance, Statutory Auditors, Chief Internal Auditors in committee's meeting	Information Provided	Information Provide	Information Provided	Information Provided
6.	Disclosure of Audit Committee charter & terms of reference	Disclosed	Disclosed	Disclosed	Disclosed
7.	Disclosure of Committee's report	Disclosed	Disclosed	Disclosed	Disclosed
8.	Chairman attended AGM	Attended	Attended	Attended	Attended

Table 2: Status of Audit Committee of IT and Telecom Sector Companies

for the Financial Year 2015-16

S. No.	Particulars	Infosys	TCSL	Wipro	Bharti Airtel
1.	Transparency in composition of the committee (Minimum three Directors)	Total Member-4 C/M- NED/ID NED/ID-4	Total Member-6 C/M- NED/ID NED/ID-5 NED-1	Total Member-3 C/M- NED/ID NED/ID-3	Total Member-4 C/M- NED/ID NED/ID-3 NED-1
2.	Compliance of minimum requirement of number of IDs in the committee (2/3 of the member)	Yes	Yes	Yes	Yes
3.	Compliance of minimum requirement of the number of the committee's meeting (At least four times)	Total Meeting-4 1 Attended-3 3 Attended-4	Total Meeting-5 1 Attended-4 4 Attended-5	Total Meeting-7 1 Attended-5 1 Attended-6 1 Attended-7	Total Meeting-4 4 Attended-4
4.	Information about literacy & financial expertise of the committee	Information Provided	Information Provided	Information Provided	Information Provided
5.	Information about participation of Head of Finance, Statutory Auditors, Chief Internal Auditors in committee's meeting	Information Provided	Information Provide	Information Provided	Information Provided
6.	Disclosure of Audit Committee charter & terms of reference	Disclosed	Disclosed	Disclosed	Disclosed
7.	Disclosure of Committee's report	Disclosed	Disclosed	Disclosed	Disclosed
8.	Chairman attended AGM	Attended	Attended	Attended	Attended

Table 3: Status of Audit Committee of IT and Telecom Sector Companies for the FY 2016-17

S. No.	Particulars	Infosys	TCSL	Wipro	Bharti Airtel
1.	Transparency in composition of the committee (Minimum three Directors)	Total Member-4 C/M- NED/ID NED/ID-4	Total Member-6 C/M- NED/ID NED/ID-5 NED-1	Total Member-3 C/M- NED/ID NED/ID-3	Total Member-4 C/M- NED/ID NED/ID-3 NED-1
2.	Compliance of minimum requirement of number of IDs in the committee (2/3 of the member)	Yes	Yes	Yes	Yes
3.	Compliance of minimum requirement of the number of the committee's meeting (At least four times)	Total Meeting-4 4 Attended-4	Total Meeting-5 1 Attended-5 5 Attended-6	Total Meeting-7 1 Attended-5 2 Attended-6	Total Meeting-4 1 Attended-4 3 Attended-5
4.	Information about literacy & financial expertise of the committee	Information Provided	Information Provided	Information Provided	Information Provided
5.	Information about participation of Head of Finance, Statutory Auditors, Chief Internal Auditors in committee's meeting	Information Provided	Information Provide	Information Provided	Information Provided
6.	Disclosure of Audit Committee charter & terms of reference	Disclosed	Disclosed	Disclosed	Disclosed
7.	Disclosure of Committee's report	Disclosed	Disclosed	Disclosed	Disclosed
8.	Chairman attended AGM	Attended	Attended	Attended	Attended

Observations

- All companies set up Audit Committee as per SEBI'S Regulations 2015.
- All companies of IT and Telecom sector have Chairman of Audit Committee is ID during three financial years and also have at least 3 directors as members of this committee but TCSL has appointed the largest number (6) of directors in this committee
- Companies comply minimum requirement of ID in Audit Committee (2/3 of the members) and number of meetings (4 times in a year) in the study period.
- All companies have disclosed attendance of members in meeting regarding to audit Committee in their annual report.
- Also companies have disclosed charter and terms of reference of Audit Committee and report of this committee's meeting.
- In all companies the chairman of the audit committee attended AGM to answer the shareholders' queries during study period.

Suggestions

Some members of the audit committee in all companies did not attend all meeting of audit committee. So, they should attend all meetings to review the performance of company.

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RECORD KEEPING PRACTICES OF MICRO AND SMALL ENTERPRISES IN CACHAR DISTRICT OF ASSAM: AN EMPIRICAL STUDY

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ABSTRACT

In a developing country like India where diversified classes of people are living and many remains unemployed and underemployed, here Micro and Small Enterprises (MSEs) emerged as a major source of employment opportunities to young generation in the country. But MSEs increasingly face competition not only from their peers but also from large corporations participating in niche markets once regarded as a preserve for small businesses (Ntakobajira, 2013). Research on micro and small business development has shown that the rate of failure in developing countries is higher than in the developed world (Arinaitwe, 2002). The past studies indicate that three out of five businesses fail within the first few months of operation. Improper recordkeeping is one of the most significant challenges for the survival and growth of Micro and small enterprise. Poor record keeping, lack of planning, improper financing and poor management have been cited as the main causes of failure of micro and small enterprises (Longenecker, 2006). Studies show that micro and small enterprise do not access finances from the financial institutions due to lack of business records as a requirement (William et al, 1999). The same situation prevail in the Cachar district of Assam. In the present study an attempt has been made to identify the status of record keeping practice of MSEs in the study area. Primary data has been collected and descriptive statistic has been used to analysis the data.

KEYWORDS: *MSEs, Record Keeping and Cachar, Micro and Small Enterprise.*

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Introduction

Micro and Small Enterprises play a very crucial role even in industrially advanced and developed nations like the U.S.A., the U.K., Canada, West Germany and more particularly in Japan (Baruah, 2000). In respect of developing nations like India, Micro and Small Enterprises (MSEs) have especial importance because of their capability to create employment opportunities, equitable distribution of national income, balanced regional growth and development of rural and semi urban areas. MSEs can provide immediate large-scale employment, offer a method of ensuring a more equitable distribution of the national income and facilitate effective mobilization of resources of capital and skill which might otherwise remain unutilized. Micro and small enterprises have been largely recognized as a foundation stone for the industrial development of any country. In India, micro and small enterprises has a very vital role to play in the progress of the country and considered as the second largest source of employment after agriculture in India. A tremendous growth of micro and small scale sector has resulted in decentralized industrial development, better distribution of wealth, investment and entrepreneurial talent.There is a broad consensus that a vibrant micro and small enterprise sector is one of the principal driving forces in the development of a market economy and vital for a healthy economy (Nafukho and Muya, 2010). Since the prospects of getting white collar jobs is becoming harder and harder day by day for every people. To cope with these challenges, the development of self- employment, especially in the area of micro and small enterprises became the last resort for them. Entrepreneurship on micro & small enterprises is the only solution to the problems of unemployment and proper utilization of both human and non-human resources and improving the living condition of the poor masses (Sigh, 2009).

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As entrepreneurship is too often cited as a solution to all kinds of economic problems and social ailments in many parts of the world, now a day's entrepreneurship has captured the attention of both scholars and policy makers. The main reason of this concern is the growing need for entrepreneurs who accelerate economic development through generating new ideas and converting them into profitable ventures. Since the encouragement of entrepreneurship activity in micro and small enterprises is essential for the development. Thus, it can be said that Micro and Small Enterprises are the engines for driving the vehicle of economic growth of a country.

Statement of the Problem

It is said that an economy is the effect for which entrepreneurship is the cause. The development or underdevelopment is the reflection of the development or underdevelopment of entrepreneurship in the society (Bakshi, 2007). Various levels of economic development across the countries and even within the country are attributable to differences in entrepreneurship development. Entrepreneurship plays a crucial role in the growth of any Society particularly in a fast developing country like India. The entrepreneur is an important agent in our society who can be a catalyst of social and economic changes. So, entrepreneurship development have become vital strategy for harnessing the vast untapped human skills to channelize them into accelerating industrialization and growth of micro and small scale sector (Desai, 1999). It is well recognized that the entrepreneurship is highly important for utilization of available material resources, generation of job opportunities, creation of wealth for further investment and raising an economic welfare. Disguise unemployment still persists in agriculture and it will continue to be so until and unless alternative employment opportunities are created by encouraging entrepreneurship in micro and small scale sector. Micro and Small Scale Enterprises have only been recognized in last few years as an important subclass of the enterprise sector. Entrepreneurs in this sector not only provide gainful employment but also provide work to others and contribute significantly in building up economically strong nation and lessening social tension by creating more number of jobs.

In a developing country like India where diversified classes of people are living and many remain unemployed and underemployed, here micro and small enterprises has emerged as a major source of employment opportunities to young generation in the country. Therefore there has been a growing concern and interest by the government, development agencies and researcher for the improved performance and growth of the Micro and Small Enterprises. Micro and Small businesses increasingly face competition not only from their peers but also from large corporations participating in niche markets once regarded as a preserve for small businesses (Ntakobajira, 2013). Research on micro and small business development has shown that the rate of failure in developing countries is higher than in the developed world (Arinaitwe, 2002). The past studies indicate that three out of five businesses fail within the first few months of operation. Access to financing continues to be one of the most significant challenges for the creation, survival and growth of Micro and small enterprise. Poor record keeping, lack of planning, improper financing and poor management have been cited as the main causes of failure of micro and small enterprises (Longenecker, 2006). Other studies also show that micro and small enterprise do not access finances from the financial institutions due to lack of business records as a requirement (William et al, 1999).

So the current study aims at identifying the status of recordkeeping in Micro and small enterprises in the study area and the study will also identify the types of records kept by these enterprises in their day to day operations and to identify the main reason behind if not maintaining proper record of their business transaction in the Cachar district, as promotion of micro and small enterprises are gaining importance in the present context as an important poverty alleviation tool. So the present study will make an attempt to explore the status of record keeping practice of micro and small scale enterprises in the study area.

Objectives of the Study

- To identify the status of record keeping practice of MSE'sin the study area.
- To identify the types of Record Kept by the MSEs in the study area.
- To find out the main reasons for not maintaining proper record by the MSEs in the study area.

Limitations of the Study

There are certain limitations which the researcher came across during the project which are as under:

- The study is based on simple survey so if census will be made on the study area the result may or may not be the same.

- Study covers only Cachar district of Assam. Hence the findings of the study are entirely applicable to this district only.
- The study is based on the response of the owner of micro and small enterprises. Their attitude may change with the change of times. Therefore the responses reflect their contemporary views on the prevailing conditions.

Brief Profile of the Study Area

The District is located in the Barak Valley region of south Assam in the North East Region of India. The District of Cachar is bounded by the Borail Hills in the north, the state of Manipur in the east and Mizoram in the south, and Meghalaya & districts of Hailakandi and Karimganj and also part of Bangladesh in the west. The total area of the district is 3,786 sq. kms (Rural: 3721.41Sq.Km and Urban: 64.59Sq.Km) against the state area of 78,438 sq. kms. So the present Cachar district comprises an area of 4.8% of the state total areas. The rank of the district among all districts of the state in terms of area is 6th (Six).

Research Methodology

The target population was drawn from all micro and small registered in District Industrial Centre (DIC) Cachar from 1st April, 2009 to 31st March 2015. Micro and Small is defined as per MSMED Act, 2006. The total number of registered micro and small enterprises run by the entrepreneurs in different activities amounted to 340 in the study area. In order to get the necessary data the study population was divided into two strata because the population of study area is not homogenous and is sub-divided into sub-units namely To get the representative sample from each stratum the researcher further employed simple random sampling technique while selecting sample from each stratum. A total of 93 respondents were used to get the necessary information for the study which is more than 25% of the population under study. The study mainly uses primary data. Primary data has been collected using self-administered questionnaires from sampled MSEs units through drop and pick method. Statistical Package for Social Sciences (SPSS) version 18 was used to aid in coding, entry and analysis of quantitative data obtained from the Survey.

Data Analysis and Interpretation

The present work is based on primary data. In order to obtain primary data, field survey was conducted with the help of a questionnaire and responses of ninety three respondents were collected from Micro and Small enterprises operating in the Cachar district of Assam.

Profile of Respondents

Following is a summary of the profile of the respondents of the present study.

Type of Sample Enterprises

As regards the type of business, majority of the respondents that is 48 number were from manufacturing sector and 45 respondents were from service sector as shown in the below Cross Table.

Table 1: Type of Business & Category of Business

Type of Business	Category of Business		Total
	Micro	**Small**	
Service	29	16	45
Manufacturing	40	8	48
Total	**69**	**24**	**93**

Source: Field Survey

Whereas between these manufacturing and service sector majority of the enterprise belongs to micro enterprise which is in total 69 number of enterprise out of 93 samples and remaining 24 enterprises were small enterprise.

Distribution of Gender of the Respondents

The study revealed that about 8.60 percent of the respondents were females while 91.40 percent were males as in figure 1 illustrated. This study shows more males participate in micro and small enterprises in compare to female.

Figure 1: Gender of the Respondents
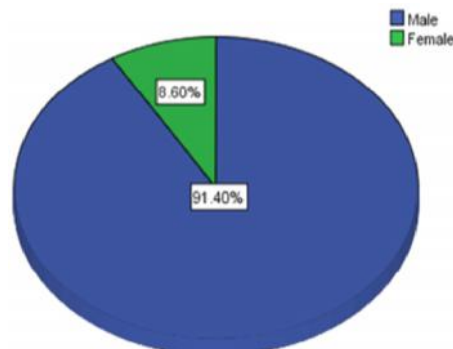
Source: Field Survey

Marital Status of the Respondents

Among the 93 respondents of the study, findings showed that most of respondents were married i.e., 73.10% while 26.90% were single. In figure 2 below provides more illustrations. In this case the study revealed that married respondents participate more in the entrepreneurial activity in the form of micro and small enterprise because they are to seek money so that to keep family in which their responsible to: they need money to send children to school, food, clothes and for medication, from this reason they are to have other source of income, in so doing they employ themselves to MSEs.

Figure 2: Distribution of Marital Status of the Respondents
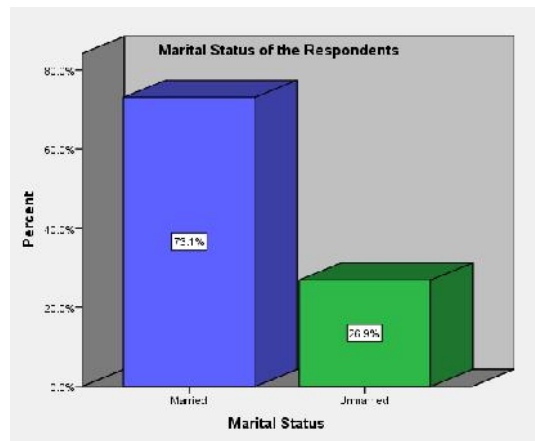
Source: Field Survey

Distribution of Age of the Respondents

According to the finding about 49.46 percent of the respondents were aged in between 28 to 37 years old followed by 24.**73** percent whose age was 38 to 47 and whereas 15.05 percent respondent were belongs to 18-27 years age grope and only 15.05 percent respondents were aged between 28 to 37 years and more than 42 years respectively but none of the respondents were from the age group of Below 18 and even 18 to 22 years as indicated in Table 2 below.

Table 2: Distribution of Age of the Respondents

Age of the Respondents	Frequency	Percent
Below 18	0	0
18-27	14	15.05
28-37	46	49.46
38-47	23	24.73
More than 47	10	10.76
Total	**93**	**100.0**

Source: Field Survey

The study concludes that the most responded MSEs owner group age were in between 28 and 37 years. Therefore, the age group 28 to 37 is middle aged and normally this group is the more self-employed group than other group because at these ages normally people starts take care of their families. It is also reviled that majority of the respondents were young in age.

Education Level of the Respondents

The majority of the respondents (owners) of MSEs were having education upto HS this accounted to 38.71% while 27.96% had HSLC, 22.58% of respondents had Bachelor Degree and only 2.15% had post master degree whereas, 8.60% respondents were illiterate. The study concludes that most people engaged in MSE sector have upto higher secondary level education.

Figure3: Education Level of MSEs Owners
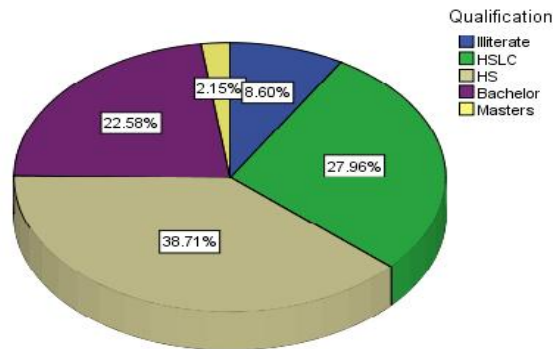
Source: Field Survey

Record Keeping Practices of Micro and Small Enterprise

Record keeping is most important for the enterprise. The status of record keeping practice of the respondents are tabulated below

Table 3: Category of Business and Record Keeping of Business Transactions

| | | | Do you Keep Proper Record of Your Business Transactions | | Total |
			No	Yes	
Category of Business	**Micro**	Count	23	46	69
		% within Category of Business	**33.3%**	**66.7%**	100.0%
	Small	Count	0	24	24
		% within Category of Business	**0%**	**100%**	100.0%
Total		Count	23	70	93
		% within Category of Business	24.7%	75.3%	100.0%

Source: Field Survey

Table 3 shows that every-one of the respondents i.e. 100% of the respondents from small enterprise response that they maintained record of their enterprise business transactions. While in the case of micro enterprise 66.7% response that they maintain record and only 33.3% respondents response that they don't maintained any record of their business transactions.

Way of Record Keeping by Micro and Small Enterprises

Respondents Response related to business transaction and record has been stated in the Table below.

Table 4: Category of Business and Way of Maintaining Record

| | | | If Yes, How Do You Keep Records | | Total |
			In Note Book	Ledger	
Category of Business	Micro	Count	38	8	46
		% within Category of Business	**82.6%**	**17.4%**	**100.0%**
	Small	Count	0	23	23
		% within Category of Business	**0%**	**100%**	**100.0%**
Total		Count	38	31	69
		% within Category of Business	55.1%	44.9%	100.0%

Source: Field Survey

After analyzing the data it observe that out of the total respondents from Micro enterprise only 8 (i.e., 17.4%) respondents maintaining their business record in ledger and majority of the respondents i.e., 38 (82.6%) respondents maintained their business transaction records in a note book. They are not maintaining any ledger. But in case of small enterprise 100% of the respondents' response that they were maintaining their business records in ledger.

Reasons for Not Maintaining Proper Business Record

Proper record keeping is very much essential for each and every business unit. For the present study those enterprise who did not maintained proper record of their enterprise were responses the reason for not keeping the proper record and their response are tabulated below-

Table 5: Reasons for Not Keeping Proper Business Record

Reasons under consideration	No. of Respondents	Percentage of Respondents
I don't know how to keep proper record	10	43.48
Its time consuming	10	43.48
No need to keep any record	20	86.96
It is Expensive	7	30.43
Others	0	0

Sources: Filed Survey(N.B. –Due to multiple responses the total will be more than the number of micro enterprise respondents not keeping proper business records)

After analyzing the data is identified that majority of the respondents i.e., 86.96% response that do not keep proper record because they think they 'no need to keep any record' followed by 43.48% respondents respond that the reasons are they don't know how to keep proper record and it is time consuming respectively. And only 7 respondents i.e., 30.43% respondents respond that keeping proper record is expensive for them and no one respondents response for any other reasons.

Maintaining of Ledgers

By analyzing the data of the table 6 it is identified that majority of the respondents i.e., 61.29% respondents never maintained Sales Book whereas 36.56% respondents Always maintained Sales Book and only 2.15% respondents respondent they maintained sales Book Often. In case of Creditor Ledge it is identified that majority respondents i.e., 63.44% respondents never maintained Creditors ledger and 35.48% respondents always maintained Creditors ledger and only 1.08% respondents response that they often maintained Creditors ledger.

Table 6: Responses Regarding the Types of Accounts Maintained

Ledgers under Considerations	Always		Often		Occasionally		Seldom		Never	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sales Book	34	36.56	2	2.15	--	--	--	--	57	61.29
Creditors Ledger	33	35.48	1	1.08	--	--	--	--	59	63.44
Cash book	33	35.48	1	1.08	--	--	--	--	59	63.44
Debtors Ledger	31	33.33	1	1.08	--	--	--	--	61	65.59
Purchase book	29	31.18	--	--	--	--	--	--	64	68.82
Stock Ledger	22	23.66	1	1.08	1	1.08	1	1.08	68	73.12
Petty Cash book	20	21.51	1	1.08	--	--	3	3.23	69	74.19
Others	0	0	0	0	0	0	0	0	0	0

Source: Field Survey

In case of Cash Book majority respondents i.e., 63.44% response that they never maintained Cash Book and only 1.08% respondents response that maintained cash book often. In case of Debtors ledger Majority respondents i.e., 65.59% response that they never maintained Debtors ledger and 33.33% respondents response that they always maintained debtors ledger and only 1.08% response that they often maintained debtors ledger. In case of purchase book majority respondents response that i.e., 68.82% they never maintained purchase book and 31.18% respondents response that they always maintained purchase book. None of the ledger i.e., Sales Book, Creditors Ledger, Cash Book, Debtors Ledger & Purchase book maintained occasionally or seldom. In case of Stock Ledger 73.12% respondents response that they never maintained stock ledger whereas 23.66% respondents always maintained stock ledger and only 1.08% response that they often occasionally and seldom maintain stock ledger. In case of 74.19% response that they never maintained petty cash book, 3.23% respondents seldom maintain petty cash book, 1.08% response that they often maintain petty cash book and only 21.51% respondents response that they always maintained petty cash book. None of the respondent's response any other books of accounts they use to maintain in their enterprise under study.

Findings

- It is observed that majority of the respondents (91.40%) were males very few (8.60%) respondents were female. So it can be said that female participation in the micro and small enterprise in the study area is very poor.

- It is found that majority of the respondents (73.1%) were married and 26.90% respondents were unmarried.

- Most of the respondents (49.46%) were within the age group of 28 to 37 years. Therefore, the age group 28 to 37 is middle aged and normally this group is the more self- employed group than other group because at these ages normally people starts take care of their families. So it is revealed that majority of the respondents were young in age.

- It is observe from the study that majority of the respondents started their enterprise in the age group of 28 to 37 years and very few started their enterprise in the age group of 18 to 27 years which means that majority of them initially don't start business and they choose business as last resort for them.

- It is identified from the study that majority of the respondents38.71% respondents have education up to HS, 27.96% respondents education level was HSLC only few portion of respondents were illiterate and post graduate i.e., 8.60% and 2.15% respectively. So it is revealed that very few micro and small enterprise owners were highly educated and illiterate Majority of the respondents were having education High school, higher secondary and graduation level.

- It is identified from the study that all the respondents (i.e. 100%) from small enterprise were maintaining proper record of their enterprise but in case of micro enterprise some respondents i.e., 66.7% were maintaining record and some (33.3%) respondents were not maintaining any record of their business transactions.

- The study revealed that in case of micro enterprise majority i.e., 82.6% respondents maintain record in note book and only 17.4% responded micro enterprise maintained in ledger where as in case of small enterprise all the respondents maintained their enterprise proper record in ledgers.

- The study also identified the reasons for not maintaining proper record by some micro enterprise as all small enterprise maintained proper record. So it is identified that majority i.e., 86.96% of respondent believe that they have no need of keeping any record. 43.48% responded that they don't know how to keep proper record and its time consuming respectively and only 30.43% respondents responded that it is expensive to keep proper record keeping for them none of the respondent response for any other reason for not maintaining proper record keeping for their enterprise.

- By analyzing the data it is identified that in case of maintaining Sales Book, Creditors Ledger, Cash Book, Debtors Ledger, Purchase Book, stock ledger and Petty Cash Book majority of the respondent never maintained these accounts whereas a few respondent responded that they always maintain these books of account and very few respond the maintain these account often. But in case of Stock Ledger and Petty Cash Book very few responded that they also maintain these account occasionally and seldom.

- It is identified that in relation to always maintaining of ledgers among Sales Book, Creditors Ledger, Cash Book and Debtors Ledger were always maintained by majority of the respondents in comparison to other ledgers under consideration.

Suggestions

- Entrepreneurs promotional camping specially for female must be done so that more female participation in micro and small entrepreneurship can come out in the near future. So change of mindset is an important step for developing entrepreneurial environment in the study area.

- It is identified from the study that majority of the respondents started their enterprise in the age group of 28 to 37 years and very few started their enterprise in the age group of 18 to 27 years which means that majority of them initially don't start business and they choose business as last resort for employment. So an initiative must be taken by the government to channelize people of this group towards entrepreneurship.

- Training must be given to the owners or managers of the registered enterprises especially to micro enterprise owners regarding the maintenance of books of account immediately after registration.

Conclusion

After analyzing the data the study conclude that female participation in micro and small enterprise is less in comparison to male in the study area. The study revealed that small enterprise maintaining proper records of their business transactions but micro enterprise does not keep proper accounting records because of lack of accounting knowledge and don't feel the importance of record keeping. As a result, there is inefficient use of accounting information to support financial performance measurement by MSEs. It is also difficult for the entrepreneurs to calculate their business profit efficiently. Non availability on accounting information creates difficulty for the owner of the enterprise to take proper decision of their business. So the study recommended that proper steps must be taken by the government for inculcating the environment of record keeping in MSEs especially for new generation micro enterprises of the study area.

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MANDATORY CORPORATE ACCOUNTING DISCLOSURE PRACTICES: AN INVESTORS VIEW

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ABSTRACT

Corporate accounting disclosure is of great significance to accomplish financial accounting objectives as well as to contribute to the efficient allocation of resources through healthy economic decisions. The disclosure of accounting practices have developed in accordance with the changing economic, political, technological and social environments to fulfill the objectives of financial reporting. As business enterprises have increased all over the world in number and size, the supply of the capital and related risk taking have also increased correspondingly, in turn creating considerable public interest in participating in business activity by making investments. To evaluate the corporate financial reporting practices, the data were collected from investors from the samples regarding mandatory disclosure of corporate accounting, usefulness of various accounting formats, usefulness of corporate financial reporting and level of satisfaction in various aspects of corporate finance reporting. The total sample respondents are 435 and Simple random sampling technique was adopted. The data are subjected to frequency / percentage analysis, descriptive analysis such as mean, standard deviation along with independent t-test and one-way ANOVA. The investors have grouped the disclosure of mandatory items in corporate annual report into four major components, viz., disclosure of income and expense items, disclosure of balance sheet items, disclosure of cash / fund flow with auditor's report and disclosure of accounting policy with income tax information and the respondent group have perceived the entire component of mandatory disclosure as good but with notable difference in such levels.

KEYWORDS: *Corporate Accounting Disclosure, Mandatory Disclosure, Corporate Annual Reports*
JEL Classification: M48, M49.

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Introduction

Accounting aims to provide financial information about a business enterprise to various interested groups for decision making. It is a process of identifying, measuring and communicating economic information to permit informed judgment and decisions by the users of information.[1] It is a service activity and its function is to provide quantitative information, primarily financial in nature, about economic entities, that is intended to be useful in making economic decisions.[2] The supply of information by the corporate entities, on their affairs and performance, to the external users is variously termed as 'corporate reporting', 'corporate disclosures', 'external reporting', or 'public reporting'. Ever increasing importance of the corporate sector in the national economy has necessitated a complete and analytical disclosure of accounting information as a whole. The accepted form of financial reporting is the annual report. The essential and important components of the annual reports are the balance sheet, which depicts the financial position of the business at a specific point of time, and the income statement, which depicts the performance of the same organization over a specific period of time. Balance sheet and profit and loss account should fully, fairly and adequately meet the informational needs of the parties involved.

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[2]   Board, A. P. (1970). Statement No. 4: Basic concepts and accounting principles underlying financial statements of business enterprises. *New York: AICPA*.

Public interest in the efficient operation and conduct of corporate enterprises has been increasing and therefore, a custodian of public funds should present the annual report in an appropriate manner to investors, creditors, consumers, government, and the public at large so as to fulfill their curiosity regarding the working and performance of the enterprise. This chapter describes the overall objectives of corporate disclosure and evaluates the company annual report as a source of information.[1]

Review of Literature

Singh, B. (2017),[2] Opinions that corporate disclosure plays an important role in the fulfillment of financial accounting objectives. Companies have started using the internet, to disclose or communicate all necessary information, to inform present and potential investors and other stakeholders. The paper attempts to investigate the level of internet financial reporting practices of Indian companies, towards disclosure of financial and non-financial information, on their web sites. The paper also studies the influence of company characteristics on their disclosure score. The result shows that there is a positive association between company size and profitability, with internet financial reporting practices of the companies; it is also observed that there is a great deal of variation in content and presentation of the information, disclosed on the web sites and terminology used for describing the information. The paper reveals that no consistent pattern could be used, to access multiple websites, by different users.

Objectives of the Study

- To examine the major components of mandatory disclosure of corporate accounting disclosure practices of Indian companies.
- To explore the role of socio demographic characteristics of the investors in determining their perceived status of mandatory disclosure of CADP.
- To analyze the level of satisfaction with various aspects of corporate annual report disclosure among investors.

Hypothesis of the Study

H_{01} The perceived status of mandatory disclosure items in CADP is independent of the socio-demographic characteristics of the investors.

H_{02} The major components of mandatory disclosure items in CADP are independent of the socio-demographic characteristics of the investors.

H_{03} There is no significant relationship between investor perceived importance of CADP and their socio-demographic characteristics.

Research Methodology

- **Sources of Data**

The present study comprises of both primary and secondary data. The **Primary data** is collected by conducting questionnaire based survey among the population of corporate investors in Chennai Region. The **Secondary data** consist of information from various publications, Annual reports, Statutory books, Standard text books, Journals, Magazines, Seminar materials, Published and Unpublished reports, websites and libraries pertaining to Corporate Financial Reporting Practices in India.

- **Sample Size and Sampling Technique**

The respondents for survey from population of corporate investors are selected by simple random sampling method. This sampling technique is a widely adopted technique when the size of target population is quite large and unknown. As sample is quite large and unknown, corporate investors sample size for the present research work is determined based on following formula as referred by Osisioma *et al.* (1974).

$$n = \frac{Z^2_{r/2}}{4\,e^2}$$

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[1]   Vethirajan, C., Banupriya, K. (2018). Perceived status of CFR Practices among investors and managerial employees. Indian Journal of Finance, 12(10) , 33-45

[2]   Singh, B. (2017). Internet financial reporting practices in India: A study of selected Indian companies. SMART Journal of Business Management Studies, 13(2), 84-92.

Where, n is sample size, Z is standard value corresponding to 95% confidence level, and e is the proportion of sampling error in a given situation (allowance of error in sampling considered for the present study is 5%). Thus, using the formula, the sample size is arrived at 384. So, the sample size of anything above 384 is quite acceptable. For this study, the total sample respondents are 435.

- **Statistical Techniques Used**

The statistical techniques used for analyzing the data vary from descriptive to multivariate. The details of the statistical tools are Frequency distribution analysis, Descriptive statistics like mean, standard deviation, One sample t-test, Independent sample t-Test, One way ANOVA (also Called as F test), Principal Component Factor Analysis

Mandatory Disclosure	
Quantitative Disclosure	**Qualitative Disclosure**
Profit and Loss Account	Directors' Report
Balance Sheet	Auditors' Report
Cash flow statement	Notes of Accounts
Abstract of Balance sheet and general business profile	Accounting Policies
Consolidated Financial Statement	Corporate Governance
Annual Reports of Subsidiary Companies	Notice of AGM
Segment Reporting	Management Discussion and Analysis(MDA)
Research and Development	Auditors' Report on Cash Flow Statement
	Related Party Disclosure
	Disclosure on EPS
	Disclosure on Dividend
	Compliance Certificate
	Employee's Statement under Section 217 (2A)

Results and Discussion

- **Profile of the Investors**

Table 1 shows the results of the analysis distributing the investors in the sample by socio-economic characteristics. As shown in the table, the total number of respondents from investor population is 433, and out of this, 295 respondents (67.8%) are male and the remaining 140 respondents (32.2%) are female.

Table 1: Distribution of Respondents in the Sample by Socio-Economic Characteristics

Socio-Economic Characteristics	Number of Respondents	% to Total
Sex		
Male	295	67.8
Female	140	32.2
Age		
25 – 35	99	22.8
36 – 45	169	38.9
45 – 55	97	22.3
> 55	70	16.1
Education		
Higher Secondary School	139	32.0
Graduate	135	31.0
Post-Graduate	102	23.4
Professional Course	59	13.6
Job Status		
Self-Employed	115	26.4
Government Employee	111	25.5
Private Employee	103	23.7
Professional	106	24.4
Monthly Income		
Up to Rs.25000	126	29.0
Rs.25001-50000	117	26.9
Rs.50001-75000	103	23.7
> Rs.75000	89	20.5
Total Sample	**435**	**100.0**

Source: Primary Data.

Majority of the respondents are in the age group of 36 to 45 years (38.9%), followed by the respondent group with age level of 25 – 35 years (22.8%) and 45 – 55 years (22.3%). The respondents aged above 55 years constitute 16.1 per cent (70 out of 435) of the total sample. The respondents who have completed their higher secondary school are the highest occupying 32.0 per cent of the total sample followed by graduates with 31.0 per cent, post-graduates with 23.4 per cent and professionally educated with 13.6 per cent. Being self-employed is the job status for 26.4 per cent of the respondents. Next to this, government employee constitutes 25.5 per cent of the sample followed by 24.4 per cent and 23.7 per cent of the sample with job status as private employee and professional respectively. The monthly income is up to Rs.25000 for 29.0 per cent, Rs.25001-50000 for 26.9 per cent, Rs.50001-75000 for 23.7 per cent and above Rs.75000 for 20.5 per cent of the respondents in the sample.

Table 2: Important Sources of Information about Company:
Comparison between Male and Female Investors

Sources of Information about Company	Sex		t Value (DF = 433)
	Male	Female	
Corporate Annual Report	3.84	3.05	6.56**
	(1.16)	(1.21)	
Company's Web Site	3.35	2.63	5.47**
	(1.28)	(1.28)	
Interim Reports of the company	3.51	2.84	5.19**
	(1.22)	(1.29)	
Newspapers / Business Magazines	3.60	3.10	4.38**
	(1.12)	(1.07)	
Market Rumours	3.39	2.64	5.83**
	(1.25)	(1.26)	
Advice from Friends	2.91	2.20	5.03**
	(1.44)	(1.24)	
Advice from Stockbrokers / Specialists	3.99	3.35	5.43**
	(1.05)	(1.32)	
Media coverage and interviews	3.87	3.29	4.88**
	(1.09)	(1.34)	

Source: Primary Data.   Figures in brackets are standard deviations. **Significant at 1% level.

It can be seen from the table 2 Shows that the female investors in the sample have scored on the average in somewhat important range on all sources of information (Mean scores ranges from 2.20 to 3.35) and differ significantly from male counterparts who have perceived corporate annual report (Mean = 3.84), interim reports of the company (Mean = 3.51), newspapers / business magazines (Mean = 3.60), advice from stockbrokers / specialists (Mean = 3.99) and media coverage and interviews (Mean = 3.87) as important. Though the male investors have perceived the remaining sources of information as somewhat important (Mean scores > 2.50 and < 3.50), the magnitude of such perception among male group is significantly higher compared to that of female group. On the whole, it is found that degree of importance given to various sources of information about company by male investors is significantly higher compared to that of female investors. The respondents' perception on important sources of information about company on the average is compared by their age levels using one-way ANOVA and the results of the analysis are exhibited in Table 3 From the perusal of the table, it is understood that the investors aged between 25-35 years have valued all sources of information except company's website, market rumours and advice from friends as the important whereas the investors aged 35-45 years have valued corporate annual report, advice from stockbrokers / specialists and media coverage and interviews as important while other two higher age groups have valued only advice from stockbrokers / specialists as important sources of information to know about company.

Moreover, there is no consensus about the degree of importance of all sources of information except market rumours among different age groups (F values for the difference in group means are significant). Regarding market rumours, the investors in the sample regardless of the difference in age levels have equally rated as somewhat important (Mean values are > 2.50 and <= 3.50 and F value f is not significant).

Table 3: Sources of Information about Company: Comparison by Age Levels of Investors

Sources of Information about	Age (in years)				f Value
	25 - 35	36 – 45	45 - 55	> 55	(DF = 3, 431)
Corporate Annual Report	4.01	3.59	3.28	3.41	6.60**
	(1.08)	(1.30)	(1.27)	(1.07)	
Company's Web Site	3.38	3.34	2.80	2.63	8.35**
	(1.23)	(1.28)	(1.34)	(1.35)	
Interim Reports of the company	3.64	3.22	3.08	3.27	3.51*
	(1.22)	(1.27)	(1.36)	(1.21)	
Newspapers / Business Magazines	3.72	3.36	3.44	3.21	3.26*
	(1.06)	(1.11)	(1.15)	(1.18)	
Market Rumours	3.36	3.11	2.96	3.21	1.70^{NS}
	(1.30)	(1.31)	(1.29)	(1.27)	
Advice from Friends	3.07	2.71	2.36	2.51	4.60**
	(1.44)	(1.41)	(1.32)	(1.42)	
Advice from Stockbrokers / Specialists	4.07	3.74	3.64	3.69	2.68*
	(1.07)	(1.16)	(1.25)	(1.27)	
Media coverage and interviews	3.90	3.83	3.49	3.29	5.42**
	(1.09)	(1.16)	(1.28)	(1.24)	

Source: Primary Data.

Figures in brackets are standard deviation. *Significant at 5% level; **Significant at 1% level

Hence, it is deduced that the perceived importance of various sources of information other than market rumours about company tends to decline with increase in age level of the investors. Table 4 presents the results of the analysis comparing the perceived importance between male and female investors. An examination of the table reveals that the statement of financial position, income and expense statement and pictorial statements are equally important for both male and female investors (Mean scores are in important and very important range and the differences in group means do not differ as t-values are not significant). The male investors have rated all corporate annual reports as important whereas the female investors have rated Chairman's message, accounting policies and profile of board of directors as neither unimportant nor important (neutral). Further, there are significant differences in the perceived degree of importance between two groups in respect of all corporate annual reports except three reports mentioned earlier which are given equal importance

Table 4: Importance of Different Corporate Annual Reports:

Comparison between Male and Female Investors

Annual Reports	Sex		t Value
	Male	Female	(DF = 433)
Chairman's Message	3.82	3.42	3.89**
	(0.91)	(1.13)	
Directors' Report	3.82	3.54	2.56**
	(1.07)	(1.08)	
Management Discussion and Analysis	4.02	3.81	2.06*
	(0.96)	(1.04)	
Auditor's Report	4.14	3.88	2.88**
	(0.88)	(0.91)	
Statement of Financial Position	4.31	4.35	0.46^{NS}
	(0.88)	(0.88)	
Income and Expense Statement	4.54	4.40	1.82^{NS}
	(0.70)	(0.78)	
Statement of Cash Flow and Fund Flow	3.92	3.66	2.49*
	(0.96)	(1.06)	
Reports on Changes in Owners' Equity	3.97	3.66	3.15**
	(0.93)	(1.00)	
Accounting Policies	3.80	3.44	3.58**
	(0.94)	(1.01)	
Notes to the Financial Statements	3.93	3.64	3.03**
	(0.90)	(0.92)	
Pictorial Statements	4.33	4.34	0.11^{NS}
	(0.91)	(0.97)	
Profile of Board of Directors	3.63	3.40	2.17*
	(1.00)	(1.06)	

Source: Primary data; Figures in brackets are standard deviations. *Significant at 5% level; **Significant at 1% level

To sum up, it is found that the degree of importance given to different annual reports by male investors is significantly higher than that of female investors in turn indicating male investors highly rely on corporate annual reports before making investments compared to female investors. To test the sampling adequacy (adequacy of the sample size to run the factor analysis), Kaiser-Meyer-Okin (KMO) measure is widely used one which can signal in advance whether the sample size is large enough to reliably extract factors (Field, 2009). When the KMO is near 0, it is difficult to extract a factor and when the KMO is near 1, a factor or factors can probably be extracted. Generally, KMO "values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb." To ascertain whether the items do not correlate too lowly (otherwise, correlations among the items are sufficient enough to group under common factor) or too high, Barlett's test is used. If the Barlett's test gives a significant result with chi-square distribution, we can assume that the items are correlated with each other and they can be grouped into common factor. The results of KMO and Barlett's test are presented in Table 5.

Table 5: Results of KMO and Barlett's Test for Investor Perception Data on Mandatory Disclosure Items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.9079
Bartlett's Test of Sphericity	Approx. Chi-Square	6221.20
	Df	276
	Sig.	0.0000

From Table 5, it can be observed that the KMO measure is 0.9079, in turn indicating that the data set falls within superb range. Also, Bartlett's test chi-square is very highly significant ($\chi^2(276)$ = 6221.20, p < 0.01). Both KMO and Bartlett's test results have clearly revealed that the investor dataset on mandatory corporate account disclosure are sufficient both in sample size and inter-item correlations to run the factor analysis. Table 6 is reported with possible factors underlying the mandatory disclosure dataset for investors along with initial eigenvalue and eigenvalues after varimax rotation for each factor.

Table 6: Eigenvalues of Factors Underlying Mandatory Disclosure Items Based on Investors' Perception

Factor	Before Varimax Rotation			After Varimax Rotation		
	Eigenvalue	% of Total Variance	Cumulative % of Total Variance	Eigenvalue	% of Total Variance	Cumulative % of Total Variance
1	6.9191	28.83	28.83	6.5287	27.20	27.20
2	3.8934	16.22	45.05	3.5566	14.82	42.02
3	2.8401	11.83	56.89	3.4321	14.30	56.32
4	2.2843	9.52	66.40	2.4195	10.08	66.40
5	0.8332	3.47	69.88			
6	0.7079	2.95	72.83			
7	0.5906	2.46	75.29			
8	0.5490	2.29	77.57			
9	0.4968	2.07	79.64			
10	0.4782	1.99	81.64			
11	0.4662	1.94	83.58			
12	0.4060	1.69	85.27			
13	0.4008	1.67	86.94			
14	0.3752	1.56	88.50			
15	0.3699	1.54	90.04			
16	0.3433	1.43	91.48			
17	0.3324	1.39	92.86			
18	0.3031	1.26	94.12			
19	0.2866	1.19	95.32			
20	0.2778	1.16	96.48			
21	0.2515	1.05	97.52			
22	0.2282	0.95	98.47			
23	0.1938	0.81	99.28			
24	0.1725	0.72	100.00			

Source: Primary Data

The number of possible factors underlying a dataset will always be equal to the number of items in the measurement scale. Though there are as many number of factor as the number of items, only the factor which can explain more variance than a single item can explain in the dataset will be considered as valid factor. The extent of variance explained by each factor in the actual dataset is exposed by eigenvalue (eigenvalue is a measure of explained variance).

If the eigenvalue of a factor is greater than 1.0, then the factor is capable of explaining more variance than any single item would explain in the dataset and considered as valid factor. Thus, in the results reported in the table have revealed four factors with eigvenvalue more than one altogether explaining 66.40 per cent of the variance in the actual set (more than 50 per cent of the variance in the actual set is accounted for by these four factors). So, it is found that mandatory corporate accounting disclosure is comprised of four major components (factors) as postulated by the investors. The characteristics of each one of these four components is explored by items' factor loadings presented in Table 7.

An examination of the table presented with factor loadings indicates that the first factor, which explains 27.20 per cent of the variance in the actual data, included 9 items (item 7 – 15) with factor loadings ranging from 0.765 to 0.882. Out of 9 highly loaded items with first factor, the loading of item 13 is the highest followed by that of item 10. The entire items grouped under first factor possesses characteristics of income and expense disclosure by the corporates. Hence this factor is identified as "**disclosure of income and expense items**."

Table 7: Rotated Component Matrix for Valid Factors Underlying Investors' Perception on Mandatory Disclosure Items

Description of Measurement Items	Extracted Factors			
	1	**2**	**3**	**4**
Different sources of revenue in detail	**0.834**	0.058	0.071	0.043
Amount and breakdown of operating expenses	**0.854**	0.058	0.096	0.073
Cost of Production	**0.848**	0.037	0.069	0.041
Revenue from sale of investments and fixed assets	**0.874**	-0.017	0.073	0.053
Information about depreciation	**0.850**	0.085	-0.014	0.027
Dividend proposed & paid	**0.765**	0.080	0.004	-0.016
Profitability of the year	**0.882**	0.035	0.080	0.059
Earnings per share	**0.810**	0.008	0.016	0.064
Previous year income statement with comparison	**0.848**	0.021	0.036	0.044
Disclosure of assets into fixed, current & tangible	0.110	**0.734**	0.019	-0.019
Fair value of investments and their breakdown	0.034	**0.785**	-0.016	0.033
Gross and disaggregated value of current, long-term and contingent liabilities	-0.002	**0.775**	0.068	-0.002
Details of Shareholders' equity	0.023	**0.750**	0.145	0.006
Provisions for doubtful & bad debts	0.108	**0.793**	0.124	0.031
Comparative balance sheet of previous year	0.062	**0.702**	0.078	0.067
Statement of sources and application	0.087	-0.071	**0.735**	0.126
Director's reports	-0.061	0.184	**0.701**	0.011
Auditor's report	0.213	0.031	**0.781**	0.022
Cash flow statement	-0.031	0.173	**0.741**	0.002
Age-wise analysis of financial accounting	0.238	0.003	**0.769**	0.088
Information about CSR	-0.040	0.147	**0.752**	0.008
Basis of accounting disclosure	0.103	0.027	0.041	**0.894**
Policy relating to investments	0.082	0.008	0.042	**0.917**
Information relating to income tax	0.018	0.027	0.047	**0.851**
Factor Label	Disclosure of Income	Disclosure of Balance Sheet Items	Managerial Reports & Other	Accounting

Source: Primary Data

The second factor explaining 14.82 per cent of the total variance includes six items with factor loadings from 0.702 to 0.793. Items loaded on this factor reveals the investors' perception on balance

sheet aspects (provision for doubtful & bad debts, fair value of investments and their breakdown, gross and disaggregated value of current, long-term & contingent liabilities, details of shareholders' equity, disclosure of assets into fixed, current & tangible, etc.). Therefore, this factor is labelled as "**disclosure of balance sheet items**." The third factor also includes six items all pertaining to reports of director, auditor, fund flow, cash flow and historical information. The loadings of items third factor range between 0.701 and 0.781. This factor accounts 14.30 per cent of the total variance in the data (after rotation). This factor is labeled as "**disclosure of cash / fund flow with auditor's report**". The fourth factor comprises of three items with item 23 (policy relating to investments) has the highest loading (0.917) followed by item 22 (basis of accounting disclosure) (0.894) and item 24 (information relating to income tax) (0.851). This factor accounts for 10.08 per cent of total variance in the original data. Based characteristics of highly loaded items, the fourth factor are identified as "**disclosure of accounting policy with income tax information**". In sum, it is found that mandatory disclosure of corporate annual reports comprises of four major components, viz., disclosure of income and expense items, disclosure of balance sheet items, disclosure of cash / fund flow with auditor's report and disclosure of accounting policy with income tax information.

The disclosure status of each major aspect (factor) of mandatory corporate annual report is evaluated by descriptive analysis and one-sample t-test. The t-test and one-way ANOVA is also done on the perception score of each factor to ascertain whether there is any discrepancy in the perception among the respondents (investors in the sample) with difference in socio-demographic characteristics or not. The significant difference in the perception by difference in socio-demographic status, (if the investors with different socio-demographic characteristics perceive the mandatory disclosure of corporate annual reports differently, i.e., if there is no consensus among the respondents of different socio-demographic status), reveals the lack of consistency in the corporate' reporting of mandatory accounting information to the investors. The score for each factor is calculated by averaging the perception scores of items belong to the factor. As the respondents' responses on disclosures are obtained using 5-point Likert scale with value ranging from 1 for not disclosed, 2 for poor, 3 for moderate, 4 for good and 5 for very good, the perception of the entire respondents or a respondent group on disclosure is considered as "not disclosed", "poor", "moderate", "good" and "very good" if calculated mean score is < 1.50, $>= 1.50$ and < 2.50, $>= 2.50$ and < 3.50, $>= 3.50$ and < 4.50, and $>=4.50$ respectively. For one sample t-test, the value 3 for moderate is used as hypothetical mean. Table 8 presents the results of descriptive analysis and one-sample t-test on investors' perception scores of factors underlying mandatory disclosure of corporate annual reports.

Table 8: Status of Mandatory Corporate Accounting Disclosure as Perceived by Investors

Major Components of Mandatory Disclosure	Mean	SD	t-Value
Income and Expense items	4.14	0.78	30.70**
Balance Sheet Items	4.33	0.71	39.10**
Cash / fund flow with auditor's report	3.86	0.72	24.80**
Accounting Policy with income tax Information	3.35	1.05	6.90**
All Mandatory Disclosure Items	4.02	0.47	44.80**
***Significant at 1% level.			

As presented in the table, the investors have scored a high of 4.33 on the average on disclosure of balance sheet items, which falls in "good" range. Next to this, scoring of investors on income and expense items is high and in good range (Mean = 4.14) followed by disclosure on cash / fund flow with auditor's report (Mean = 3.86). The mean scores of all these three mandatory disclosure aspects are well above and significantly much higher than 3, the value for moderate. Regarding disclosure of accounting policy with income tax information, the mean perception score of the investors falls in moderate range but significantly above the hypothetical mean of 3, value for moderate, in turn indicating that the investors have perceived the disclosure of this mandatory aspect near good. The mean perception score of the investors on entire mandatory disclosure items, 4.02 also falls in good range and significantly much higher than moderate value of 3.

Overall, it is found that disclosure of balance sheet items, income and expense items, cash / fund flow with auditor's reports is good but the level of disclosure balance sheet items are relatively better than the disclosure income / expense items and cash / fund flow with auditor's reports. The disclosure of accounting policy with income tax information is found to be much higher than moderate level and the disclosure of entire mandatory corporate accounting reports is good according to the investors. The

investors' perception on four major components as well as on entire items of mandatory disclosure of corporate annual reports is compared by their age levels using one-way ANOVA and the results of the analysis are exhibited in Table 9.

Table 9: Status of Mandatory Corporate Accounting Disclosure:
Comparison by Age Levels of Investors

Major Components of Mandatory Disclosure	Age (in years)				f Value (DF =3, 431)
	25 - 35	36 – 45	45 - 55	> 55	
Income and Expense items	3.80	4.30	4.13	4.27	9.75**
	(0.97)	(0.67)	(0.74)	(0.62)	
Balance Sheet Items	4.25	4.37	4.33	4.34	0.62[NS]
	(0.76)	(0.75)	(0.57)	(0.71)	
Cash / fund flow with auditor's report	3.86	3.94	3.62	3.95	4.82**
	(0.74)	(0.71)	(0.77)	(0.58)	
Accounting Policy with income tax information	3.13	3.40	3.37	3.51	2.17[NS]
	(1.06)	(1.08)	(1.03)	(0.96)	
All Mandatory Disclosure Items	3.84	4.12	3.96	4.11	8.72**
	(0.55)	(0.43)	(0.45)	(0.40)	

Source: Primary Data.

Figures in brackets are standard deviation. NS-Not significant; **Significant at 1% level

It can be observed from the results of the analysis comparing investors' opinion about various aspects of mandatory disclosure of corporate annual reports by age that there are good opinion about disclosure of income and expense items, balance sheet items and cash / fund flow with auditor's report among the investors of all ages but the degree of good opinion vary significantly with variation in the age levels in respect of mandatory disclosure of income / expense item (F value = 9.75, $p < 0.01$), cash / fund flow with auditor's report (F value = 4.82, $p < 0.01$). About disclosure of all 24 items of mandatory disclosure, the investors in the sample have expressed good opinion but such level of opinion is not same for respondent groups with different age levels (F value = 8.72, $p < 0.01$).

The investors in the sample aged up to 55 years have scored on the average in moderate range while those with age above 55 years have scored in good range in respect of mandatory disclosure of accounting policy with income tax information but the above observed difference is just by chance and not due to age of the investors as F value for the difference in group means is insignificant. In sum, it is found that the mandatory disclosure of corporate annual reports pertaining to income and expense, balance sheet, cash / fund flow with auditor's report is good but the investors with different age level have different level of good opinion in turn indicating the inconsistency in the disclosure of mandatory corporate annual reports. However, there is consensus among the investors in perceiving mandatory disclosure of accounting policy with income tax information as moderate.

Findings of the Study

- There are six major components of mandatory disclosure in corporate annual reports, viz., disclosure of income and expense items, disclosure of balance sheet items, disclosure of cash / fund flow with auditor's report and disclosure of accounting policy with income tax information
- The disclosure of balance sheet items, income and expense items, cash / fund flow with auditor's reports is good but the level of disclosure of balance sheet items are relatively better than the disclosure income / expense items and cash / fund flow with auditor's reports.
- The disclosure of accounting policy with income tax information is found to be much higher than moderate level and the disclosure of entire mandatory corporate accounting reports is good according to the investors.
- Both male and female investors have on the average perceived the disclosure of balance sheet items and cash / fund flow with auditor's reports as good, but the degree of good opinion among female investors is significantly higher than their male counterparts.
- The mandatory disclosure of corporate annual reports pertaining to income and expense, balance sheet, cash / fund flow with auditor's report is good but the investors with different age level have different level of good opinion on income and expense, balance sheet, cash / fund flow with auditor's report in turn indicating the inconsistency in the disclosure of mandatory corporate annual reports. At the same time, the investors regardless of the difference in age

levels are consensus in perceiving mandatory disclosure of accounting policy with income tax information as moderate.

- The level of good opinion about mandatory disclosure of income / expense items, balance sheet items, cash / fund flow with auditor's reports and disclosure of all items is associated with job status and income levels of the investors.

Suggestions of the Study

- The investors have stated that corporate accounting information is capable of making a difference in their investment decision but it does not faithfully represent what really happened or existed. So, corporate take this into account in the public annual reports. That is, reporting of corporate financial accounting should develop confidence among the investors.

- According to investors' reporting of income / expense items and cash flow / fund flow information were not so good as the reporting of balance sheet items in mandatory corporate annual reports. So, corporate should give much attention in giving detailed information about income and expenses as well as about cash flow and fund flow in the annual reports.

Limitations of the Study

The present study is limited to investors in Chennai region. So, the findings of the study cannot be generalized for the entire population of investors in other parts of State of Tamil Nadu.

Implications of the Study

There is a consensus that veracious fiscal uncovering operates a weighty role in winning investors' credit and betroths the weal of financial fair. The investors have stated that corporate accounting information is capable of making a difference in their investment decision but it does not faithfully represent what really happened or existed. So, corporate take this into account in the public annual reports. That is, reporting of corporate financial accounting should develop confidence among the investors.

Conclusion

The presents study has focused on evaluating the status of corporate financial reporting (CFR) in Indian context based on the views of corporate investors. It is understood that all items in the disclosure are important but income and expense statement is rated as the most important followed by pictorial statements, statement of financial position and auditor's report. The investors have grouped the disclosure of mandatory items in corporate annual report into four major components, viz., disclosure of income and expense items, disclosure of balance sheet items, disclosure of cash / fund flow with auditor's report and disclosure of accounting policy with income tax information and both respondent groups have perceived the entire component of mandatory disclosure as good. The socio-demographic and economic status of the respondent groups plays a significant role in influencing the perception level regarding mandatory disclosure.

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IND AS 16: ITs IMPACT ON VALUATION OF TANGIBLE ASSETS

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ABSTRACT

International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) have become the global language of accounting in recent times with around 126 countries around the world accepting IFRS for all or most of the domestic publicly accountable entities (listed companies and financial institutions) in their capital market. Property, plant & equipment occupy a vital place in any business entity which is responsible for generating revenue for the entity. Further, investors and other agencies are also interested in the status of these assets as it helps them in making informed decisions. Thus, a standardized approach shall have to be taken in presenting and valuing such assets. Thus, Ind AS 16 covers the entire area of valuation of such assets, however earlier AS 6: Depreciation Accounting and AS 10: Accounting for fixed assets were separately covering these issues. Thus considering the above, the paper covers the following objectives:

- *To examine the impact of Ind AS 16 on revenue, income and expenditure measurement of the companies and on the valuation of assets & liabilities.*

KEYWORDS: *IFRS, IASB, Capital Market, AS 6, AS 16, AS 10, Depreciation Accounting.*

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Introduction

Accounting comprises of diverse practices, policies, rules and conventions. Such diversity in accounting statement presentation shall defeat the very purpose for which accounting is done i.e. transparency, reliability and comparability and thus a set of standards are required to make them less diverse. Accounting standards are tools which harmonizes these diverse issues, practices, policies, rules and conventions by issuing standard rules of preparation and presentation of accounting information.

History of Accounting Standards in India

The study of history of Accounting Standards in India takes us back to the 4th Century BC when Kautilya in his Arthshastra states as follows:

"All accounts should be in the form prescribed in the 'Arthshastra'. Failure to do so will be punished."

This proves that India has a very rich and strong accounting heritage and philosophical backup. Even though accounting practices were not standardized as we have today, but still there was a strong ideology to ensure transparency and reliability of accounting records. Thus Accounting Standards have always been a part of our accounting structure. However, the history of the present shape of Accounting Standards dates back to April 21, 1977 when The Institute of Chartered Accountants of India (ICAI), the apex body of accounting and auditing, constituted the Accounting Standards Board (ASB). Since then the Board is regularly issuing standards on various areas of accounting and as on date there are 28 mandatory Accounting Standards (AS). These standards are applied by all entities operating in India as per the applicability guidelines specified in the respective standards.

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Need for Harmonization of Accounting Standards

Harmonization may be defined as reconciliation or bridging the gap between various views and practices. Thus, International Accounting Harmonization implies the unification of accounting standards of various countries so as to ensure standardization and comparability of financial statements across the globe. The Liberalization, Privatization and Globalization initiative undertaken by the Govt. of India in 1991 integrated the Indian economy with the world economy. Further, it got all the more necessary after the Satyam Computer Services type scams which resulted in an increased demand for transparency, relevance and comparability of financial information and this can be achieved only with internationally acclaimed accounting standards. International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) have become the global language of accounting in recent times with around 126 countries around the world accepting IFRS for all or most of the domestic publicly accountable entities (listed companies and financial institutions) in their capital market.[9] Considering the above, Indian Accounting Standards (Ind AS) were issued by the Ministry of Corporate Affairs which has been refined and fine-tuned to suit the Indian conditions.

Review of Literature

Following are the details of various publications dedicated to the subject of accounting standards and reporting of financial information:

C. Richard Baker and Elena M. Barbu (2007) in their article 'Evolution of research on international accounting harmonization: a historical and institutional perspective' has discussed about the importance of international accounting harmonization research and its prospects. They have expressed their optimism about the future of harmonization practices internationally and that it will lead towards uniformity of both accounting practices and accounting research.

Shankarbhai Somabhai Sodha (2015) in his article "A Study Of IFRS And Its Impact On Selected Companies" has concluded that adoption of IFRS in the financial statements of companies change their business process and operations and that the disclosure shall benefit the stakeholders at large. However, he expects the application of IFRS to raise the compliance costs of companies.

Arash Naderian (2014) in his article "Problems of International Financial Reporting Standards Convergence In India" has opined that most of the countries are in the process of convergence to IFRS. Further different countries mould the IFRS as per their requirements and situations and effect modification in their standards accordingly.

Ms. Dimple (2014) in her research work 'Convergence With International Financial Reporting Standards: Challenges And Opportunities' concluded that disclosures as per accounting standards have been better in public sector industries than in private sector industries and that adoption of latest trends in accounting is a compulsion and not a optional effort.

Prakash Bhatia (2013) in his research work "Convergence Of Accounting Standards With International Financial Reporting Standards In India: Impact On Profitability Of Selected Companies" has identified the opportunities and threats arising out of IFRS implementation in India and has concluded that there is not much difference in the provisions of IFRS and Ind AS.

From the above literature review, we conclude that no specific work has been done on identifying the impact of Ind AS implementation on valuation of fixed assets. Keeping this in view, the following objective was formulated.

Objective of the Study

- To examine the impact of Ind AS 16 on revenue, income and expenditure measurement of the companies and on the valuation of assets & liabilities;

Scope of the Study

The present study aims to identify the deviations of Ind AS 16 with AS 10 and AS 6 its impact on the financial statements of the selected companies.

Research Methodology

- **Data Collection**

The study is primary based on analysis of secondary data i.e. audited annual reports of selected companies, Accounting Standards, Companies Act, 2013, magazines, publications, journals, internet and newspapers etc.

- **Period of Study**

     Period of study for the purpose of our research is from 2015 to 2017.

Sample Selection

     A sample of top ten companies from ten sectors (having highest turnover) has been selected from NSE Nifty Fifty Index Companies as on 31-03-2016. Following is the list of selected companies and the sectors to which they belong:

S. No.	Sector	Companies Selected
1	Energy	Indian Oil Corporation Ltd.
2	Information Technology	Tata Consultancy Services Ltd.
3	Automobiles	Maruti Suzuki India Ltd.
4	Metals & Mining	Coal India Ltd.
5	Electric Utility	NTPC Ltd.
6	Infrastructure	Larsen & Toubro Ltd.
7	Consumer Goods	I T C Ltd.
8	Telecommunications	Bharti Airtel Ltd.
9	Cement	UltraTech Cement Ltd.
10	Pharmaceuticals	Lupin Ltd.

Limitation of Study

     During our exercise of analysis of standalone balance sheets of sample companies, we observed that certain changes in valuations were occurring due to the application of some other Ind AS which were not considered in our analysis. Further, certain companies had not bifurcated their figures about changes which were occurring due to the application of some other Ind AS and thus we had considered the entire amount in our analysis.

Ind AS 16: Property, Plant & Equipment

     Property, plant & equipment occupy a vital place in any business entity which is responsible for generating revenue for the entity. Further, investors and other agencies are also interested in the status of these assets as it helps them in making informed decisions. Thus, a standardized approach shall have to be taken in presenting and valuing such assets. Thus, Ind AS 16 covers the entire area of valuation of such assets, however earlier AS 6: Depreciation Accounting and AS 10: Accounting for fixed assets were separately covering these issues.

Impact

     The impact of the changes incorporated in the standard shall be vital in the financial statements. The standard has brought new concepts and major changes in the accounting structure of such assets which can be studied as follows:

- The various provisions of this standard shall have an impact on the profits and losses figure of the entity which may be positive or negative for any given entity. Changes proposed like treatment of spares, moulds, tools & dies, policy relating to depreciation etc. shall affect the figures of profit & loss account.
- Revaluation provisions shall change the very basis in which accounting for fixed assets are being done. An entity adopting this method shall have to regularly review and incorporate changes in its value and make suitable adjustments. This method is aimed at giving realistic figures of such assets to the users of such statements.
- Land becomes a depreciable asset under certain circumstances under this standard. Thus, it shall affect both the profit & loss account and the balance sheet. Companies which have installed equipment which indirectly help in earning future economic benefits like equipment for complying with environmental laws shall have the liberty to treat such assets under equipment, plant & machinery under Ind AS 16.

     According to our study, introduction of Ind AS 16 has had a marginal effect on sample companies. There has been an overall increase of 0.12% i.e. Rs. 680.57 cr. in the value of Written Down Value. An overall decrease of 0.09% i.e. Rs. 77.72 cr. has been observed in depreciation thereby affecting profitability of companies. A decrease of 0.27% i.e. Rs. 344.76 cr. in the value of Capital Work in Progress has also been observed. Following is a pictorial representation of the same in which we get a bird's eye view of the impact of Ind AS on various areas of financial statements of sample companies:

CHANGE IN WDV

CHANGE IN DEPRECIATION

CHANGE IN WIP
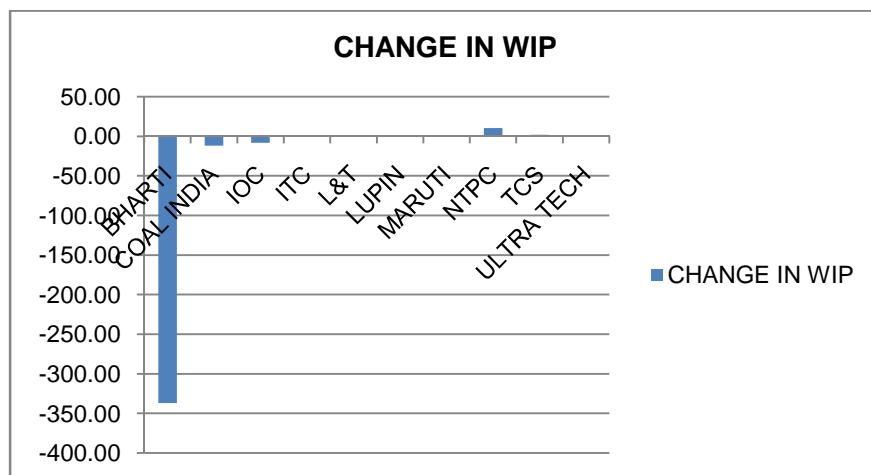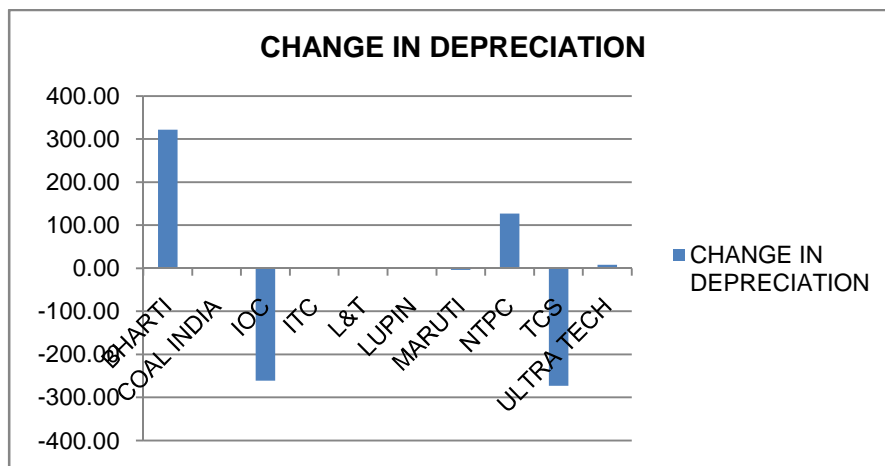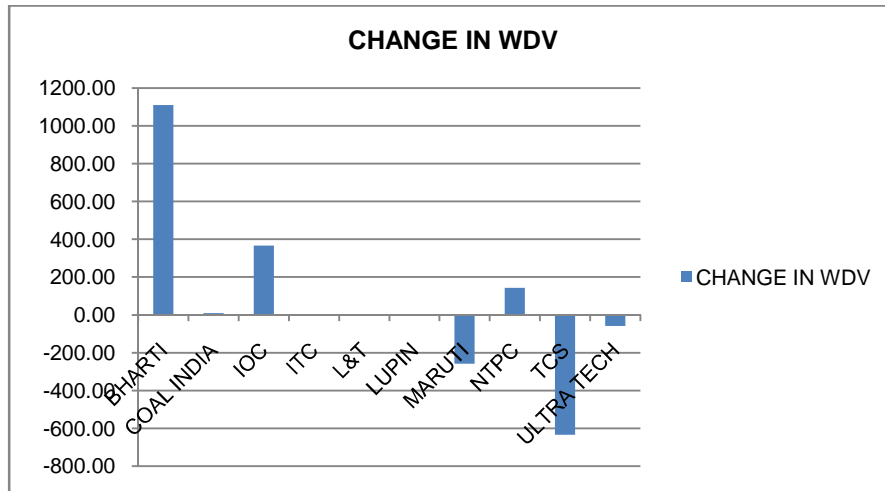
*Figures in the above diagrams represent Rs. in Crores.

**Source: Annual Audited Financial Statements of sample companies issued for the F.Y. 2016-17.

A detailed analysis of the causes of such differences has been done by us and presented in the below table:

Sample Company	Change in WDV (` in cr.)	Change in WIP (` in cr.)	Change in Depreciation (` in cr.)	Reason
Bharti Airtel Ltd.	1110.00	-337.00	322.00	• Changes in Existing Decommissioning, Restoration and Similar Liabilities (Appendix-A to Ind AS 16). • De-Capitalisation of foreign exchange gains/ losses (Due to application of Ind AS 21). • Measurement of non-current assets at present value.
Coal India Ltd.	9.32	-11.71	2.85	Changes in Existing Decommissioning, Restoration and Similar Liabilities (Appendix-A to Ind AS 16).
Indian Oil Corporation Ltd.	366.73	-8.34	-261.33	• Recognition of stores & spares as property, plant & equipments. • Capitalisation of assets as enabling assets since they enable an entity to derive future economic benefits from related assets in excess of what could be derived had those items not been acquired.
I T C Ltd.	-224.81	-81.66	130.80	Leasehold properties classified as prepayments within non-current assets instead of fixed assets and amortised over the period of lease. (Not considered in our impact analysis)
Larsen & Toubro Ltd.	9.30	-2.53	131.51	Due to Joint Ventures : Ind AS 111 (Not considered in our impact analysis)
Lupin Ltd.	0.00	0.00	0.00	N.A.
Maruti Suzuki India Ltd.	-257.80	0.00	-3.70	No explanation provided by the company.
NTPC Ltd.	143.54	10.45	127.50	• Recognition of stores & spares as property, plant & equipments with corresponding reversal of repair and maintenance expenses. • Capitalization of major inspections/ overhauls with corresponding reversal of repair and maintenance expenses, transaction cost adjustment, unwinding of discount on vendor liabilities, amortization of leased land treated as finance lease.
Tata Consultancy Services Ltd.	-633.22	1.84	-273.05	Change of method of depreciation from Written Down Value to Straight Line Method which was treated prospectively as a change in accounting estimate as per the provisions of the Ind AS.
Ultra Tech Cement Ltd.	-58.00	0.00	8.01	• Recognition of stores & spares as property, plant & equipments with corresponding reversal of repair and maintenance expenses. • Leasehold properties classified as prepayments within other non-current assets instead of fixed assets and amortised over the period of lease. • Right to use jetty has been classified as Intangible asset as on the date of transition. • Changes in Existing Decommissioning, Restoration and Similar Liabilities (Appendix-A to Ind AS 16).

*Source: Annual Audited Financial Statements of sample companies issued for the F.Y. 2016-17.

Analysis of Causes of Impact

There are many points of differences that exist between AS 10 & 1S 6 and Ind AS 16. Out of these the major ones relates to areas like asset retirement obligations, capitalization of spares, revaluation model, capitalization of foreign exchange differences etc. Even after Ind AS 101 First time Adoption of Indian Accounting Standards giving many relaxations with respect to first time application of Ind AS 16 to financial statements of companies, 7 out of 10 sample companies i.e. 70% of the sample companies have been affected by its application. Following is an analysis of the causes of impact of Ind AS 16 on financial statements of companies:

- **Changes in Existing Decommissioning, Restoration and Similar Liabilities:** Acquisition of any property, plant & equipment by an entity also involves obligations to dismantle and restore such items which have been termed by the standard as 'decommissioning, restoration and similar liabilities'. Ind AS 16 requires an entity to make an initial estimate of such costs which are expected to be incurred by them at the time of its retirement and include fair value of such costs in the value of such asset that is to be capitalized in the books of the entity. 3 out of 10 i.e. 30% of sample companies have been affected by the provision.

- **Recognition of stores & spares as property, plant & equipments:** Spare parts which are regularly used and consumed within a short period are recognized in the profit & loss account as per the existing GAAP. AS 10 allow capitalization only if the spares can be used in connection with an item of fixed asset and their use is expected to be irregular. However, if the life of spare parts, stand-by equipment and servicing equipment is stretched in more than one period, Ind AS 16 recognizes such expense to be capitalized under property, plant & equipment irrespective of the fact that the items may be used regularly or not. 3 out of 10 i.e. 30% of sample companies have been affected by the provision.

- **Enabling Assets:** Enabling assets can be defined as expenditure on those assets whose ownership does not vest with the entity, but it shall enable it to derive future economic benefits from them in excess of what could have been derived if the asset had not been acquired. Ind AS 16 requires recognition of an asset as Property, Plant & Equipment only if it is capable of generating future economic benefits to the entity and the cost of the same can be measured reliably.

- **Capitalization of Major Inspections/ Overhauls:** Ind AS requires costs incurred in major inspections and overhauls to be capitalized in the books of accounts if the same qualifies the asset recognition criteria prescribed by the standard. Further, it also requires de-recognition of the carrying amount of the cost of any earlier major inspection/ overhaul.

- **Change in Method of Accounting:** Depreciation method is required to be regularly reviewed under Ind AS 16 and any change in the value should be treated as a change in accounting estimate i.e. treated prospectively.

Changes Proposed

- The standard having introduced the concept of revaluation of items of property, plant & equipment has mandated its review at lease at every financial year end i.e. an entity following this model of cost shall have to revalue or review its assets at each year end. This will be an added burden on the companies which shall become a part of compliance costs. Review in the values are necessary to reflect true values, but instead of mandating such review for each year, it should be required to be done in every three years, which shall significantly reduce compliance costs of such companies.

- Revaluation of assets shall enable management to manipulate the values of fixed assets as per their requirements. Management may try to maintain a higher figure of its assets in order to portray a better position of its financial statements. This might defeat the very purpose of the incorporation of these changes. The change was proposed to ensure that assets are carried at its fair values at the date of financial statements. However, manipulations may not ensure the meeting of this object.

- AS 6 allowed expenses like moulds, tools & dies to be written off during the year in the profit & loss account if the same was immaterial considering the size of the unit. However, Ind AS 16 does not allow it. This will unnecessarily pile up the list of fixed assets and shall include figures of immaterial assets within its ambit. Thus, immaterial expense incurred should be treated as revenue expenditure to avoid such a situation.

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STOCK PRICE, EARNING POWER AND RESERVE:
HOW THEY ARE CORRELATED

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ABSTRACT

Stock price of a company basically is the reflection of net worth and future prospect of the same under demand and supply situation of the stock in the market. Future prospect is associated with future earning prospect of the company, which, however, is partly speculative in the nature because of uncertainty of future earnings. However, net worth virtually is the resultant effect of the earning power of the company over years. Earning power usually is represented by earning per share (EPS) of the stock which is instrumental in developing the reserve content of the company. Though, reserve can develop when the company issues shares at a premium or disposes of or revalues assets. These are not usual business course of action and happen only in a few occasions. Retained profit, arising out of undistributed profit (profit remains after distribution of dividend), plays a key role in creation of reserve of a stock. Thus the reserve which owes its existence and growth to EPS over years is a significant point in determination of price of a stock as book value of stock depends on net worth. In a particular point of time the EPS may suffer arising out of business situation but P/E (price earnings ratio) may sustain the adverse effect and grow. In other words price and even dividend element somehow manage to overcome the adverse situation because of reserve content. Attempt has been made to correlate how EPS and reserve are associated in visualizing the expected price movement of a stock under certain change in earning status and reserve element.

KEYWORDS: *Stock Price, EPS, Reserve, Net Worth, Retained Profit, Price Earnings Ratio.*

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Introduction

EPS does not take into account the reserve content of a company. However, reserve, which grows over years because of undistributed profit, also takes part in the business to earn profit. Mere earning does not represent the true state of affairs of the company; retained profit over years consolidates the financial strength of the company. Many companies sometimes maintain steady or growing P/E (price earnings ratio) status in spite of falling or depressed earning (EPS) situation. In other words effect of falling or depressed earning is somewhat offset by some forces in the business entity. Here speculation comes in the play field. Market price less book value represents the measure of speculation with respect to the stock. The degree of speculation, though, however connected with a number of socio economic factors (both micro and macro economic factors), the major impetus to speculation is (i) earning capacity (EPS) and (ii) the reserve content of the enterprise. The reserve power subsequently can be available either as stock dividend (Bonus) or special or high dividend.

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Objective of the Study

> To develop a relation preferably in mathematical form thereby an idea of the effect of reserve can be associated with earning or EPS of a stock on its price.

Approach of the Study

> Tables 1 to 4 depicts the financial status of two reputed companies and explains that in spite of decrease in earning power between 2012-16, the price of the stock or p/e i.e. price earnings ratio has not suffered any significant change. Instead the prices of these stocks rather moved upwards, however with some hiccups.

Table 1

EPS (Rs)	2012	2013	2014	2015	2016
Company/Face Value					
AMBUJA CEMENTS / Rs 2/-	8.41	8.28	9.61	5.21	5.65
ACC/ Rs10/-	56.42	58.31	61.88	31.3	35.06
P/E	**2012**	**2013**	**2014**	**2015**	**2016**
Company/face value					
AMBUJA CEMENTS / Rs 2/-	21.3	21.7	20.6	37.9	41.4
ACC/ Rs10/-	23.0	20.3	20.5	43.0	45.5

https://www.equitymaster.com/stock-research/financial-data/ACC/ACC-LIMITED-Detailed-Share-
Analysis?utm_source=researchit&utm_medium=website&utm_campaign=factsheet&utm_content=search

Table 2

Reserve Rs in Cr	2012	2013	2014	2015	2016
Ambuja cements	8488.97	9152.72	9760.02	9961.02	19148.32
ACC	7184.48	7625.43	8029.73	8233.19	8453.53
Equity Rs in Cr	2012	2013	2014	2015	2016
Ambuja cements	308.44	309.17	309.95	310.38	397.13
ACC	187.95	187.95	187.95	187.95	187.99

Table 3

R/E (Reserve Equity Ratio)	2012	2013	2014	2015	2016
Ambuja Cements	27.52	29.60	31.49	32.09	48.22
ACC	38.23	40.57	42.72	43.81	44.97

Table 4

Ambuja Cements (Price Rs)	Open	High	Low	Close
2012	156.2	220.7	135.6	200.95
2013	201.05	211.9	147.55	182.75
2014	183.1	243.85	150.5	228.7
2015	229.4	286.85	187.7	203.35
2016	203	282	185	206.2
ACC (Price Rs)	open	high	low	close
2012	1145.2	1514.95	1083.1	1429.4
2013	1440	1452.7	912.05	1108.2
2014	1107	1570	971.25	1399.4
2015	1400	1774.8	1302	1343.95
2016	1355.05	1738	1173.25	1328.4

To explain the incidents help has been taken from following facts.

Back Ground of Discussion and Development of Concept

> It has been found that some stock even after set back of earning power in a particular period of time, overcome the jolt in stock price rather quite quickly and comfortably. It is noted that in such case reserve is found to play a big role and price fluctuation of a stock somewhat gets a cushion even though transient jolt in stock price may happen. Now let us see how stock price is simultaneously connected with earning and reserve content.

> Net worth$_1$= Equity$_1$ + Reserve$_1$, for a particular year 1 and Net worth$_2$= Equity$_2$ + Reserve$_2$, for year 2 therefore,   Net worth = Equity +   reserve, if no change in equity content   Equity will be zero, thus   Net worth =   reserve,

Now, to what extent reserve increases with respect to previous year. Amount sent to reserve is PAT-Dividend; therefore, in year2 reserve will increase by PAT_2-Div_2. PAT= Profit after tax, Div= Dividend. We know price of a share is directly connected to PAT or earning power or EPS and thus in turn EPS and reserve are connected.

Therefore price is not only connected to EPS but also to reserve and dividend component.

• Thus under declining EPS the reserve can grow with change in dividend component and price level can be stabilized with the support of reserve. This is an indirect and qualitative proof,

One fundamental aspect has been shown herein below: how Reserve affects ROE or return on equity and in turn the price of the stock:

We know, EPS x no. of shares = PAT, again ROE x Net worth = PAT (ROE in percentage)

EPS x no. of shares = ROE x Net worth = ROE x (Reserve + equity)

EPS x k = ROE x (Reserve + k_1) , so long k is fixed, k_1 is also fixed

Or ROE = (EPS x k)/ (Reserve +k_1) ...equation A

Or ROE is directly proportional to EPS but inversely proportional to Reserve

Here in this stage if growth rate of Reserve > growth rate of EPS, ROE declines and vice versa. Excessive growth of reserve has the propensity to suppress ROE, if PAT is not proportional.

Again, under declining but positive growth of EPS, the growth of reserve is usually slowed down to counter the dampening effect of ROE.

If ROE is not dampened the stock price at least theoretically is not bound to suffer much from the stand point of maximisation of wealth of share holders.

Growth of reserve undoubtedly provides a strong backbone to an enterprise, the weakening of ROE is virtually offset by the expectation of bonus issue by the investors and naturally stock price gets a boosting effect. With bonus issue the companies retains the fund in one hand and in the other hand it satisfies the investor expectation. However, in order to earn money investors have to rely on stock market and in the process they lose their stake in the business. Good dividend is an alternative process to neutralize the expectation of investors. This at the same time reduces excessive growth of reserve, maintains ROE at reasonable level and maximizes the wealth of investors.

The same inference can be drawn from traditional concept which says. Under market equilibrium condition that is when present value and market price remain same. The following equation can be derived

P_0 = the present value of a share, P_1 = value of share after a year

$P_0+P_0k =Div+P_1$,   k=required rate of return of investor

if share grows at a rate " g" then, g= $(P_1-P_0)/P_0$ or $P_1=P_0(1+g)$......1

Now,$P_0=(Div+P_1)/(1+k)$ and putting the value of P_1. We get

$P_0=\{Div+P_0(1+g)\}/1+k$, or $k=(Div/P_0) + (P_1-P_0)/P_0$

$P_0=Div/(k-g)$ or

$P_0 = \frac{Div}{K_e-g}$, equation 2, this is based on following assumption, $k=k_e$, k_e= capitalization   rate,   (a) Capitalization rate > growth rate (b) initial dividend > 0 (c) relationship between K_e and g constant and perpetual

Now, Div = EPS (1-b), b is the retention rate of earning,   g = r x b, r = ROE,

P_0 =EPS (1-b)/K_e-g

$P_0 = \frac{EPS(1-b)}{K_e-rb}$ = (EPS – EPS x b)/ k_e-rb   ...equation B

The factor 'EPS x b' represents the amount transferred to reserve; thus price is reflective of both earning power and reserve content. Smaller "b" may cause price to grow at faster rate. In other words slow growth of reserve may pushes up the price.

Direct Correlation of Price, EPS and Reserve

We know, stock price P   EPS, and EPS builds book value.

So, P   Book value, book value   Net worth, Net worth   Reserve

So, Price   Reserve i.e. gradual growth of reserve can push up the stock price.

Therefore, $P = K_c$ (EPS x Reserve), K_c constant, equation C

This reflects when reserve is sufficiently large marginal deceleration of EPS even over a few years may be offset by the by the reserve component (as because so long EPS is positive reserve will continue to grow howsoever small it may be, as all profit does not go as dividend). This is generally manifested in the stock price of companies with appreciable earning status. In other words reserve provides some cushion to stock prices though initial impact in the market may be disappointing.

With the help of equation A and B we can say if growth of EPS exceeds growth of Reserve ROE energised and stock price at least theoretically gets a boosting effect. Similarly if growth of reserve exceeds growth of EPS, ROE is dampened and price theoretically may also suffer some dampening effect. Equation C directly correlates stock price EPS and Reserve. Our given examples can be shown here in below graphically also. The behavior can be explained in the light of the equations.
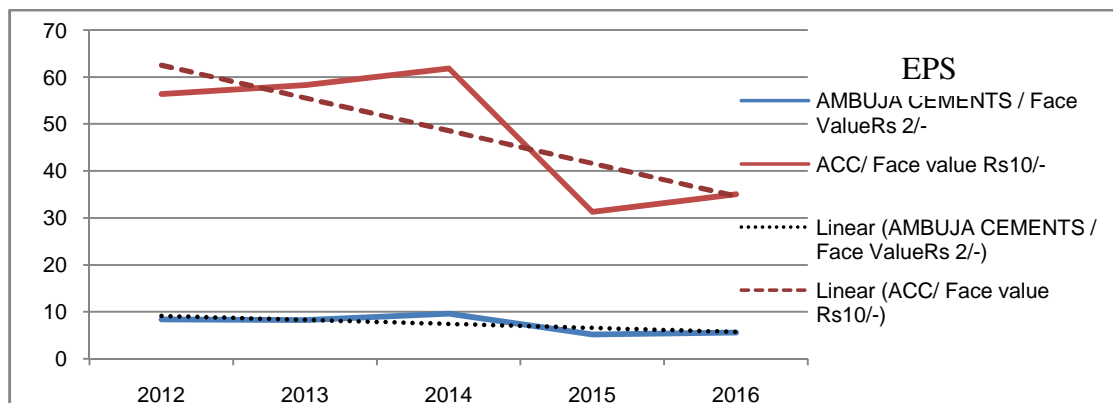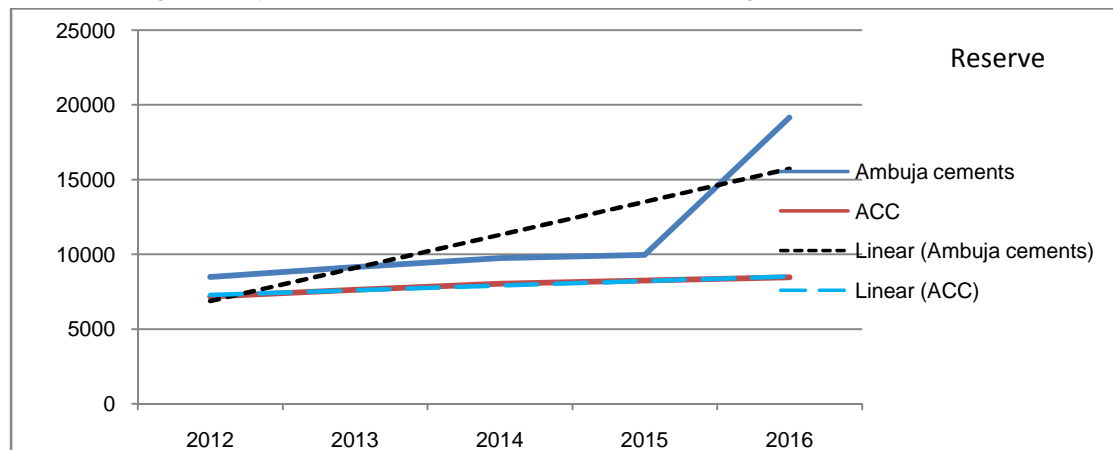
At lower EPS reserve growth also slows down and at higher EPS, reserve grows quite faster. When significant reserve is stored in the account marginal or small degree of deceleration of EPS is generally taken care of by reserve. The price as shown by P/E curve here in below has not been badly affected by deceleration of EPS in all these years. Here we have discussed only two examples, however many such examples can be found out in the stock market such as Alstom T & D, JK Lakshmi etc.
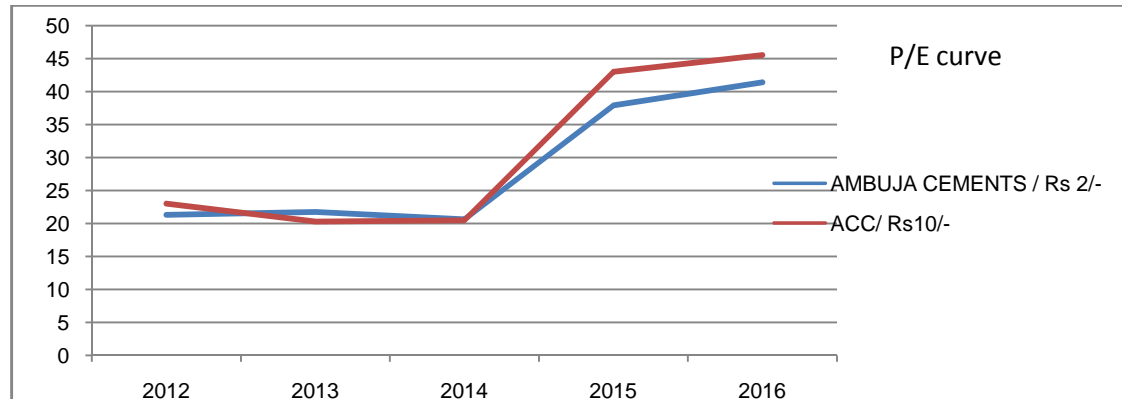
However, growth of reserve provides cushion to business entity and bonus opportunity rises. This acts as stimulant to price. Usually, a trade-off forms between reserve and stock price in the long run. For Reliance Industries the stock price moved to over Rs1600/- during the period of last bonus issue (1:1) from Rs 900/- region. After that stock price again tumbled to Rs 900/- region.

Conclusion

This concept more or less develops a relation between price, EPS and reserve. It also indicates that if sufficient reserve is there in the business marginal deceleration of EPS even over a few years may be offset by reserve power. However, the stock price is the reflection of many micro and macro economic factors and naturally this concept is true partially. The speculation factor is human derived perception and quantitatively cannot be ascertained. Thus price prediction with the help of this concept cannot be made accurately. However under normal situation this may provide useful guide to investors whether stock price has the opportunity to move up or go down or to thwart the adverse earning situation in the short run.

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AN EVALUATION OF CHANGING ATTITUDE AND BEHAVIOR OF WORKING AND NON WORKING WOMEN TO PROMOTE THE FINANCIAL INCLUSION THROUGH PLASTIC MONEY
(A CASE STUDY OF JABALPUR, M.P.)

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ABSTRACT

India is now blowing the trumpets of various innovative products in banking sector. Financial inclusion denotes the usage of financial services and products at affordable costs with ease of usages to all individuals and businesses. After financial inclusion the lot of attention has been giving to promote payment system infrastructure in the country. The banking industry of India looks forward to promote electronic means of payment and plastic money. Innovation in banking products only helps financial inclusion if the people of the country accept it. Keeping this thought in mind this study was carried. This paper aims to identify the driving forces behind the changing attitude and behavior of working and non working women in order to promote the financial inclusion through plastic money in Jabalpur. The study is based on Primary Data. Primary data has been collected through questionnaire and analyzed through various statistical tools. Emerging trends are identified and suggestions for future growth are provided. It is also hoped that the research will provide useful information regarding the ongoing changes to a cashless society.

KEYWORDS: *Financial Inclusion, Plastic Money. Debit Card, Credit Card.*

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Introduction

"Financial inclusion is where individuals   and business have access to useful and affordable financial products and services that meet their needs that are delivered in a responsible and sustainable way."

Financial inclusion has been recognized as a key building block which will form the foundation for achieving several Development No frill accounts, KYC Norms , Financial Literacy Program , General Credit Card(GCC) , Financial inclusion plan , Simplified branch authorization , Promotion of ICT are such initiatives which has been taken through financial inclusion Goals. Financial inclusion has altered the way of payment and ushered in a new system where most banks issued plastic card to their customer who would be used for buying goods and services. Plastic Money has become more popular in India. The reason for their popularity has shifted from being recognized as a status symbol to convenience, security and world wide acceptance. Plastic money has given a major boost to the process of establishing cashless economy. It is now an essential form of ready money which minimizes the risk of carrying cash. It includes debit cards, store cards, smart cards etc.

Objectives of the Study

- To explore the attitudes and behaviour of working and non working women towards plastic money in Jabalpur.

- To analyze the relationship between plastic money and occupation of users of plastic money.

- To investigate how plastic money has impacted the changes in transactions over time.

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Hypothesis

H_0:   There is no relationship between Usage of plastic money and occupation of the plastic money holders.

H_1:   There is a relationship between usages of plastic money and occupation of the plastic money holder.

Literature Review

Review of previous work shows the gap between what is done and what should be done in future. It makes a path for further research. Keeping this in mind following   important articles and research paper have been reviewed:

Syed Ali Raza (2016) his paper has attempted to understand the preference and attitude of plastic money holder of Hyderabad city. The survey was performed on 200 respondents .It was found that   customer very well known about the concept of plastic money and its usage, and have been using it since long time. Debit card is most preferred mode of payment than various others card because it controls hobbits of over spending, According to the author respondents' are showing their interest in modern modes of payment and they are eager to learn new techniques of modern banking which shows that plastic money has a bright future in India.

Mr. Rohit Malagi and Mrs Harshala Shelar (2017) conducted a study to known that how plastic money increased the volume of sales and its use and benefits for shopping. He also discussed the problems facing by a customer while shopping through plastic money. This study was confined to the sample size of 210 respondents. Survey method was used to known the buying behaviour of respondents through plastic money. It was concluded that plastic money is a most preferred mode of payment and it helps to increase the life standard of the respondents and that's why shopping trends will be increased and sometimes it makes respondents extravagant.

Ms. Pinki (2017) in her article gave an insight into the parameters which affects the choice of people between paper money and the plastic money. It has been observed from the paper that 50% respondents were using plastic money and remaining was still not aware about the use of plastic money. The implementation of Security Pin and digital signatures are recommended to decline the rate of misuse of plastic card.

Komal Dhanda, Usha Arora(2017) investigated that   security, usage pattern, new technique of e-payment   ,interest rates, plastic card frauds and problems with shoppers in plastic card usage, are some of the factors which affects the growth of plastic money. This study was based on primary data collected from 100 respondents of north India .Further they discussed benefits and advantages of using plastic money. It was concluded that appropriate amendments in Cyber Laws are required. Shortage of cyber police personnel was also felt to control frauds in using plastic money online and offline.

Bhawna Mukaria (2018) expressed their views about various schemes of government like Digital India and Pradhan Mantri Jan Dhan Yojna , in order to promote non cash modes of payment She also explained the challenges and future prospects of plastic money in India. This Study was based on secondary data. It was concluded that the requirement of high IT infrastructure, security concerns, lack of technological awareness and the traditional mindset of Indians are the main obstacle in the way of cashless economy**.**

E. Megha, Swathi Prathap and M.B. Krishna (2018) carried out a study to measure a acceleration in the use of plastic money after the demonetization .They also discussed the various facts of non-acceptance of plastic money by small and medium sized retailers. Plastic money reduces the rate of corruption which leads the growth of an economy. It was suggested that the government should facilitate effective resource and infrastructure to promote the use of plastic money.

Methodology

The universe of the survey is the working and non working women residing in Jabalpur M.P. The sample size for the study is 200 respondents, covering working and non working women of all age group. Primary data was collected from persons known to the researcher.   Hence a selective convenience sampling method was used .The questionnaire was given after enquiring of the usage of cards. A draft questionnaire was prepared and administered to 10 people as the part of pilot study. On the basis of the pilot study, few changes were made in the questionnaire and final questionnaire was prepared. Two sets of hypothesis were also made, each consisting of a null hypothesis and an alternate hypothesis.

Appropriate statistical tools have been employed. The data collected was analyzed using the mathematical tools like percentage and Chi- Square test is used to get prove the hypothesis. Tables and graphs are used to represent the data.

Limitations of the Study

This study is subject to the following limitations:

- Among various card only Debit card and credit card have been considered for the study.
- Data Collection was limited to working and non working women of Jabalpur.
- Method of data collection was selective convenience sampling which has its own pros and cons.

Analysis

Table 1: Age

Age	Count	Percentage
15-25	20	10%
25-35	85	43%
35-45	65	33%
45 and above	30	15%
Total	200	100%
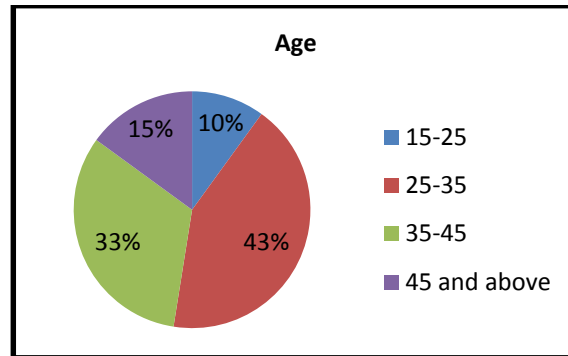
Source: Primary Data obtained from the questionnaire

Interpretation-Out of 200 respondents maximum 85 are in age group of 25-35,65 are in age group of 35-45,30 are in age group of 45 and above, a minimum are in age group of 15-25.

Table 2: Education

Education	Count	Percentage
Up to school level	18	9%
Graduation	55	28%
Post Graduation	127	64%
Total	200	100%

Source: Primary Data Primary Data obtained from the questionnaire
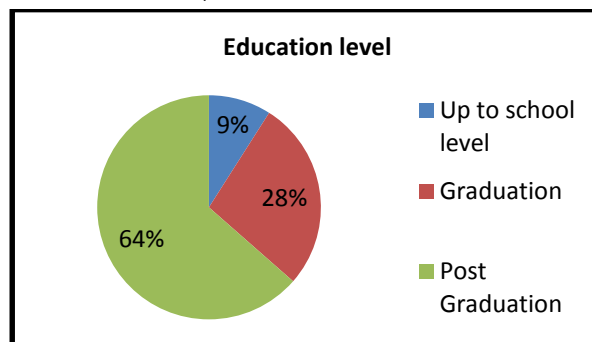
Interpretation

Out of 200 respondents 127 are post gradutes.55 respondents are graduates and remaining 18 respondents belongs to the category up to school level.

Table 3: Income

Income	Count	Percentage
Less than 10000	10	5%
10000-30000	53	27%
30000-50000	92	46%
50000 and above	45	23%
Total	200	100%

Source: Primary Data Primary Data obtained from the questionnaire
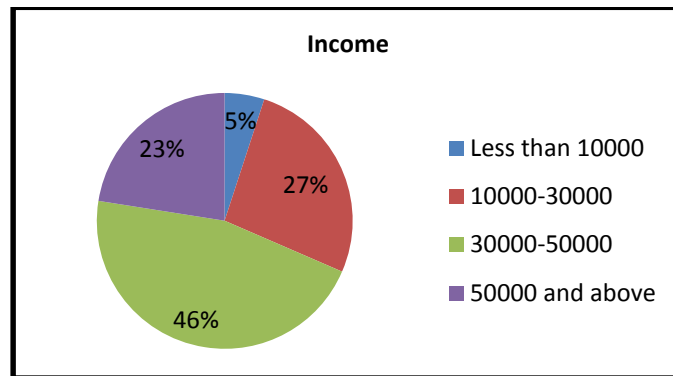
Interpretation

Out of 200 respondents .a maximum number 92 were earn 30000- 50000 per month , 53 respondents earn 10000-3000 and 45 respondents earn more than 50000 in a month whereas a minimum number 10 respondents earn less than10000 in a month.

Table 4: Marital Status

Marital Status	Count	Percentage
Married	117	59%
Unmarried	83	42%
Total	200	100%

Source: Primary Data obtained from the questionnaire
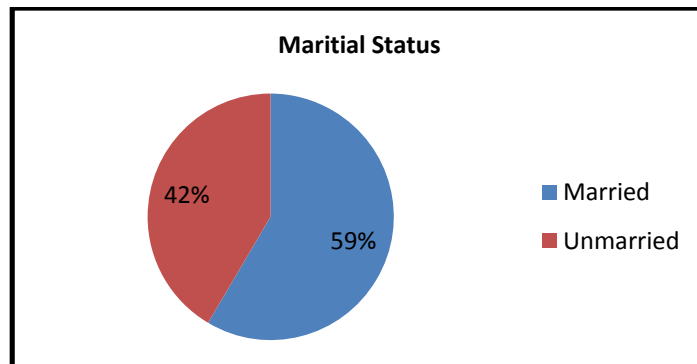
Interpretation

Out of 200 plastic money users, maximum number 117 respondents were married and remaining 83 respondents were unmarried.

Table 5: Trends of Using or not Using Plastic Money

Using plastic money	Working Women		Non Working Women	
	Count	**Percentage**	**Count**	**Percentage**
Yes	92	92%	34	34%
No	8	8%	66	66%
Total	100	100%	100	100%

Source: Primary Data obtained from the questionnaire
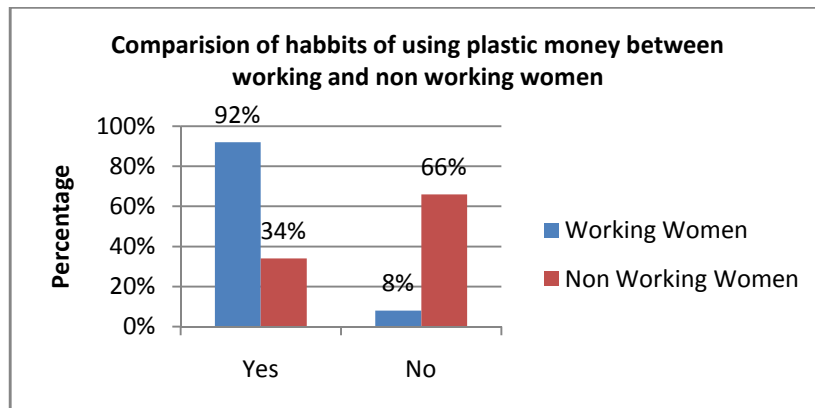
Interpretation

      The above table shows the using trends of plastic money. In case of working women 92% are using and 8% working women are not using plastic money whereas in case of non working women only 34% respondents are using plastic money and 66 % are not using plastic money for payment.

Table 6: Most Preferred Card

Types of Card	Working Women		Non Working Women	
	Count	**Percentage**	**Count**	**Percentage**
Debit Card	53	53%	38	38%
credit Card	10	10%	2	2%
Debit Card and Credit Card	29	29%	3	3%
No Card	8	8%	57	57%
Total	100	100%	100	100%

Source: Primary Data obtained from the questionnaire
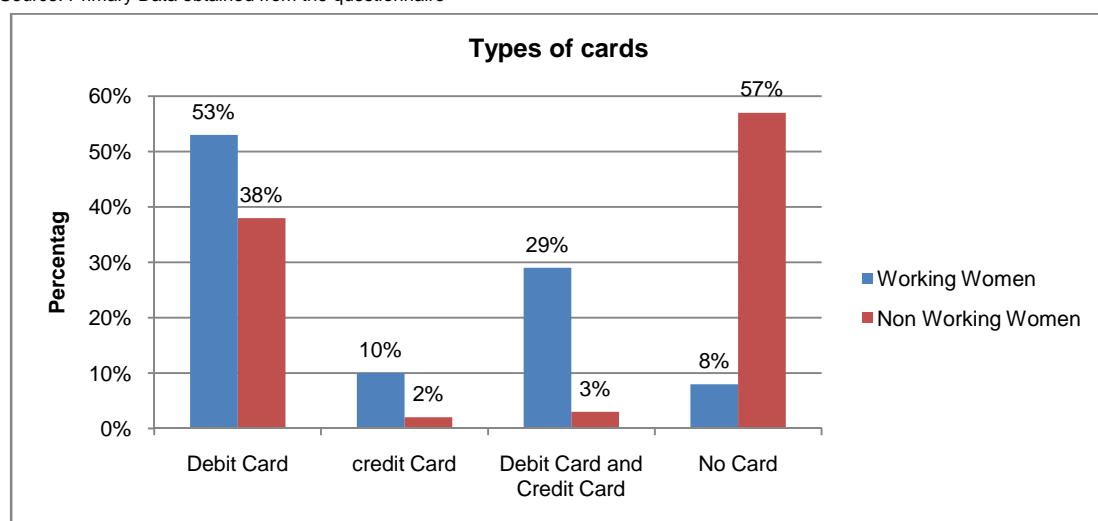
Interpretation

Table 6 shows that A maximum Number 53% working women use Debit Card and 10 %respondents were using Credit Card 29% were using debit and credit card and only 8% working women were neither using debit card nor credit card, Whereas 38% of non working women only using Debit card ,2 %were using credit card ,3 %were using both card and a maximum number 57 non working women ,neither use debit card nor credit card they still prefer to use cash in place of plastic money.

Table No. 7: Usages of Plastic Money

Using Plastic Money	Working Women		Non Working Women	
	Count	Percentage	Count	Percentage
Online Shopping	60	60%	50	50%
Offline shopping	40	40%	50	50%
Total	100	100%	100	100%

Source: Primary Data obtained from the questionnaire
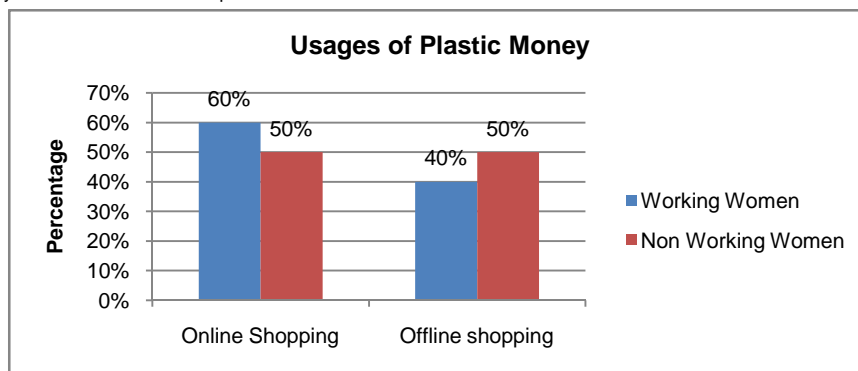
Interpretation

Table Number 7 shows the that 60% of working women prefer online shopping through plastic money and rest of 40% working women use plastic money for offline channels whereas in case of non working women, 50% prefer online shopping and remaining 50% prefer offline shopping through plastic money.

Table No.8: Problem Perceived by Respondents

Parameters	Working Women		Non Working Women	
	Count	Percentage	Count	Percentage
Fear of Technology	5	5%	45	45%
Fear of Fraud	20	20%	35	35%
High processing fees	30	30%	12	12%
Infrastructure not Available	45	45%	8	8%
Total	100	100%	100	100%

Source: Primary Data obtained from the questionnaire
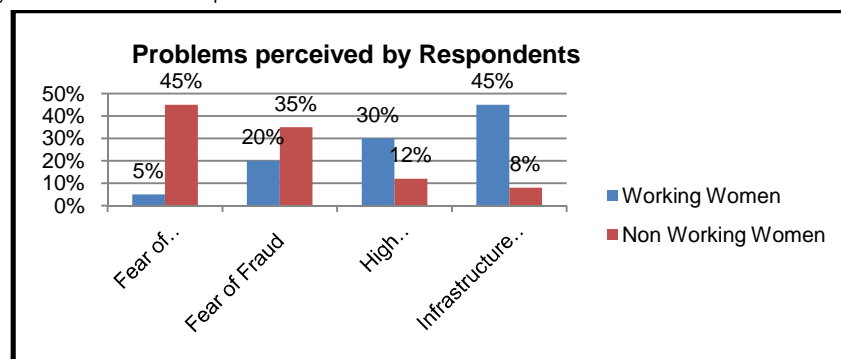
Interpretation

Table Number 9 shows that, a maximum 45 %working women have the problem of less infrastructure like insufficient POS and ATM, 30 % agree with high processing fees ,20% have fear of fraud and only 5 % working women have fear of technology. Whereas in case of non working women a maximum 45 % have fear of using new technology, 35% of non working women also have fear of fraud,12 % agree with high processing fees and remaining 8% says that sufficient infrastructure is not available for using plastic money.

Testing of Hypothesis

H₀: There is no relationship between Usage of plastic money and occupation of the plastic money holders.

H₁: There is a relationship between usages of plastic money and occupation of the plastic money holder.

A chi-square test is performed to determine the relationship between usage of plastic money and occupation of the plastic money holders and the results are set below in the table no.9

Table 9: Observed Frequency (f_0)

Women	Using Plastic Money(B)	Not Using Plastic Money(b)	Total
Working Women(A)	92 (AB)	8 (Ab)	100(A)
Non Working Women(a)	34 (aB)	66 (ab)	100(a)
Total	126 (B)	74 (b)	200(N)

Source: Primary data

Table 10: Expected Frequency (f_e)

Women	Using Plastic Money(B)	Not Using Plastic Money(b)	Total
Working Women(A)	63(A*B)/N	37(A*b)/N	100(A)
Non Working Women(a)	63(a*B)/N	37(a*b/N)	100(a)
Total	126(B)	74(b)	200(N)

Source: Primary data

Table 11: Calculation of Chi Square Test

f_0	f_e	$f_0 - f_e$	$(f_0 - f_e)^2$	$(f_0 - f_e)^2 /f_e$
92	63	29	841	13.35
8	37	-29	841	22.73
34	63	-29	841	13.35
66	37	29	841	22.73
				X^2 =72.16

Source: Primary Data

f_0 = Observed Frequency ,f_e = Expected Frequency,X^2=Chi Square Value

It is revealed from the above table that the calculated value of chi square is 72.16 whereas the table value of chi square on 5 % confidence level for 1% degree of freedom is 3.841 .It shows that calculated value is more than the table value (72.16>3.841).Hence null hypothesis is rejected and alternative hypothesis is accepted which shows that there is relationship between the relationship between usage of plastic money and occupation of the plastic money holders

Findings

- The plastic money is mostly used by young generation and old age women still not ready to meet their hands with latest technology.
- Plastic money is commonly used by literate people. A benefit of card banking is well known by literate people so they use plastic money wisely.
- Debit card and Credit card are mainly used by the women whose earnings belong to the category of 30000 – 40000.
- Married are using more plastic money as compared to singles.
- There is vast potential of non working women who are not using plastic money for payment.
- Debit cards are preferred over credit cards by both working and non working women.

- Working and Non working women mostly preferred plastic money for online payment and a maximum 57% of non working women are not aware about the use of plastic money because they don't possess any card.
- Working Women are addicted to pay through plastic money but they faced the problem of insufficient infrastructure of using plastic money and non working women still have fear of using plastic money because they feel insecure while using latest technology
- In order to test the hypothesis chi square test was used. And it was found that there is a relationship between the usages of plastic money and the occupation of plastic money holders if the women is doing job or business she use plastic money more as compare to not working women.

Suggestions

- Door to Door Awareness program and demo of using plastic money should be organized by the collaboration of bank and government especially for the non working women.
- Unnecessary paper formality should be reduced to encourage the use of credit card.
- In order to increase the use of plastic money, number of POS and ATM should be increased. The corresponding servers should be high in speed and capacity to provide high speed and uninterrupted experience for the users. Also the machines should be established in secured places.
- 4.. It is suggested that to popularize the use of plastic money amongst non-working women , Easy banking and supportive staff leads to the miracle changes in present scenario.

Conclusion

"Financial Inclusion Scheme" launched by the Government of India has brought a number of new financial instrument and services. It has given a boost to innovations in payment methods globally. In this paper an attempt has been made to evaluate the perception of working and non-working women towards plastic money. It was felt that a large number of non-working women fear use of modes of payments other than cash. Therefore, to accelerate the pace of cashless economy, a viable strategy should be adopted to promote the use of plastic money amongst this group. The overall sustainability of the plastic money is however dependent on the customers acceptance. Thus, increasing awareness and ensuring customer satisfaction is necessary to accelerate the penetration of plastic money.

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COMPARATIVE STATEMENT ANALYSIS OF SELECT PAINT COMPANIES IN INDIA

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Dr. N. Periyasami[**]

ABSTRACT

Paint industry is a fast moving industry in India. Every day new paint units are entering into that industry, but the stability of these companies is purely based on the financial and operational performance. The 2nd largest paint market in Asia is India with annual demand of over four million tones. The country continues to have a healthy growth rate when compared to other economies, by the increasing level of disposable income, and demand from infrastructure, industrial and automotive sectors. Through this support that the sector post a CAGR of around 15per cent during 2012 to 2015, according to Indian paint industry expert forecast.

The manufacture of paint by Indian paint industry is at Rs.40,300 crore (in 2015-16). The share of decorative paint is Rs.30,385 Crores (75per cent) and share of industrial paint is Rs.9,915Crores (25 %). In volume terms, the size of the industry is 4.19 million tones with decorative paints being 3.70 million tons (88%) and industrial paints being 0.49 million tons (12%). India's per capita consumption of paints is still dreadfully low at 3.23 kg/annum compared to world average of 15Kg and 25Kg for US. The major boost to the growth which is anticipated to grow at a Compounded Annual Growth Rate (CAGR) of more than 16% during the period from 2013-14 to 2015-16 in Indian Paint market has been provided by the decorative paint segment, This study makes an attempt for the comparative analysis of financial statements of select paint companies in India.

KEYWORDS: *Financial Performance, Asian Paint, Nerolac Paint, Comparative Analysis.*

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Introduction

The financial statement analysis commonly includes common size analysis, ratio analysis, trend analysis and industry comparative analysis. This helps the analyst to make a company to compare with other business in the same or similar industry, and the trends affecting the company or the industry over a period of time. By find out making comparison of company's financial statements in different time periods, the valuation expert can see growth or decline in income or expenses, changes in capital structure, or other financial trends. Analyzing and interpretation the financial statements refers to the process of identifying financial strength and weakness of the firm by establishing strategic relationship between the items of the Balance Sheet, Profit and Loss account and other operative data. The purpose of financial analysis is to make out the information enclosed in financial statements so as to moderator the profitability and financial soundness of the firm. These statements are used by investors and financial analysts to observe the firm's performance in order to make investment decisions; so these statements should be prepared very carefully and contain as much investment decisions.

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The main purpose of the Comparative study of financial statement is the comparison of the financial statement of the business with the previous year's financial statements so that weaknesses may be identified and remedial measures applied. Comparative statements can be prepared for both types of financial statements i.e., Balance sheet as well as profit and loss account. The comparative balance sheet shows the effect of operations on the assets and liabilities that change in the financial position during the period under consideration.

Objective of the Paper

The aim of this paper is to make comparative analysis of balance sheet of different years to find out financial soundness of two major paint companies in India that is Asian Paint Limited and Nerolac Paint Limited.

Research Methodology

In this study, an effort has been taken to measure, evaluate and compare the financial performance of two major paint companies which are one among the leading companies in India. The study is based on secondary data and such data have been collected from annual reports of the respective companies, magazines, journals, documents, financial data websites and other published information. The study covers the period of 5 years i.e. from the year 2012-13 to 2016-17.

Profile of the Companies

- **Asian Paints Ltd.**

Asian Paints Limited was established way back on February 1, 1942 and today stands as India's largest and Asia's third largest paint company. Asian Paints operates in 17 countries and has 25 paint manufacturing facilities in the world servicing consumers in over 65 countries. Asian Paints is India's largest paint company in India and Asia's third largest paint company with net sales of 12,647.11 crores in the year 2017. The company operates in 20 countries and has 28 paint manufacturing facilities in the world servicing consumers in over 65 countries. Besides Asian Paints, the group operates around the world through its subsidiaries Berger International Limited, Apco Coatings, SCIB Paints and Taubmans. Forbes Global magazine USA ranked Asian Paints among the 200 Best Small Companies in the World for 2002 and 2003 and presented the 'Best under a Billion' award, to the company. The present MD & CEO of the company is P.M. Murty.

The company has come a long way since its small beginnings in 1942. Four friends who were willing to take on the world's biggest, most famous paint companies operating in India at that time set it up as a partnership firm. Chimanlal Choksi, Champaklal Choksey, Suryakant Dani and Arvind Vakil were the four friends who started the company. Suryakant Dani owned a garage where he did the painting work for Machines & vehicles. The same garage is where Asian Paints started off its operations. Over the course of 25 years Asian Paints became a corporate force and India's leading paints company. Driven by its strong consumer-focus and innovative spirit, the company has been the market leader in paints since 1968. Today it is double the size of any other paint company in India. Asian Paints manufactures a wide range of paints for Decorative and Industrial use.

- **Nerolac Paint Ltd.**

Kansai Nerolac (KNPL) is a subsidiary of Kansai Paints, Japan. With more than 92 years of strong foundation the company is geared to set up its operations firmly in India. With continuous R&D activities, strong marketing and brand creation initiatives along with being one of the pioneers in the eco friendly no lead added paint space the future seems promising. KNPL has remained sure footed on its expansionary plans and has been strengthening the supply chain infrastructure to take on its rivals.

KNPL is a leader in the industrial paints segment with a market share of 44% and contributing about 45% to its overall revenues. Within this segment its primary activities extend into automotive, industrial, powder, marine and protective coatings. KNPL also dominates the automotives coatings market with a 60 % share. KNPL is currently the third largest player in the decorative paints segment with a 16% market share and contributing almost 55% to the total revenues. KNPL is the leader in industrial paints and is hoping to recreate the same foothold in the decorative paints segment by steadily increasing its market share.

Analysis and Discussion

The comparative balance sheet analysis is the analysis of the trend of the same items, group items and computed items in two or more balance sheets of different companies on different dates. The changes in periodic balance sheet items reflect the conduct of a business. The changes can be observed by comparison of the balance sheet at the beginning and at the end of a period and these changes can help to derive an opinion about the progress of the company. The comparative balance sheet has two columns for the date of original balance sheets. A third column is provided to show increase or decrease in figures. The fourth column shows percentage of increase or decrease. Table 1 shows the comparative balance sheet of companies for the years 2012–13.

Table 1: Comparative Balance Sheet of Select Paint Companies for the Years 2012-13

Particulars	Asian Paint		Nerolac Paint	
	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)
I. Equity and Liabilities				
Shareholder's Funds	534.48	22.34	222.83	22.07
Long Term Liabilities	65.19	32.24	29.88	26.63
Current Liabilities	68.58	2.99	111.39	21.30
Total Liabilities	**852.27**	**17.77**	**364.10**	**21.44**
II. Assets				
Fixed Assets	542.55	33.65	340.14	60.97
Investments	80.48	28.82	4.19	9.54
Long Term Loans & Adv.	-218.46	-70.16	0.52	1.18
Other Non Current Assets	0.00	0.00	-10.22	-100
Total Current Assets	263.67	9.49	29.48	2.82
Total Assets	**852.27**	**17.77**	**364.10**	**21.44**

Source: computed from annual reports

Interpretation

In the table, the fixed assets of Asian paint and Nerolac paint companies are increased by Rs 542.55 crores i.e., 33.65% and Rs 340.14 crores i.e., 60.97% while long term liability to outsiders of both the companies have relatively increased by Rs 65.19 crores and 29.88 crores. Shareholders' funds are increased by Rs 534.48 crores and 222.83 crores. Further the current liabilities are increased by Rs.68.58 and Rs 11.39 Crores respectively. The fact depicts that the policy of the Asian paint company is to purchase fixed assets from the long term sources of finance thereby not affecting the working capital and Nerolac paint company has also the same policy but part of fixed assets is financed by working capital. The current assets of both the companies are increased by Rs 263.67 crores and Rs 29.48 crores that indicates that they have flexible credit policy Increasing the current liabilities indicates that these companies are not paid the short term liabilities with in the period. The overall position of both the companies during the year 2013 is good.

Table 2: Comparative Balance Sheet of Select Paint Companies for the Years 2013-14

Particulars	Asian Paint		Nerolac Paint	
	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)
I. Equity and Liabilities				
Shareholder's Funds	578.67	19.77	137.21	11.13
Long Term Liabilities	29.58	11.06	4.27	3.00
Current Liabilities	425.18	18.02	51.42	8.10
Total Liabilities	**1071.59**	**18.97**	**192.89**	**9.35**
II. Assets				
Fixed Assets	-104.29	-5.02	59.77	6.65
Investments	188.49	52.40	-15.00	-31.14
Long Term Loans & Adv.	1.76	1.89	-4.09	-9.24
Deferred Tax Assets	6.32	100	0.00	0.00
Total Current Assets	941.15	30.94	152.23	14.20
Total Assets	**1071.59**	**18.97**	**192.89**	**9.35**

Source: computed from annual reports

Interpretation

In table 2 it is observed that during the year 2014, the working capital of both the companies has considerably improved. The current assets of Asian paint and Nerolac paint companies is increased by Rs 941.15 crore and Rs 152.23 crores, the current liabilities of both the companies are increased only by Rs 425.18 crores and Rs 51.42 crores. The fixed assets of Asian paint company is decreased by Rs 104.29 crores i.e., 5.02% which indicates the sale of fixed assets. And the fixed assets of Nerolac paint company are increased by Rs 59.77 crores i.e., 6.65%. The long term liability is increased by 11.06% and 3.00% in both the companies. The overall financial position of the both companies is shown a satisfactory.

Table 3: Comparative Balance Sheet of Select Paint Companies for the Years 2014-15

Particulars	Asian Paint		Nerolac Paint	
	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)
I. Equity and Liabilities				
Shareholder's Funds	629.33	17.95	173.63	12.68
Long Term Liabilities	-11.82	-3.98	16.22	11.08
Current Liabilities	-26.02	-0.93	-81.19	-11.84
Total Liabilities	**553.33**	**8.23**	**88.25**	**3.91**
II. Assets				
Fixed Assets	54.88	2.67	-8.79	-0.91
Investments	227.53	41.50	0.00	0.00
Long Term Loans & Adv.	114.90	121.40	26.59	66.22
Other Non Current Assets	7.32	115.82	0.00	0.00
Total Current Assets	186.86	4.69	70.42	5.75
Total Assets	**553.33**	**8.23**	**88.25**	**3.91**

Source: Computed from annual reports

Interpretation

In table 3 it is found that that the fixed assets of Asian paint company is increased by Rs 54.88 crores and the long term liabilities are decreased by Rs 11.82 crores. The decrease of long term liability means that the company has a sound financial position in the year 2015 so that they repaid its outsiders liability. On the other side of balance sheet, the fixed assets of Nerolac paint company are decreased by Rs 8.79 crores which indicates the sale of fixed assets and long term liabilities are increased by Rs 16.22 crores. The current assets of both the companies are increased by Rs 186.86 crores and Rs 70.42 crores respectively. And it is also found that the current liabilities of Asian paint and Nerolac paint companies are decreased by Rs 26.02 crores and Rs 81.19 crores. By decreasing the current liabilities both the companies have a good liquidity position therefore they are able to pay liabilities within the stipulated period. That is a good sign for the improvement of these companies. The overall financial position of both the companies during the year 2015 is good.

Table 4: Comparative Balance Sheet of Select Paint Companies for the Years 2015-16

Particulars	Asian Paint		Nerolac Paint	
	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)
I. Equity and Liabilities				
Shareholder's Funds	732.90	17.72	693.03	44.91
Long Term Liabilities	50.03	17.54	-12.32	-8.66
Current Liabilities	308.02	11.20	245.99	40.69
Total Liabilities	**1451.75**	**19.96**	**867.66**	**37.02**
II. Assets				
Fixed Assets	612.90	29.11	19.57	2.06
Investments	231.17	29.80	10.79	32.59
Long Term Loans & Adv.	-98.31	-46.91	6.17	9.24
Other Non Current Assets	16.90	123.90	0.00	0.00
Current Assets	328.29	7.87	889.48	68.70
Total Assets	**1451.75**	**19.96**	**867.66**	**37.02**

Source: Computed from annual reports

Interpretation

In the above comparative balance sheet its observed that the current financial position of both the companies are considerably improved. The total current assets of Asian paint and Nerolac paint are increased by a sum of Rs 328.29 crores i.e., 7.87% and Rs 889.48 crores i.e., 68.70% while the increase in current liabilities of both the companies are Rs 308.02 crores i.e., 11.20% and Rs 245.99 crores i.e., 40.69% respectively which is less than the increase in current assets. In the year 2016 both the companies have no problem in meeting its day to day expenses. The fixed assets of Asian paint and Nerolac paint are increased by 29.11% and 2.06% in 2016 as compared to 2015. The increases of fixed assets of both the companies are financed by issue of share capital and long term loans. In the year 2016 the shareholders fund and long term liabilities of Asian paint are increased by 17.72% and 17.54%, while for Nerolac paint the shareholders fund are increased by 44.91% and long term liabilities are decreased by 8.66%. The considerable increase in fixed assets, shareholders fund and long term loans indicates that both the companies have taken up expansion plan in a big way.The short term as well as long term financial position of both the companies is sound.

Table 5: Comparative Balance Sheet of Select Paint Companies for the Years 2016-17

Particulars	Asian Paint		Nerolac Paint	
	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)	Absolute Increase/ Decrease (Rs.)	Percentage Increase/ Decrease (%)
I. Equity and Liabilities				
Shareholder's Funds	1987.82	40.84	516.15	23.09
Long Term Liabilities	52.20	15.57	25.17	19.38
Current Liabilities	-190.11	-11.90	-163	-19.16
Total Liabilities	**1489.11**	**17.06**	**386.34**	**12.03**
II. Assets				
Fixed Assets:	106.51	3.91	120.21	12.41
Investments	447.66	44.45	-21.86	-49.80
Long Term Loans & Adv.	-40.96	-36.82	-72.91	-100
Other Non Current Assets	404.38	1324.09	131.95	100
Current Assets	932.39	20.73	170.60	7.81
Total Assets	**1489.11**	**17.06**	**386.34**	**12.03**

Source: Computed from annual reports

Interpretation

The comparative balance sheet of the select paint companies reveals during the year 2017, that there is an increase in fixed assets of both the companies by Rs 106.51 crores and Rs 120.21 crores while the share holders fund and long term liabilities are increased by Rs 1987.82 and Rs 52.20 crores for asian paint, and for Nerolac paint it is increased by Rs 516.15 crores and Rs 25.17 crores. The considerable increase in the gross block, shareholders fund and long term loans indicates that both the companies have taken up expansion plan in a big way during the year 2017. The current assets of Asian paint and Nerolac paint companies are increased by Rs 932.39 crores and Rs 170.60 crores respectively in the year 2017 as compared with 2016. The current liabilities are decreased by Rs 190.11 crores and Rs 163 cores of both the companies. The increase of current assets and the decrease of current liabilities shows that both the companies have good liquidity policy so that they are able to meet its all short term loans in stipulated time. The overall financial performance of both the companies has been improved a lot in the year 2017 as compared to the year 2016.

Conclusion

The study of the comparative financial statement concerned with the companies like Asian Paint and Nerolac Paint was listed with objective of assessing the financial performance in terms of the existing system of fixed assets, long term loans, current assets and current liabilities of the companies by analyzing the financial data with the help of comparative statement analysis. It is observed from the analysis that the financial position of both the companies is efficiently managed throughout the study period. It is also understood that the working capital management of the companies is found to be satisfactory.

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THE IMPACT OF MERGERS AND ACQUISITIONS ON PRE AND POST FINANCIAL PERFORMANCE: A CASE STUDY OF SELECTED PHARMACEUTICAL COMPANIES

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Prof. Prem Das Saini[**]

ABSTRACT

The term Mergers and Acquisitions are commonly interchangeably used even though together and they include more than one form of transaction of acquiring possession in other companies. The Mergers mean when one company join with the other company and unites its identity to form a new company by transferring their business and undertaking including all other assets and liabilities to a new company. The Acquisition means the buying of a substantial part of the assets or the securities by one company to another company and it may be friendly or unfriendly (hostile) acquired. The pharmaceutical industry is a vital source of health care for billions of population worldwide and in India, which makes it highly regulated by various organizations and forums. The objectives of this paper are to know the significance of the Mergers and Acquisitions and to analyze the impact of mergers and acquisitions on the financial performance of pharmaceutical's companies. The researcher has done an analytical study related to the Mergers and Acquisitions (M&A) and this study is based on secondary data which is collected from the various magazines, websites, newspapers, etc. The duration of the study is considered one financial year for pre and one financial year from the post Mergers and Acquisitions. The base year when Mergers and Acquisitions were held is considered as zero. The appropriate tools like Mean, t-Test etc. will be used to finding the results of this study.

KEYWORDS: *M&A, Mergers & Acquisitions, Financial Performance, Pharmaceutical's Companies.*

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Introduction

Mergers and acquisitions (M&A) are defined as a consolidation of corporations. Differentiating the two terms, Mergers are the mixture of two corporations to form one, while Acquisitions are one company taken over by the other. M&A is one of the fundamental elements of company finance world. The reasoning behind M&A is usually given is that two separate companies collectively create extra value compared to being on an individual stand. With the objective of wealth maximization, businesses keep appraised different opportunities through the path of merger or acquisition.

The Indian pharmaceutical industry has visible a strong boom in the last decade. Numerous enterprise reports advised that the pharmaceutical sector in India has been growing consistently at the rate of 13-14 % every year for the remaining five years. According to the consulting firm McKinsey &

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Corporation, India's pharmaceutical sector will touch fifty five billion USD by way of 2020 and generics are expected to return to dominate the market while a patent-protected product are likely to constitute ten percent of the market until 2015. Globally as well as locally the pharmaceutical industry has advanced vastly on account of the improvement in the technology, which has made them much inexpensive and cost efficient. With the expected growth rate of 14% per annum, the Indian Pharmaceutical sector is predicted to create more jobs in India.

Sun Pharmaceuticals Industries Limited is an Indian multinational pharmaceutical organization established in Mumbai, Maharashtra that manufactures and sells pharmaceutical formulations and Active Pharmaceutical Substances (APIs) basically in India and the USA. The employer gives formulations in numerous healing regions, which include cardiology, psychiatry, neurology, gastroenterology and dialectology. It also offers APIs which includes warfarin, carbamazepine, etodolac, and clorazepate, in addition to anticancer, steroids, peptides, and managed substances.

Dr. Reddy's Laboratories is an Indian multinational pharmaceutical business enterprise based totally in Hyderabad, Telangana, India. The corporation became based by way of Anji Reddy, who previously worked within the mentor institute Indian tablets and pharmaceuticals restricted, of Hyderabad, India. Dr. Reddy's manufactures and markets a huge range of prescription drugs in India and overseas. The organization has over 190 medicines, 60 lively pharmaceutical components (APIs) for drug manufacture, diagnostic kits, vital care, and biotechnology products.

Review of Literature

- **Pankaj Sinha and Sushant Gupta (2016), Mergers and Acquisitions: A Pre-Post Analysis for the Indian Financial Services Sector**

From the study determined that the M&A activity in the Indian Financial Services Sector over a period of March 1993- Feb 2010 has had positive effects on the profitability in majority cases, but the liquidity position has declined during a period of three years after the merger. This points to the fact that though companies may have been able to influence the synergies arising out of the Merger or Acquisition, but they haven't been able to manage their capital structure to recover their liquidity.

- **Aastha Mehta (2013) Merger Control in Pharmaceutical Sector: Overview, Trends and Eu Law**

This paper determined that the trend in pharmaceutical sector towards Mergers and Acquisitions is value seeing in the future, with the expansion of science. Business, Science and Pharmaceuticals have become an combined whole, and not only R&D, or science can help companies attain profits, it is the new innovative business approaches and rearrangement like Mergers, Acquisitions, arrangements which are being taken for keeping the companies a profit making venture. In the paper, the author gives the readers a primary idea on different types of mergers in the pharmaceutical sector, and how competition law plays avital role for successes of these Mergers. The finding of the study is that the pharmaceutical industry is an innovation focused industry with countless reasons for entering into arrangements, and a sector definite approach has been used.

Research Gap

As above the past studies which are related to the Manufacturing Industries, Financial Sectors, control and determinants on the Pharmaceuticals Industries etc. but no such studies which are based on the pre and post financial performance of selected Pharmaceuticals Companies.

Need of the Study

Mergers and Acquisitions play a vital role in different sectors to expand the businesses, reduce the risk and as well as capture the market. There are lots of sectors which involved in the activity of M&A and as the increasing the growth of health care industry was also involved in the activity of M&A. So, the researcher has chosen the pharmaceutical sector to know the pre and post financial performance of Mergers and Acquisitions of the selected Pharmaceutical Companies which is helpful for the further study.

Objectives of the Study

- To know the significance of the Mergers and Acquisitions.
- To analyze the impact of Mergers and Acquisitions on financial performance of selected pharmaceutical's companies.

Research Methodology

- The researcher has done an explanatory as well as analytical research which is focusing on the pre and post financial performance of the selected companies.
- The data is collected from the secondary sources such as various websites, journal etc.
- For the analysis purpose, data are taken two year from pre and two year from post of mergers and acquisitions of the selected banks. The merged year have been taken as base year and considered as zero. The followings companies are taken into study:

S.No.	Parent Companies	Target Companies	Year
1.	Sun Pharma	Ocular Technologies Sarl	2016
2.	Dr. Reddy's Laboratories	UCB Company	2016

- Ratios and t-test are used to measure the pre and post financial performance of SUN PHARMA and DR. REDDY'S LABORATORIES.

Hypothesis of the Study

H_0 There is no significant difference between pre and post Mergers & Acquisitions on the financial performance of Sun Pharma and DR. Reddy's Laboratories.

Analysis of the Study

- **To know the significance of the Mergers and Acquisitions**

    The followings are the significance role of Mergers and Acquisitions in the scenario:

    - **Synergy:** The maximum used word in M&A is synergy, which is the idea that through combining commercial enterprise activities, overall performance will rise and expenses will decrease. Essentially, a corporate will effort to merge with other business that has complementary strengths and weaknesses.
    - **Growth:** Mergers can provide the obtaining business an opportunity to grow market share without having to really earn it by doing the work themselves - instead, they buy a competitor's business for a value. Usually, these are called horizontal mergers.
    - **Eliminate Competition:** Many M&A deals allow the acquirer to remove upcoming competition and gain a larger market share in its product's market. The downside of this is that a large premium is usually required to inspire the target company's shareholders to accept the offer. It is not uncommon for the acquiring company's shareholders to sell their shares and push the price lower in response to the company paying too much for the target business.
    - **Replacing leadership:** In a private company, the company may vital to merge or be achieved if the current owners can't identify someone within the company to prosper them. The owners may also wish to cash out to invest their money in something else, such as retirement.
- **To analyze the impact of Mergers and Acquisitions on financial performance of pharmaceutical's companies**

Table 1

		Sun Pharma			Ocular Technologies Sarl		
		Pre-Performance					
S.No.	Ratios	2014	2015	Average	2014	2015	Average
1.	Earning Per Share	-13.16	-3.93	-8.54	-14.15	-11.87	-13.01
2.	Quick Ratio	1.15	0.30	0.72	1.30	1.05	1.17
3.	Current Ratio	1.40	0.49	0.94	1.50	0.78	1.14
4.	Inventory Turnover Ratio	3.08	3.66	3.37	3.99	2.90	3.44
5.	Assets Turnover Ratio	20.44	21.41	20.92	18.90	19.08	18.99
6.	Debt Ratio	-10.98	-48.97	-29.97	3.09	-62.88	-29.89
7.	Return on Assets	-20.44	-3.93	-12.18	-22.09	-2.09	-12.09
8.	Return on Capital Employed	-27.91	-5.58	-16.74	-26.89	-16.09	-21.49
9.	Dividend Payout Ratio	-11.39	-88.75	-50.07	-22.99	-12.07	-17.53
10.	Net Profit Margin	-99.99	18.38	-40.80	-88.09	-8.09	-48.09

GRAPH 1
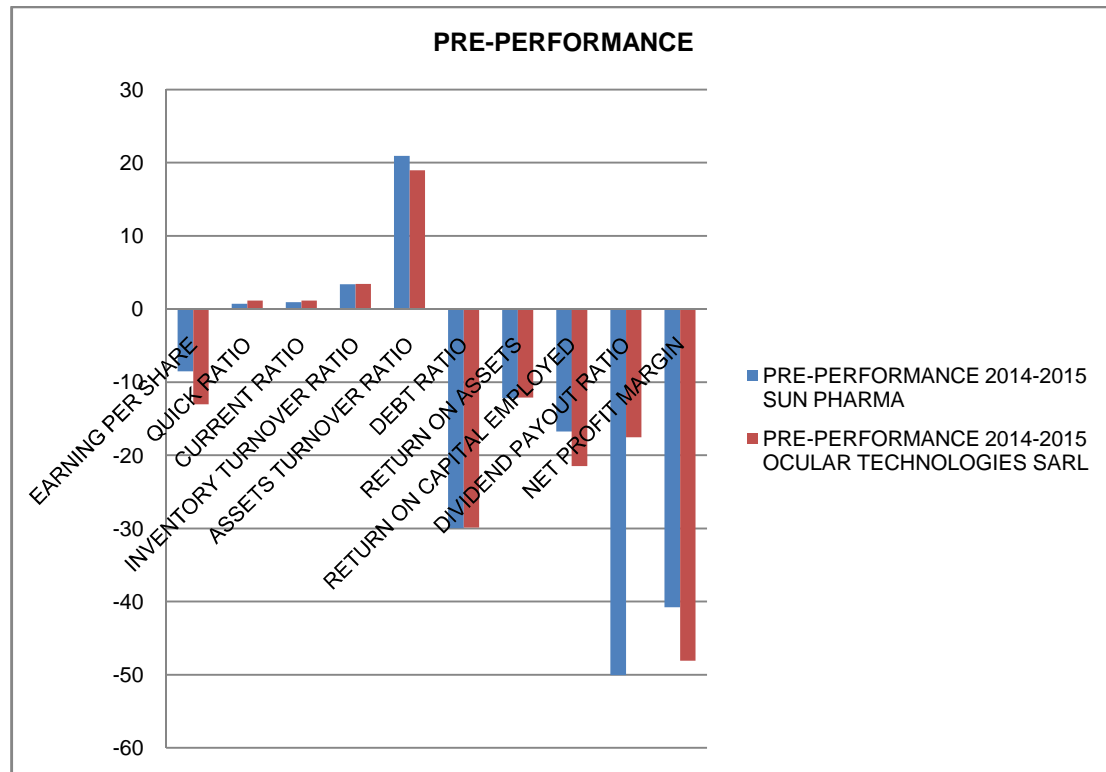
PRE-PERFORMANCE

Interpretation of Pre Performance of Sun Pharma and Ocular Technologies Sarl

The pre performance of Sun Pharma and Ocular Technologies Sarl in which Earning Per Share is negative in both the companies that showed the share of the companies going down. The Quick Ratio of Sun Pharma was decreased in 2015 as 1.15 to 0.30 and Ocular Technologies Sarl had decreased as 1.30 to 1.05 that showed companies had low capacity to convert the receivables into cash. The Current Ratio of Ocular Technologies Sarlwas increasing as comparable to the Sun Pharma that showed company has ability to pay all the debt. Inventory turnover ratio and Assets Turnover Ratio of Sun Pharma were higher than the Ocular Technologies Sarl that showed the company had better sales as well as the capacity to generate sales from assets. The Debt to equity, Return on Assets, Return on Capital Employed, Dividend Payout Ratio and Net Profit Margin of both the companies are in negative that showed companies pay higher interest on debt than return, companies net profit may be negative, unable to pay dividends to their shareholders and may be companies spend more than its earnings in the year of 2014 and 2015.

Table 2

	Sun Pharma			
	Post-Performance			
S. No.	Ratios	2017	2018	Average
1.	Earning Per Share	37.93	17.23	27.58
2.	Quick Ratio	1.46	1.25	1.35
3.	Current Ratio	1.84	1.59	1.71
4.	Inventory Turnover Ratio	4.58	3.73	4.15
5.	Assets Turnover Ratio	50.98	41.07	46.02
6.	Debt Ratio	3.45	36.09	19.77
7.	Return on Assets	11.43	3.36	7.39
8.	Return on Capital Employed	21.70	11.13	16.41
9.	Dividend Payout Ratio	2.92	21.78	12.35
10.	Net Profit Margin	25.02	10.27	17.64

Graph 2
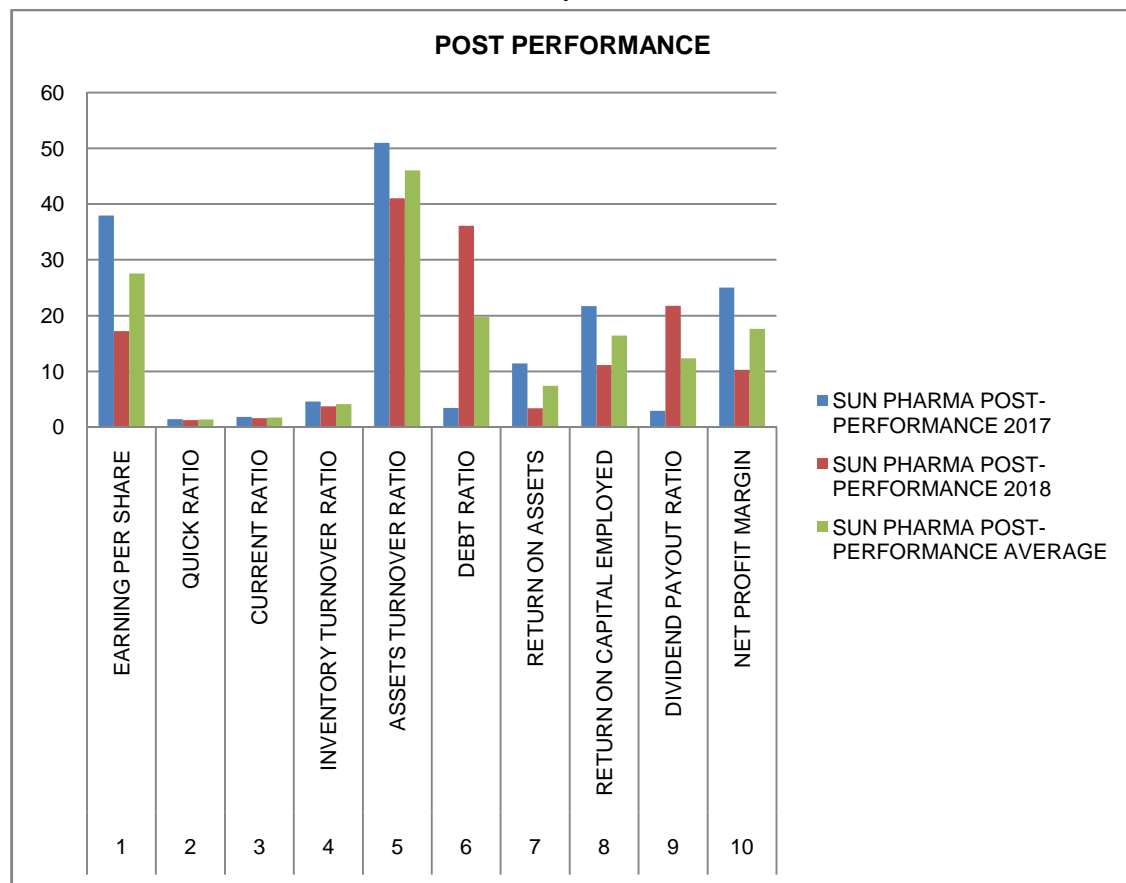
POST PERFORMANCE

Interpretation of Post Performance of Sun Pharma

After the Mergers and Acquisition of Sun Pharma with Ocural Technologies Sarl, the Earning Per share, Quick Ratio, Current Ratio, Inventory Turnover Ratio, Assets Turnover Ratio, Return on Assets, Return on Capital Employed and Net Profit Margin is decreasing in the year of 2018 as compared to the year of 2017. The reasons may be company was generating low cash, doesn't have adequate current assets, exceeding in liabilities, inefficiently assets to generate sales, doesn't make money from its own assets and inefficient to control the cost of its company. The Debt Ratio and Dividend Payout Ratio are increasing as compared to the year of 2017 that showed Sun Pharma has taken the large amount of risk, i.e. highly leveraged and company can pay large amount of dividend to their shareholders.

Table 3

S. No.	Ratios	Dr. Reddy's Laboratories			UCB Company		
		Pre-performance					
		2014	2015	Average	2014	2015	Average
1.	Earning Per Share	135.92	127.32	131.62	128.09	112.90	120.49
2.	Quick Ratio	1.78	1.86	1.82	0.90	1.05	0.97
3.	Current Ratio	2.17	2.22	2.19	1.80	2.00	1.9
4.	Inventory Turnover Ratio	6.11	5.81	2.98	3.38	3.50	3.44
5.	Assets Turnover Ratio	67.05	60.83	63.94	50.30	45.07	47.68
6.	Debt Ratio	15.84	20.29	18.06	8.90	6.50	7.7
7.	Return on Assets	13.32	10.20	11.76	12.20	14.60	13.4
8.	Return on Capital Employed	18.59	14.25	16.42	6.50	7.30	6.9
9.	Dividend Payout Ratio	13.23	15.70	14.46	10.50	11.15	14.46
10.	Net Profit Margin	19.86	16.77	18.31	18.50	15.20	16.85

Graph 3
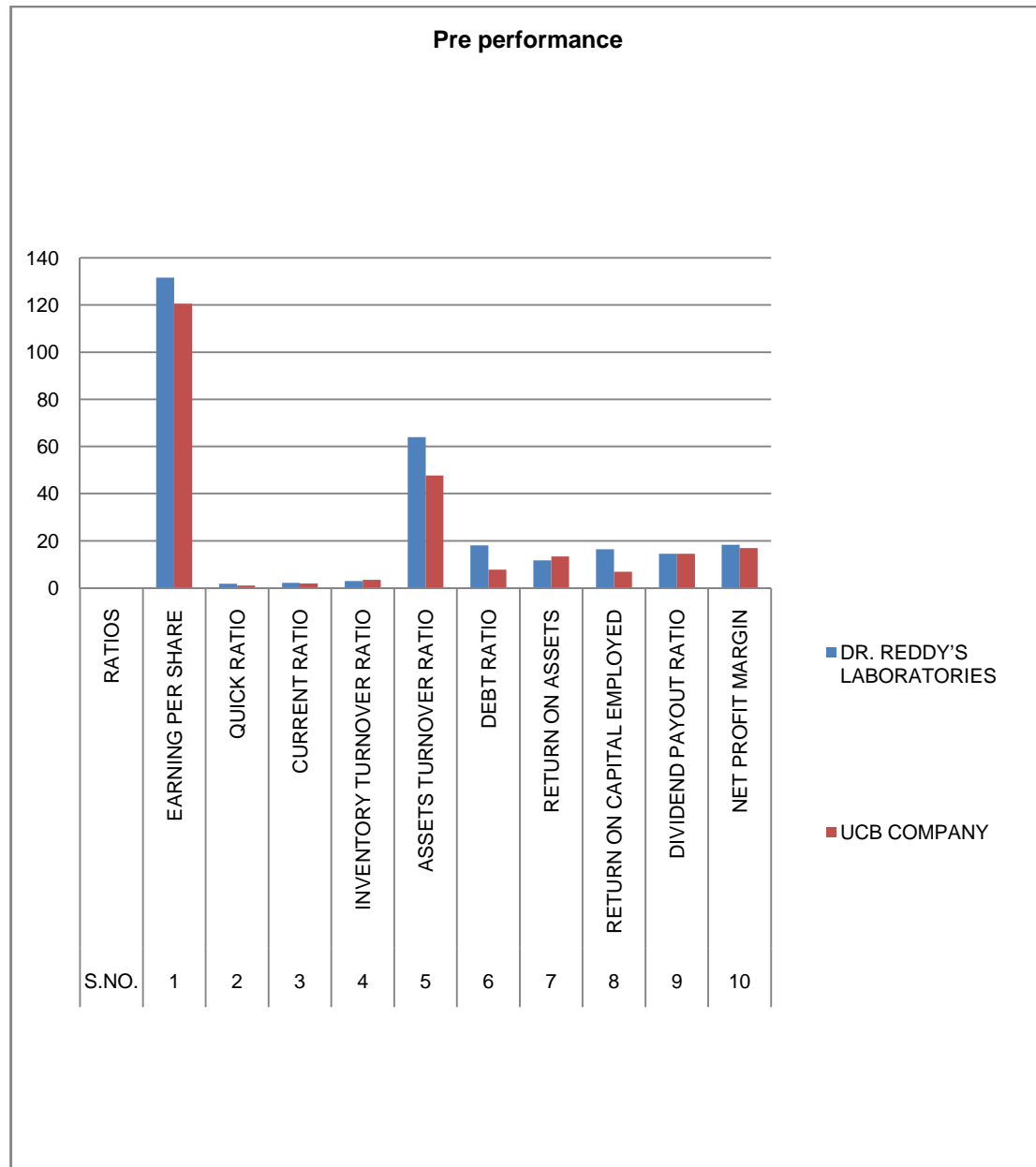
Interpretation of Pre performance of Dr. Reddy's Laboratories and UCB Company

The pre performance of Dr. Reddy's Laboratories and UCB Company in which Earning Per Share, Assets Turnover Ratio and Net Profit Margin were low in the year of 2018 as compared to the year 2017 due to the reasons like may be both the companies generate low cash, inefficiently using of assets and doesn't control the cost of the company. The Quick Ratio and Current Ratio were increased in the year of 2018 as compared to the year of 2017 because the better liquidity of the company as well as capacity of the company quickly converting receivables into cash. The Inventory Turnover Ratio showed that company can manage and sell their inventory but it was reduced from 6.11 to 5.81 in the 2018 of Dr. Reddy's Laboratories whereas it was increased from 3.38 to 3.50 in 2018 of UCB Company.

Table 4

S. No.	Ratios	2017	2018	Average
	Dr. Reddy's Laboratories			
	Post Performance			
1.	Earning Per Share	137.74	119.86	128.8
2.	Quick Ratio	0.81	1.10	0.95
3.	Current Ratio	1.15	1.52	1.33
4.	Inventory Turnover Ratio	4.98	4.91	4.94
5.	Assets Turnover Ratio	65.07	63.34	64.20
6.	Debt Ratio	26.23	42.16	34.19
7.	Return on Assets	5.92	4.19	5.05
8.	Return on Capital Employed	9.64	6.04	7.84
9.	Dividend Payout Ratio	14.62	19.72	17.17
10.	Net Profit Margin	8.85	6.38	7.61

Graph 4
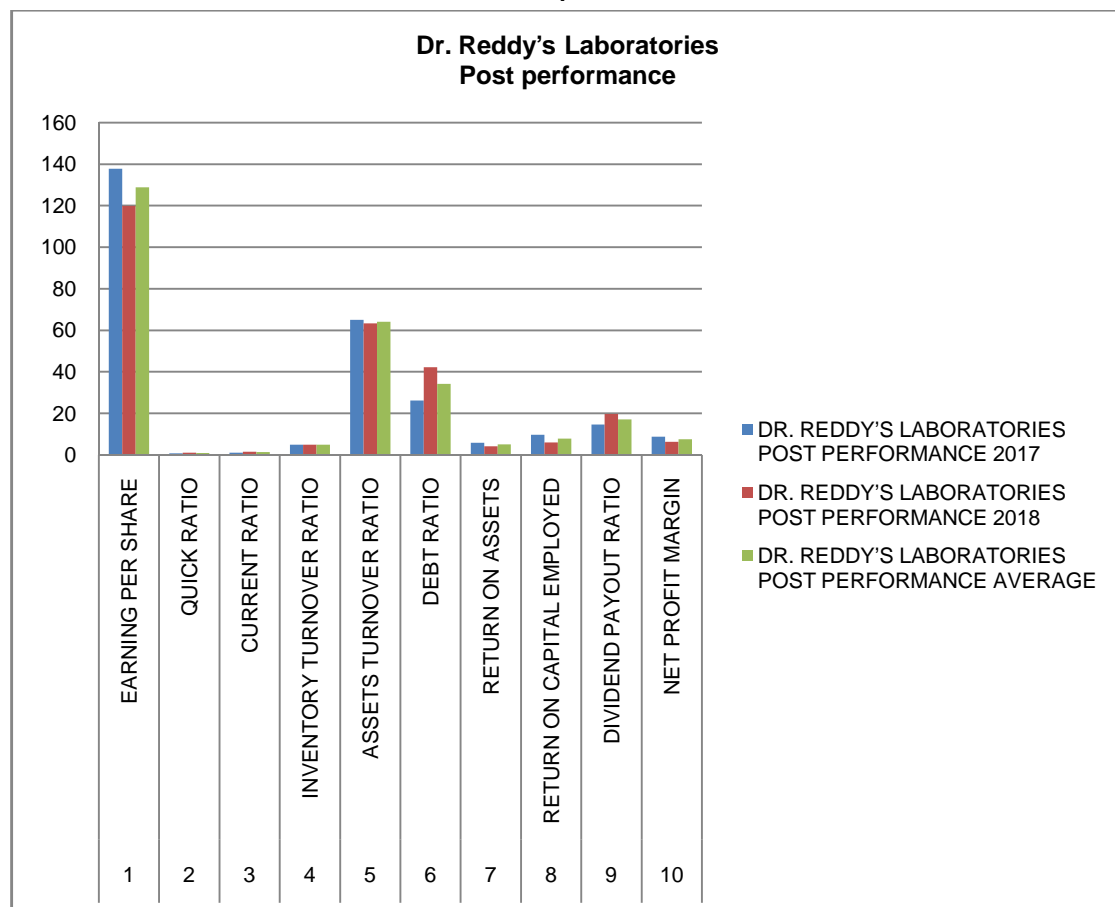
Interpretation of Post Performance of Dr. Reddy's Laboratories

After the Mergers and Acquisitions of Dr. Reddy's Laboratories with UCB Company, the Earning Per Share, Inventory Turnover Ratio, Assets Turnover Ratio, Return on Assets, Return on Capital Employed and Net Profit Margin were reduced in 2018 due to the reasons of inefficient control over the cost, inefficient use of inventories, improper way of using the assets etc. The Quick Ratio, Current Ratio, Debt Ratio and Dividend Payout Ratio were increased in the year of 2018 because the companies has ability to convert the receivables into cash, allocating the dividend to their shareholders and to pay long term and short term debt on time.

The critical t-value at the p = 0.05 significance level for a two tailed test at the degree of freedom value is 3.9715 and calculated t-value was 0.25. The calculated t-value is in accepted area so, the null hypothesis is accepted. This showed that there is significance difference between pre and post-financial performance of Mergers and Acquisitions on the Ratios such as Earning per Share, Return on Assets, Fixed Assets Turnover, Dividend Payout Ratio, Quick Ratio etc. of Sun Pharma and Dr. Reddy's Laboratories but after the Mergers and Acquisitions, Dr. Reddy's Laboratories improved the performance as compared to the Sun Pharma.

Conclusion

The result of this paper is that Dr. Reddy's Laboratories Company improved its performance by increasing the Current Ratio, Quick Ratio, Fixed Assets Turnover and Return on Assets after the Mergers and Acquisitions with the UCB Company. But Sun Pharma doesn't as much improved the performance after Mergers and Acquisitions as compare with the Dr. Reddy's Laboratories.

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AN EMPIRICAL STUDY ON EFFECT OF FINANCIAL LEVERAGE ON FIRM'S PERFORMANCE AND VALUATION OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

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Dr. Butala Ajmera[**]

ABSTRACT

In this research an attempt has been made to study the empirical relationship between financial leverage and firm's performance and valuation of selected pharmaceutical companies in India. Researcher has collected secondary data from different website and annual reports of selected companies. The sample size was of five pharmaceutical companies. The study period was five year from 2012-13 to 2016-17. The research has built four regression models to measure the effect of financial leverage on financial performance and valuation of firm. Two models are related to examine the impact of financial leverage on financial performance and two models are related to examine the impact financial leverage on valuation of selected firms. The result of the regression explained that financial leverage has negative but insignificant impact on Tobin's Q and financial leverage has positive but insignificant impact on enterprise value. The impact of financial leverage on ROA is positive and insignificant. The impact of financial leverage on EVA is negative and insignificant. Thus it is concluded that the financial leverage has an insignificant impact on financial performance and valuation of firms. Hence findings of the study are inconsistent with findings of review of literature.

KEYWORDS: *Financial Leverage, EVA, ROA, Financial Performance, Regression Models.*

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Introduction

Growth of economy depends on growth and development of corporate sector. Sectors like cement, steel, it, Aluminum, tea, rubber, automobile etc is growing sectors. However pharmaceutical sector is very important sector because it contributes huge in Indian economy. Moreover growth of this sector is also needed because it is directly related to health of people of the nation. Society faces the challenges of new incurable disease which creates high risk among the people of society. Every nation wants hygenic society. Thus pharmaceutical sector is very significant. However R & D activities are centre point in Pharmaceutical industry which pressures the management to spend more on R& D activities. Spending on R&D activities is directly concerned with financial performance. Several studies have been conducted to examine certain issues which are directly connected with value of corporate entity. Significant research issues like financial decision, capital budgeting decision, capital structure decision and dividend policy decision have attracted researcher to explore different dimension of these issues.

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Financial decisions are very complex decision because decision maker has to think about many dimensions like source of fund, cost of capital, requirement of long term fund and short term fund and feasibility of the project etc. however financial decisions have long term implication on firm's profit. An element of risk is also inherent in financial decision. In order to construct capital structure, financial manager has two options debt and equity. Proper mix of debt and equity is required otherwise chaotic situation will be created. It is said by devid Durand in NI approach that higher amount of debt, higher will be the earning and lower will be the cost of capital. However higher amount of debt creates technical risk when first's profitability goes down. Therefore, each first firm should study the impact of debt burden on business. Coverability of interest on debt matters a lot for any firm otherwise firm will have a problem in future in meeting interest expenses. Financial leverage is also indicators of risk. Higher the financial leverage, higher is the ability to cover the bent burden by the firm.

Profile of Pharmacy Industry

India is the largest provider of generic drugs globally with the Indian generics accounting for 20 per cent of global exports in terms of volume. Of late, consolidation has become an important characteristic of the Indian pharmaceutical market as the industry is highly fragmented. India enjoys an important position in the global pharmaceuticals sector. The country also has a large pool of scientists and engineers who have the potential to steer the industry ahead to an even higher level. Presently over 80 per cent of the antiretroviral drugs used globally to combat AIDS (Acquired Immuno Deficiency Syndrome) are supplied by Indian pharmaceutical firms. The UN-backed Medicines Patent Pool has signed six sub-licences with Aurobindo, Cipla, Desano, Emcure, Hetero Labs and Laurus Labs, allowing them to make generic anti-AIDS medicine Tenofovir Alafenamide (TAF) for 112 developing countries.

Indian pharmaceutical sector is estimated to account for 3.1– 3.6 per cent of the global pharmaceutical industry in value terms and 10 per cent in volume terms. It is expected to grow to US$100 billion by 2025. The market is expected to grow to US$ 55 billion by 2020, thereby emerging as the sixth largest pharmaceutical market globally by absolute size. Branded generics dominate the pharmaceuticals market, constituting nearly 80 per cent of the market share (in terms of revenues). The sector is expected to generate 58,000 additional job opportunities by the year 2025.

Review of Literature

Researcher has reviewed research paper and articles related to the selected research topic and brief overview of review of literature is presented as below:

- **J.Thomas Connelly, Piman Limpaphayom and Ravi Lonkani (2015)** worked on Sustainability, Financial Leverage and Firm Valuation in Thailand. The conclusion of the research shows positive relation between increases in the sustainability index and increases in firm value and also a positive relation between changes in firm value and increases in sustainability efforts.

- **Zahoor Hussain Javeda, Huma Raob, Bader Akramc, Muhammad Fayyaz Nazir (2015)** The result of their study indicates that leverage has negative association with the efficiency of firm.

- Ahmadu Abubakar (2015) studied the Relationship between Financial Leverage and Financial Performance. Sample size was of 11 banks and time period was from 2005 to 2013. The result of research was that there is significance relationship between debt equity ratio and financial performance (ROE).

- **Muhammad Wajid Raza (2013)** studied an effect of financial leverage on firm performance. Sample size was 482 listed firms on KSE and time period was of six years (2004-2009).The study resulted that there is a negative relation between performance and leverage. Research has also framed second hypothesis to test relationship between leverage and profitability. The result of the hypothesis also shows insignificance relationship.

- **Amit Kumar Singh & Preeti Bansal (2016)** they studied financial leverage and its impact on financial performance. Sample size was of 58 companies which are listed on BSE & NSE. The study reveals that leverage has a significant negative impact on performance of firm. performance of firm is measure through EVA, ROA and Tobin's Q.Georgeta Vintil , Elena Alexandra Nenu **(**2015**)** studied an analysis of determinants of Corporate Financial Performance from the Bucharest Stock Exchange Listed Companies. Sample size of 46 companies listed on Bucharest Stock Exchange. Study period was from 2009-2013. Findings show that financial

performance is positively related with the size of company and numbers of employee. But there is a negative relation between market base size and total assets.

- **Enekwe et al (2014)** their study revealed that debt ratio and debt -equity ratio were negatively related with return on assets and interest coverage ratio is positively related with return on assets in Nigerian pharmaceutical companies.

- **Amarjit Gill & John D.Obradovich (2012)** they found that the effect of both corporate governance and financial leverage have been very different on manufacturing sector and service sector. The study further reveals that board size has a negative impact on value of manufacturing firms in America whereas audit committee, CEO duality, financial leverage, and insider holdings, firm size have positive impact on the value of firms in America.

- **Amit Kumar Singh (2016)** their study shows that leverage has a significance effect on dependent variably like EVA, ROA and Tobin's Q. Researcher has selected both types of variable performance indicators like EVA and ROA and firm's value indicators like Tobin's Q.Akinmulegun Sunday Ojo (2012).in their research study, they used two indicators as a measure of performance -Earning per share -Net assets per share. The study revealed that leverage has an impact on net assets per share which is also an indicator of corporate financial performance. It is also revealed by the study that leverage shock on earning per share has indirectly impact on net assets per share.

- **Muhammad Sajid, Amir Mahmood & Hazzor Muhmmad Sabir (2016)** conducted study on Does financial leverage influence investment decisions? Empirical evidence from KSE-30 index of Pakistan. The result of the study revealed that the financial leverage has negative relationship with investment decision which was also proved significant by OLS regression model.

- **Kuben Rayan (2008)** held research on financial leverage and firm value. The research resulted that there is inverse correlation between financial leverage and value of firm. The effect of interest on capital structure is inconclusive.

- **David Granath and Per Thorsell (2014)** studied Leverage and how it affects shareholder value. The study concluded that leverage has a positive effect on shareholder value. Mukaria Henry Kimathi, et al.(2015). The result of the study found negative insignificant relationship between performance of firm and leverage with relationship. The study also found that there is insignificance relationship between large levered firms and small levered firms.

- **Robert Kisavi Mule & Mohamed Suleiman Mukras (2015)**The research revealed three categories of conclusion (1) leverage is negatively related to financial performance measure ROA, ROE and Tobin's Q (2) ownership concentration is also negatively correlated with ROA, ROE, and Tobin's Q and (3) Assets tangibility is only positively related which established significance relationship.

- **Kale Ahmed Ali (2015)** The result of the study explained that indicators of financial performance measure like ROA, ROE are negatively impacted by financial leverage whereas Tobin's Q as an indicator of financial performance is positively impacted by leverage.

- **Morteza Dadgostar Moghadam and Mehrnoosh Jafari (2015)** The study also revealed that financial leverage is positively related with performance of selected firms and "t" test also indicated that the relationship is significant.

- **M.Ramana Kumar (2014)** The study concluded that Degree of operative leverage is positively related with ROI and Degree of financial leverage is also positively related with ROI which is statistically insignificant. But combine degree of leverage is positively correlated with ROI but statistically it is insignificant.

- **Maher Odeh Al-Shamaileh, Salim. M. Khanfar (2014)** the study revealed that there is a significance impact of financial leverage on profitability indicator (ROI).

- **Nhung Thi Hong Bui (2017)** did research on the impact of financial leverage on firm performance on listed oil and gas companies in England. The study revealed that financial leverage measure through LTD & TD has negatively impacted on financial performance which is measured through ROA & ROE. However, short term debt to total assets is negatively related to ROA and ROE which is also proved statistically insignificantly. Nawaz Ahmad, Atif Salman and

Aamir Firoz Shamsi (2015)The study concluded that the financial leverage has impacted on profitability which is also proved statistically significance by't' test.

- **Omer Farooq, Abu Bakar Sani & Bilal Aziz (2017)** did work on Impact of Financial Leverage on Performance of Sugar Firms from Pakistan Stock Exchange (PSE). The study revealed that financial leverage is positively related with the indicators of financial performance ROA, ROE, Growth and Firm size.

- **Adenugba, Adesoji Adetunji, IGE ,Abayomi Akinyemi & Kesinro, Olalekan Rasheed (2016)** worked on Financial Leverage And Firms' Value of Selected Firms In Nigeria. The researcher used t test. The research study revealed that leverage and firm value is positive correlation with firm value. The result of test indicates that calculated value of t test is greater than critical value. Hence the result is significant.

- **Nahin Israt Shamsi and Tasrin Farjana (2016)** investigated the Impact of Financial Leverage on Firm Performance. The study explained that Performance of firm is significantly negatively impacted by financial leverage.

- **Wan Shahzlinda Shah Bt Shahar & Wan Shahdila Shah Bt Shahar (2015)** studied the Impact of Firm Leverage to Performance from Shariah and Non-Shariah Compliant Companies in Malaysia. The result of the research indicated debt ratio did not have an impact on ROA and ROE but Short -term and long term has an impact on firm's performance (Market value to book value) however the relationship was negative.

Objectives of the Study

Objectives of the research study are as follows:

- To study the variable of financial leverage and variables of of valuation of firm
- To examine the effect of Financial Leverage on Firm's Performance and Valuation of selected pharmaceutical companies in India
- To give suggestions to financial manager to design capital structure in order accelerate the financial performance and value of the firm

Methodology of the Study

Sources of Data

"An empirical study on effect of Financial Leverage on Firm's Performance and Valuation of selected pharmaceutical companies in India" has been made by using data from financial statements of all five years of selected Pharmaceutical companies. The period of the study was five year from 2012-13 to 2016-2017. Convenient sampling technique has been used by the researcher and type of research is analytical. The data have been collected from capitaline database, moneycontrol.com, monypore.com and from the annual reports of the respective companies. Analysis and interpretation of data have been carried out using the Statistical techniques such as descriptive statistics s, correlation and multiple regressions using SPSS package.

Theoretical Background

To examine relationship between Financial Leverage on Firm's Performance and Valuation of selected pharmaceutical companies in India, regression model has been used. Researcher has selected some indicators for the valuation of firm. The indicators of valuation of firm are Return on Equity, Profitability, EVA, Tobins'Q, and Growth in sales. All these indicators are extracted from the past studies. Researcher has constructed four models to examine the relationship between financial leverage and valuation of firm:

- **Model-1**

Researcher has used Return on assets as performance indicators with debt equity ratio, labour cost, size of firm, growth rate and tangibility. ROA measures efficiency in utilization assets. Profitability is increased by efficiently utilization of assets.

  - **Null Hypothesis**: factors like debt equity ratio, labour cost, size of firm, growth rate and tangibility do not impact significantly the ROA
  - **Alternative Hypothesis**: factors like debt equity ratio, labour cost, size of firm, growth rate and tangibility impact significantly on ROA

ROA= + + $_1$(D/E ratio) + $_{2(}$labour cost) + $_3$(size) + $_4$(growth) + $_5$(tangibility) + µit

- **Data of Equation**: ROA Labour cost, firms sizes, growth in sales, tangibility have been obtained from moneycontrol.com. Firm size means natural logarithm of net sales and tangibility means is a ratio between fixed assets to total assets. Other data have been obtained from moneycontrol.com

- **Model-2**

Here researcher has Economic value added (EVA) as an indicators of firm's valuation with debt equity ratio, labour cost, firm size, weighted average cost of capital and tangibility. EVA measure shareholder's value creation and debt equity ratio, labour cost, firm size, weighted average cost of capital and tangibility are independent variables.

- **Null Hypothesis**: factors like debt equity ratio, labour cost, firm size, weighted average cost of capital and tangibility do not impact significantly EVA

- **Alternative Hypothesis**: factors like debt equity ratio, labour cost, firm size, weighted average cost of capital and tangibility impact significantly on EVA

EVA= + + $_1$(D/E ratio) + $_{2(}$labour cost) + $_3$(size) + $_{4(WACC)}$ + $_5$(tangibility) + µit

- **Data of Equation**: EVA, Debt equity ratio, Labour cost, firms sizes, wacc, tangibility have been directly taken from moneycontrol.com. Firm size means natural logarithm of net sales and tangibility means a ratio between fixed assets to total assets. The formula for EVA has been taken as (EVA = Profit after Tax -WACC* (Total Assets - Current Liabilities).Other data have been taken from moneycontrol.com

- **Model-3**

Enterprise value is taken as firm's valuation indicator whereas debt equity ratio, labour cost, WACC, Profitability and tangibility are taken as independent variables.

- **Null Hypothesis**: factors like debt equity ratio, labour cost, WACC, Profitability and tangibility do not impact significantly enterprise value

- **Alternative Hypothesis**: factors like ratio, labour cost, WACC, Profitability and tangibility impact significantly on Enterprise value.

Enterprise Value = + + $_1$(D/E ratio) + $_{2(}$labour cost) + $_3$(size) + $_{4(Profitability)}$ + $_5$(tangibility) + µit

- **Data of Equation**: Enterprise value, Debt equity ratio, Labour cost, firms sizes, profitability, tangibility have been directly extracted from moneycontrol.com.tangibility is the ratio between net fixed assets to total fixed assets and profitability is the ratio between PAT to net sales.

- **Model-4**

Tobin's Q is the indicator of valuation of firm whereas debt equity ratio, labour cost, WACC, profitability and tangibility are the independent variables.

- **Null Hypothesis**: factors like debt equity ratio, labour cost, WACC, profitability and tangibility do not impact significantly Tobin's Q

- **Alternative Hypothesis**: factors like debt equity ratio, labour cost, WACC, profitability and tangibility impact significantly Tobin'sQ

Tobin's Q= + + $_1$(D/E ratio) + $_{2(}$labour cost) + $_3$(wacc) + $_{4(profitability)}$ + $_5$(tangibility) + µit

- **Data of Equation:** Tobin's Q, debt equity ratio, labour cost, WACC, profitability and tangibility have been taken from money control site. Tobin's Q means the ratio between (Market Capitalization and Value of Debt) to Total Assets.

Data Analysis and Interpretation

Table-1 indicates descriptive Statistics of Dependent Variables which measures the financial performance of the selected firms. Mean of ROA, EVA Enterprise value and Tobin's Q is 10.17, 638.76, 65095.69 and 5.4 consecutively. The median of ROA, EVA Enterprise value and Tobin's Q is 10.04, 1049.56, 47484.42 and 3.82 consecutively. Whereas standard deviation of ROA, EVA, enterprise value and Tobin's is 9.43, 1394.84, 54495.43 and 2.58 respectively. Tobin's Q shows that there is no overvalued firm out of selected pharmaceutical firms.

Table 1: Descriptive Statistics of Dependent Variables

Statistic	ROA	EVA	Enterprise Value	TOBIN'Q
Mean	10.27	638.76	65095.69	5.40
Median	10.04	1049.56	47484.42	3.82
Standard Deviation	9.43	1394.84	54495.43	2.58
Kurtosis	1.41	2.51	3.72	1.46
Maximum	20.79	2094.10	158893.68	9.59
Count	5.00	5.00	5.00	5.00

Table 2: Descriptive Statistics of Independent Variables

Statistics	DE	Labour	Size	ROG	Tangibility	WACC	Profitability
Mean	0.24	2.98	4.09	10.50	0.29	4.09	10.50
Median	0.21	3.00	3.36	15.83	0.28	3.36	15.83
Standard Deviation	0.21	0.20	2.47	18.88	0.11	2.47	18.88
Kurtosis	2.21	-1.24	3.72	3.94	1.28	3.72	3.94
Maximum	0.59	3.17	8.36	23.69	0.44	8.36	23.69
Count	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Table-2 explains descriptive statistics of independent variables which are having effect on financial performance. The mean of Debt equity ratio is (0.24%), labour cost (2.98%), firms size (4.09), rate of growth in sales (10.50%), tangibility (0.29%), weighted average cost of capital (4.09%) and profitability (10.50%). median of debt equity ratio (0..21%), labour cost(3%), size of firm(3.36), rate of growth (15.83%), tangibility (0.28), WACC (3.36%) and profitability(15.83%). The growth rate is appropriate whereas there is low risk exhibited by standard deviation. Profitability is also good. Maximum tangibility ratio (0.44%) which means that proportion of 44 % of the fixed assets to total assets. thus tangibility ratio shows 56% part left for current assets which are not good for profitability.

Table 3: Correlation Matrix

	D/E ratio	ROG in Sales	Labour cost	Size	WACC	Tangibility	Profitability
D/E Ratio	1.00						
ROG in Sales	0.41	1.00					
Labour Cost	-0.72	-0.60	1.00				
Size	-0.81	-0.33	0.94	1.00			
WACC	0.92	0.68	-0.89	-0.86	1.00		
Tangibility	0.63	0.58	-0.25	-0.21	0.60	1.00	
Profitability	0.17	0.62	0.15	0.31	0.20	0.78	1.00

Table-3 is related to correlation among independents variables. Correlation between D/E ratio and ROG in sales is 0.41 which is also positive. Whereas correlation between D/E ratio and labour cost (-0.72), D/E ratio and firm size (-0.81), D/E ratio and WACC (0.92), D/E ratio and tangibility (0.63) and D/E ratio and profitability (0.17).There is low correlation which meant that there is no collinearity. The correlation between ROG in sales and labour cost (-0.60), ROG in sales and firm size (-0.33), ROG in sales and WACC (0.68), ROG in sales and tangibility (0.58), ROG in sales and profitability (0.62) was found. Correlation between labour cost and firm size (0.94), labour cost and wacc (-0.89), labour cost and tangibility (-0.25), labour cost and profitability (0.15) has been found. Correlation between firm size and wacc (-0.86), size and tangibility (-0.21), firm size and profitability (0.31) was found. The correlation between wacc and tangibility (0.60) and WACC and profitability has been found. The correlation between tangibility and profitability (0.78) was seen. Some variable like labour cost and firm size negatively correlated with D/E ratio. Whereas variables like WACC, tangibility, are negatively connected with labour cost. WACC and tangibility are also negatively correlated with firm size. There is perfect correlation between WACC and D/E ratio. Labour cost and firm size are also perfectly correlated.

Table 4: Model 1 (Performance Measurement of Firm Through ROA)

Model-1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
ROA	-147.818	82.778		-1.786	.090
D/E ratio	5.007	21.851	.080	.229	.821
Labour cost	-72.469	27.269	-1.461	-2.658	.016
size	93.080	40.349	1.558	2.307	.032
ROG	.071	.067	.247	1.060	.302
Tangibility	43.553	23.416	.396	1.860	.078
Total observation	25				
R	0.750				
R Square	0.562				
F statistics	4.895				
Prob. (F statistics)	0.0047				
level of significance	5%				

Table-4 is related to multiple regressions where ROA as a Measure of firm's Performance. It is found that labour cost has negative significant impact on ROA. However other independent variables like D/E ratio, firm size, rate of growth and tangibility have positive relationship with ROA. But impact of D/E ratio on ROA is insignificant. Tangibility, rate of growth and D/E ratio have insignificant impact on ROA. Impact of Firm size, D/E ratio and tangibility has significant impact on ROA. The adjusted R^2 is 56.20% and F shows that model is highly significant.

Table 5: Model 2 (EVA as firm's Performance Measurement)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	EVA	-23386.817	5954.471		-3.928	.001
	D/E ratio	-1727.643	2011.212	-.253	-.859	.401
	Labour cost	-5628.709	2905.521	-1.041	-1.937	.068
	size	10149.071	3451.759	1.558	2.940	.008
	wacc	118.278	132.615	.228	.892	.384
	Tangibility	5763.998	2153.210	.483	2.677	.015
	Total observation	25				
	R	0.818				
	R Square	0.667				
	F statistics	7.68				
	Prob. (F statistics)	0.00.				

Table-5 shows the results of multiple regressions. It has been found that EVA has been negatively impacted by D/E ratio Labour which is insignificant. Explanatory Variable like firm size, wacc, and tangibility has impacted positively. Impact of firm size and tangibility is significant. Whereas wacc, tangibility, and firm size have significant impact on EVA. The adjusted R^2 is 66.70% and the F test indicates that the model is highly significant.

Table 6: Model 3 (Enterprise Value has been Taken as a Measure for Financial Performance)

Model-3	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Enterprise value	-89404.534	141623.880		-.631	.535
D/E ratio	83352.119	59054.722	.311	1.411	.174
Labour Cost	77960.079	42515.212	.367	1.834	.082
WACC	2628.903	5321.910	.129	.494	.627
Profitability	-733.576	374.677	-.337	-1.958	.065
Tangibility	-354249.453	84997.700	-.752	-4.168	.001
Total observation	25				
R	0.840				
R Square	0.706				
F statistics	9.13				
Prob. (F statistics)	0.000				

Table-6 is related to model -3 expressing enterprise values as an indicator of performance measure. Leverage has been positive but insignificant impact on enterprise value. Other independent variable like tangibility has negative but significant impact on Enterprise value. Whereas labour cost, wacc, and profitability has insignificant impact on Enterprise. The adjusted R^2 is 70.60% and the F test indicates that that the model-3 is highly significant.

Table 7: Model 4 (Tobin's Q is Taken as a Measure of Valuation of Firm)

Model-4		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Tobin's Q	22.291	8.242		2.704	.014
	D/E ratio	-3.828	3.437	-.278	-1.114	.279
	Labour cost	-4.590	2.474	-.420	-1.855	.079
	wacc	.175	.310	.166	.564	.579
	Profitability	-.030	.022	-.268	-1.375	.185
	Tangibility	-9.393	4.947	-.388	-1.899	.073
	Total observation	25				
	R	0.789				
	R Square	0.623				
	F statistics	6.296				
	Prob. (F statistics)	0.001				

Table-7 displayed model-4 for Tobin's Q as measure of valuation of firm. Leverage has negative but insignificant impact on Tobin'q. Other independent variables like labour cost, profitability, and tangibility have negative but insignificant impact on Tobin's q. Independent variables like wacc has positive impact with insignificant relation. The adjusted R^2 is 62.30% and the F test explains that the model-4 is significant. This financial leverage has negative and insignificant on Tobin's Q and EVA. Financial leverage has also positive and insignificant impact on ROA and enterprise value.

Conclusion

The present study has been done to examine empirical relationship between Financial Leverage and Firm's Performance and Valuation of selected pharmaceutical companies in India: An empirical analysis. The two variable Tobin's Q and Enterprise value are the indicators of valuation of firm. Two variables ROA and EVA are the indicators of financial performance. The sample size was 10 (ten) companies. Researcher has used regression model to examine the impact of financial leverage on valuation and financial performance of pharmaceutical companies. The researcher has identified independent variables like labour cost, firm size, tangibility, profitability, WACC, and debt equity ratio. The researcher built four models of regression. Two models are related to examine the impact of financial leverage on financial performance and two models are related to examine the impact financial leverage on valuation of selected firms. The result of the regression explained that financial leverage has negative but insignificant impact on Tobin's Q. whereas financial leverage has positive but insignificant impact on enterprise value. The impact of financial leverage on ROA is positive and insignificant. Whereas impact of financial leverage on EVA is negative and insignificant. Thus it is that the financial leverage has an insignificant impact on financial performance and valuation of firms. Hence findings of the study are inconsistent with findings of review of literature.

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HUMAN RESOURCE ACCOUNTING:
A SUGGESTED APPROACH FOR PRACTICE

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ABSTRACT

There can hardly be any difference of opinion about the fact that human beings are the most important asset of an organization. However, this important asset is not reflected in the balance sheet of a concern. There is neither any universally accepted valuation model of human resource nor any accepted accounting method of it. The study attempts to find out a suitable human resource valuation model and its accounting in the books of the concern. For accounting purpose cost related to human resource are classified into human resource expenses and human resource investment.

KEYWORDS: *Human Resource Investment, Human Resource Valuation, Government Accounting.*

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Introduction

It is now unanimously accepted view that the human being is the most important input in an organization. The success or failure of an organization depends largely upon the qualities and productivity of its human resource (HR). Other resources, i.e. non human resources can only be properly used through human resource. Therefore, HR is regarded as the most important resource of management. Human resources are the energies, skills, talents and knowledge of people which are potentially applied to the production of goods or rendering of useful services. More precisely, human resources of an organization comprise the value of the productive capacity of its people. In spite of its recognition as the most important and valued element of an organization, it is neither shown in the Balance Sheet of an organization nor any portion of cost on HR regarded as an investment. In conventional accounting practice, human workforce, a core element, is yet to find its place.

Definition and Concept of HRA

The committee on Human Resource Accounting of the American Accounting Associations defined human resource accounting as "the process of identifying and measuring data about human resources and communicating this information to interested parties".

Stephen Knauf defined HRA as "the measurement and quantification of human organizational inputs, such as recruiting, training, experience, and commitment".

Eric G. Flamholtz explained human resource accounting as accounting for people as organizational resources. It is the measurement of the cost and value of people for the organization.

Review of Literature

With an objective of identifying the fundamental reasons for undertaking the present study, an endeavour has been made to survey the various studies carried out in the field of human resource accounting. The following are some of the major studies in this field:

Gupta (1988) conducted a study on human resource accounting. The study showed various methods of measuring HR, limitations and benefits of HR. The study suggested that the accountants along with social scientist should take initiative to develop a system of measuring value of HR to the organization.

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Milost (1999) in his study has given an insight about the attitude of accountant and directors of various companies towards human resource accounting. The study revealed that very few accountants believed to be acquainted with the main of idea of human resource accounting. While accountant showed the negative attitude, the reverse attitude showed by directors.

Verma (1999) carried out a study on human resource accounting practice in public undertakings in India. He proposed a valuation model for measuring value of human resources.

Flamholtz (1999) conducted a study to develop valid and reliable method of measuring the value of HR of an organization. The study examines the concepts and methods of accounting for people. The study shows the accounting for HR costs.

Prakash (2000) under took a study on disclosure pattern of human resource accounting information in public enterprises in India. The study also revealed the limitations of human resource accounting practices of the companies selected under study.

Kolay (2000) carried out a study on accounting for human resource managers. It was observed that human resource cost classified into two category viz. Human resource expenses and human resource investment.

Saha (2000) conducted a study on accounting for human resources in non profit seeking organization. The study revealed the proposed balance sheet of non profit seeking organization where human assets showed in the balance sheet.

Narayanankutty (2001) made a study on measurement of cost of human resources. The study showed a productivity linked human resource cost model. The study suggested that the HR of any organization seems to be properly used in generating income if the rate of return on HR is equal to or more than the cost of capital.

Kumar & Awasthi (2018) carried out a study on human resource accounting and organizational performance. The purpose of the study was to establish the relationship between them. The study revealed that the performance of the organization is affected by its human resources.

A large number of studies have so far been conducted to develop models for valuation of HR of an organization. But every model has its own limitation. There is neither any generally accepted valuation model nor generally accepted principle for recording and presenting HR information in the financial statement. Absence of HR as an asset in the balance sheet violet the accrual principle, discards matching principle, defies the principle of discloser and under rates the firm's net worth and current income. The profit & Loss account and Balance Sheet are not reflecting the true and fair view of the business enterprise. At this backdrop the present study aims at to develop a new HR valuation model and treatment of HR information in the books of account.

Objectives of the study

The present study attempts:

- to develop an alternative model to measure the value of HR,
- to identify a rational and acceptable method of recording the value of HR in the books of accounts and
- to exhibit value of HR in the balance sheet of an enterprise.

Methodology of the Study

The study is based on the literature review related to HR valuation models published in different journals and books.

Assumptions of HRA

HRA is based on the following assumptions:

a) Like non-human resources, HR provides benefits to an organization in a similar manner.

b) The benefits associated with both conventional assets and HRs has value to the organization because benefits contribute in same way to accomplishment of the organization goal.

- Human assets are categorized as also accounting assets as it can also provide economic benefit in future.
- Acquisition of HRs involves an economic cost and the benefits associated with such resources can personally be expected to contribute to the economic effectiveness. It follows, therefore, that these benefits are essentially economic in nature and are subject to measurement in financial terms.
- It is theoretically possible to identify and measure HR costs and benefits within an organization.

- HR costs are classified as HR expenses and HR investment.
- Information with respect to HR costs and benefits would be useful in the process of managerial decision making and practicing organizational performance.

Major Human Resources Valuation Models

Many models or approaches or methods have been developed by various proponents for valuing human resources of an organization. This may be classified under the following five categories:

- Cost based approaches or models;
- Opportunity cost models;
- Economic models;
- Behavioral based models;
- Other surrogate measure.

In cost based models the historical cost is considered as the basis for valuation of HR. The proponents of this model are Brummet, Flamholtz & Pyle, Woodruff Junior, Gustafson etc. As per cost base models the expenditure incurred for the acquisition, recruitment, selecting, training and development of an employee by an organization is considered to measure the value of HR. An interesting method advocated by Hekimian and Jones in 1967, known as opportunity cost method. The value of HR is determined on the basis of value of an individual employee in alternative use. This method suggests 'competing bidding price' for computing value of HR.

Economic Value models are based on the present value of the set of future services which is expected to provide by an employee during the service period in the organization. Proponents of this model are Hermanson, Lev and Schwartz, Flamholtz, Giles & Robinso, Friedman & Lev etc. Likert proposed the use of socio-psychological measurement technique for the valuation of HR. Periodic measurements are carried out on the behaviour and technical proficiency of the managerial staff, the resulting effect on subordinates in terms of motivation, loyalty and behaviour, communication, decision making and controlling process of the organization. The present value of HR computed on the basis of discounted price forecasts of predicted earnings from employees.

Findings of the Study

The model is basically developed on the valuation model as suggested by Lev and Schwartz in 1971. An attempt was made to modify the approach by taking into consideration the human resource productivity factor and also the expenses like recruitment, selection, training and development etc. it is a comprehensive approach considering the limitations of Lev and Schwartz's model and shortcomings of current Indian practices of human resource accounting. Under Lev and Schwartz's model, the value of future earnings of employees till retirement is found out and then discounted at the rate of cost of capital to arrive at its present value. But this value does not consider the productivity factor which is one of the most important aspects of an organization. Therefore, productivity should be included in the valuation of human resource.

Another notable limitation of this model is the treatment of expenses like cost of recruitment, training, development etc. Actually these expenses are incurred for future benefits. Hence, to consider this cost as revenue expenses is against the matching principle. Such costs should be regarded as human resource investment instead of human resource expenses. Therefore, human resource value (as suggested by Lev and Schwartz) should also be modified by inclusion of expenses like recruitment, development, training etc. here an attempt was made to find out the modified value of human resource by inclusion of productivity factor and also the cost of recruitment, placement, selection, initial training and development etc. as human resource investment for each grade of employees. A productivity index may be prepared for measuring the work performance of employees from their immediate supervisor(s) from each grade of employees. Though productivity of an organization depends on various factors, we may measure it by considering the efficiency level of the employees. A group wise standard output or performance should be fixed by the top-level management and actual performance should be compared with the standard. Thus for the purpose of valuation of HR productivity index may be computed as below:

Productivity (P_i) = $\dfrac{Actual\ output\ or\ perfomance\ of\ the\ group}{Standard\ output\ or\ performance\ of\ the\ group}$

For implementation of the alternative model for valuing human resource HR costs must be classified as HR expenses and HR investment. Salaries, wages, other benefits and allowances etc.

related to current services should be categorized as HR expenses. On the other hand cost of recruitment, selecting including placement, initial training and development etc. related to future services should be categorized as HR investment. Therefore, it should be considered for valuation of HR as an asset. The modified model by including productivity factor and considering HR investment cost may be as below:

Value of Human Resource = { $\sum_{t=x}^{T} \frac{I(t)}{(1+r)^{t-x}}$ **x P$_i$ } + D$_i$**

Where,

T = Employee's retirement age,

x = Age when a person join the service or the year first valuation,

I(t) = Employee's annual earnings up to retirement considering the probability of death,

r = Discount rate (it may be cost of capital for profit seeking concern or market rate of interest on fixed deposit for non-profit seeking or financial institution) to capitalise the earnings of the individual,

P$_i$ = Productivity index,

D$_i$ = HR investment cost.

D$_i$ may be increased in each period and at the same time be decreased by the process of amortization. HR investment cost may be amortized equally throughout the average service life of employees. Accounting entries for HR costs and HR investment irrespective of the valuation model:

The value of human asset may be shown in the balance sheet by following accounting entries irrespective of valuation models if the costs relating to human resources are classified into HR expenses and HR investment.

- For raising the value of HR in the books of account for the first time:
  Human Asset Account   Dr.
       To Human Capital Account

- In each subsequent years:
  - For elimination of HR cost included in the value of Human Asset:
  Human Capital Account   Dr.
       To Human Asset Account
  - A portion of HR investment cost which are included in the value of human asset may be eliminated over the length of service or the expected benefit period of such cost outlay by the following entry:
  Human Capital Account   Dr.
       To Human Assets Account

The above entries are to be passed to complete the double entry system and balancing.

- If any further HR investment is made for recruitment, selection, training and development etc. it may again be debited to Human Asset Account by crediting Cash or Bank Account. It is also assumed that fresh cash always to be brought for HR investment.
  - Cash/ Bank Account   Dr.
       To Human capital Account
  - Human Asset Account   Dr.
       To Cash/ Bank Account

In this way HR accounting may be considered as an integral part of accounting. At the same time it can be put in conventional Balance Sheet. The Balance Sheet of a profit seeking concern may be modified and redesigned as below:

Particulars	Note on	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
I. Equity & Liabilities			
(1) Shareholders' Funds			
(2) Share application money pending allotment			
(3) Non-current liabilities:			
a. Long term borrowings			
b. Deferred tax liabilities			
c. Other long-term liabilities			
d. Human capital			
e. Other long term provisions			

(4) Current Liabilities			
Total			
II **Assets**			
(1) Non Current Assets			
a. Fixed Assets			
i. Tangible Assets			
ii. Intangible assets			
iii. Capital work-in-progress			
iv. Intangible assets under development			
b. Non-Current Investment			
c. Deferred tax assets(net)			
d. Long term Loans and advances			
e. Human assets			
f. Other non-current assets			
(2) Current Assets			
Total			

Conclusion

The suggested model does not compete with the other human resource valuation models, rather it aims to make the human resource valuation process more effective and acceptable. The suggested accounting approach can be followed by the conventional accountants easily in the books of accounts. The accounting equation and double entry system would not be disturbed by incorporating the suggested entries. Accountants may follow these accounting entries relating to human resource irrespective of human resource valuation model followed by them. The suggested accounting approach may also helps to comply fully the accrual principle, the matching principle and the principle of disclosure.

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CLOUD COMPUTING IN ACCOUNTING:
A CASE STUDY OF KPMG FIRM

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Aarti Gupta[**]

ABSTRACT

Cloud Computing is the modern way of accounting. To discuss about this new flanged technology, we carried out extensive study to understand the concept of cloud computing and it role in the field of accounting. We discussed meaning, definition and history of cloud computing in this study. Along with that; this paper also presents role and importance of cloud computing in accounting. Barriers and challenges of adopting cloud computing in accounting have also been discussed. It has large number of benefits with some challenges. As the theme of this research paper relates to accounting, we decided to conduct a case study of one of the renowned chartered accounting & audit firm- KPMG, which provides accounting and auditing services India and abroad. For this purpose we studied three KPMG reports on the concept of cloud computing in accounting and auditing. Now days cloud computing is at level of reliable and scalable data providing source. This infrastructure is well designed with better security.

KEYWORDS: *Cloud Computing in Accounting, SaaS, PaaS, IaaS, Cloud Transformation, KPMG.*

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Introduction

Cloud Computing accounting is the internet base accounting which has record, storage, secure and easy to share and many more facilities in it. By this software organizations are getting digital to operate their business. They can operate it "Anywhere Any time" where internet is available. Low cost efficiency with better relations to end users is most needed part to cover for every organization.

- **Meaning of Cloud Computing**

Cloud computing is the type of internet computing that provides servers, storage, applications and data transfer services. It is different from data saving in computer system. It is digital way to saving a company's accounting data. Cloud computing is the path where it's consumers enjoying the services at "Anytime, Anywhere" for sharing data more easily and keep their data store safely. Cloud computing is the combination of software and hardware based computing resources delivered as a network service. Cloud computing service users can access database resources via the internet from anywhere, for as long as they need, without worry about any maintenance of actual record.[i]

- **Services Provided Under Cloud Computing**

Infrastructure as a Service

Software as a Service

Platform as a Service

Figure 1: Service Provided Under Cloud Computing

Infrastructure as a Service: In IaaS cloud clients install operating system, images and their application software on the cloud infrastructure. IaaS providers are Amazon EC2, Azure, and Google compute Engine etc.

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Software as a Service: SaaS provides large verity of applications over the internet where a user can make his own word document in Google docs online and without installing any editing software he can edit his document and photo online on pixlr.com , and here are many more software service providers Google, Microsoft, Word Press, Sales force etc.

Platform as a Service: In PaaS one can make application and software on other's database. Thus 'it gives us the platform to create' edit and manage the application programs we want.i Its providers are cloud Foundry, Heroku and Force.com etc.

Definition of Cloud Computing

- Cloud computing model can be simply defined as the storage, processing and use of data to be accessed over the Internet, on different location computers. This means that users can request to have almost unlimited computing power thatdo not require significant capital investment in order to meet their needs and that they can access their data fromany location where they are connected to the Internet.[ii]

- Cloud Computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centres that provide those services. The services themselves have long been referred to as Software as a Service (SaaS).[iii]

History of Cloud Computing

Cloud Computing is believed to have been invented by Joseph Carl Robnett Lickliderin the 1960s with his work on APPANET to connect people and data from anywhere at any time.[iv]

- Since the sixties, cloud computing has developed along a number of lines, with web 2.0 being the most recent evolution. Cloud computing for the masses has been something of a late developer.

- One of the first milestones in cloud computing history was the arrival of sales force.com in 1999, which pioneered the concept of delivering enterprise applications via a simple website.

- The next development was Amazon web services in 2002, which provided a suite of cloud based services in storage, computation and even human intelligence through the Amazon Mechanical Turk.

- Then in 2006, Amazon launched its Elastic Compute Cloud (EC2) as a commercial web site.

- Another big milestone came in 2009, as 2.0 hit its stride, and Google and other started to offer browser-based enterprise application, through services such as Google Apps.

- "The most important contribution to cloud computing has been the emergence of "Killer apps" from leading technology giants such as Microsoft and Google when these companies deliver services in a way that is reliable an easy to consume.[v]

Top 10 cloud computing service providers in India in 2017

App Point

Clogeny Technologies Private Limited

Ctrls Datacentere Limited

Cirrologix Private Limited

Cypher Cloud

Zenith Infotech Limited

Insta Compute- Tata Communications
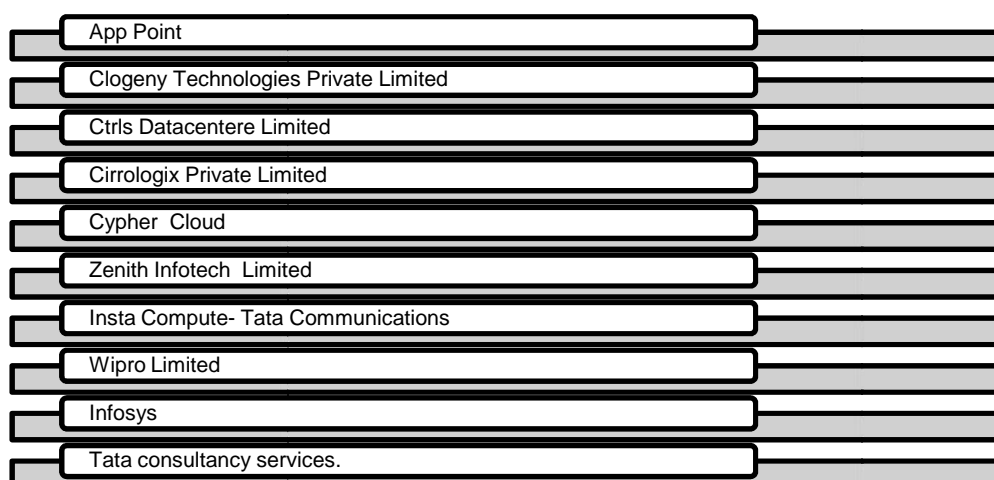
Wipro Limited

Infosys

Tata consultancy services.

Figure 2: Top 10 cloud computing service providers in India 2017.[vi]

Role of cloud computing in accounting

To develop accounting reliability and increase awareness for accounting traditional storage system, only cloud computing can operate it in effective way. Cloud computing service providers are deploying their services in small and medium size of business systems. If a company takes a step to go modern and want to safe their business for long time they can easily consume this service. Cloud computing provides us a suitable path to make our business innovative and successful.

Why the Cloud Computing is better option for a company's bright future?
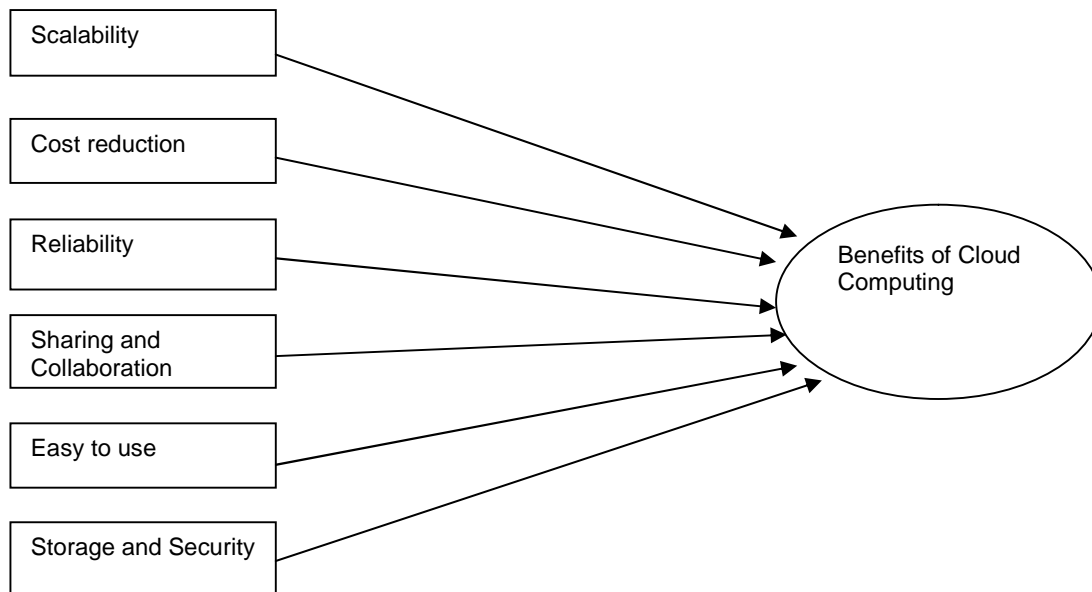

Figure 3: Cloud Computing Benefits Model

- **Scalability:** Being a quality of scalable is very important feature of accounting. It is to daily operation of a company. Management should know where his company growth is standing. Cloud Computing service provides a standard to make it scalable for all, like management, investors, internal environment etc.

- **Cost Reduction:** Here we have a very big example of Cost Reduction benefit that, A 70% Cost Reduction has been observed since adopting Amazon web service as the cloud vender. Amazon Web Service (AWC) has also reduced their prices a couple of time, in the past three years, in spite of the absence of competitive forces.[vii]

- **Reliability:** Today more and more business are turning to cloud computing specially small and medium business of around the world are getting more benefits from this software. Accounting reliability, financing, management and sharing facilities are most important part of every business. This software is giving us reliable data which can be very useful. A reliable data can role to make good decision for a company's growth.

- **Sharing and Collaboration:** If a company adopts Cloud Computing for store their accounting details, it will be easy to storage and share for them. By the adopting this service company's data can share "Anywhere at Any time". Without build own infrastructure investors easily get a company's data which they want. It has a mode where multiple users and applications can work more efficiently with cost reduction.

- **Easy to Use**: we already define its characteristics that it is very reliable, scalable with effective cost reduction quality. Data users and adopting company easily connect to this service and get benefits from it. It is very flexible model and not too much expensive small and medium enterprises can afford this service.

- **Storage and Security:** In this system storage availability is almost unlimited. Providers are still working on the storage space to make enough. Security directly contributes to the reliability of the system. A reliable software system is a system with reliable security. Hence, designing a highly secure cloud system is very important.[vii]

Other Benefits of Cloud Computing

Apart from the above stated benefits, there are many other benefits are as under: like, no need to hire specific staff to operate this service, it is faster way to share and collaborate the data and many more are following. According to different-different entities different-different benefits can be added.
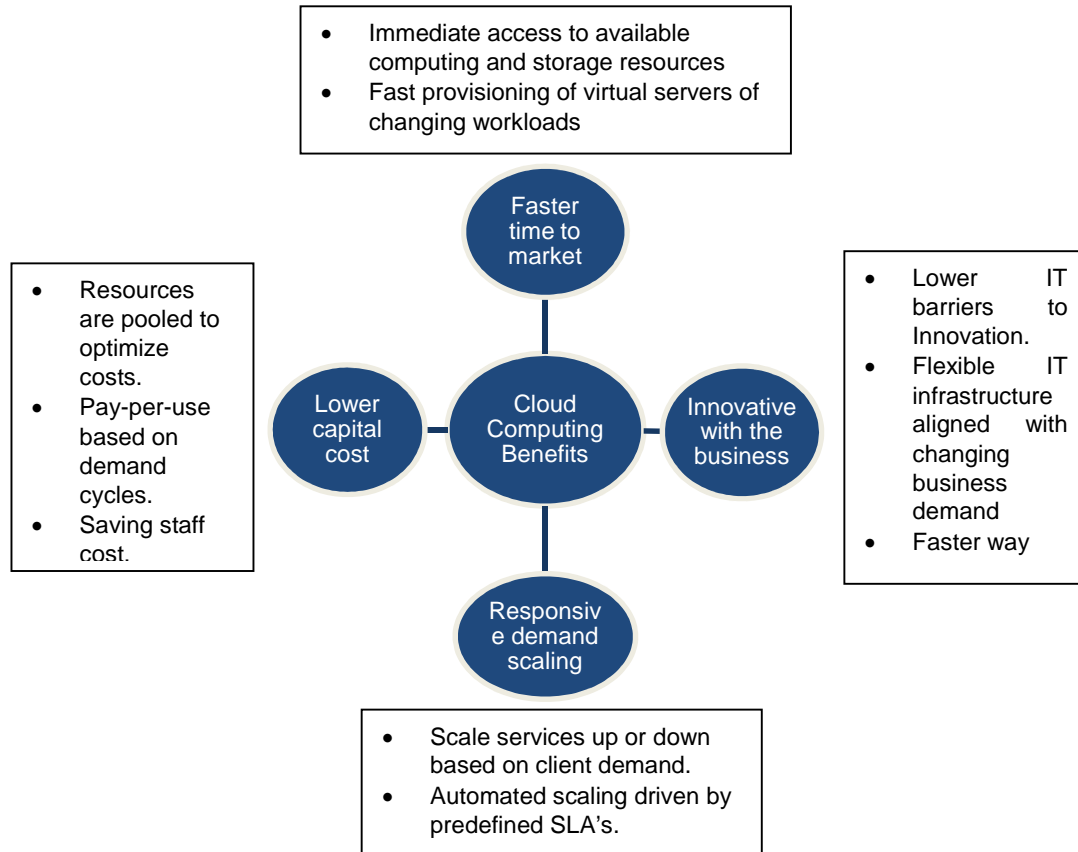
Figure 4: Other Benefits of Cloud Computing

Challenges of Adopting Cloud Computing in Accounting

Adoption of cloud computing software is good step to get digital but, there is some challenges with it. Many companies are still thinking to adopt this software. Following Challenges of Cloud Computing Accounting:

- **Data Stealing:** Cloud computing is software which provides us a data sharing facility. Due to this facility and any legal issue users data not safe properly, It can be operate at anywhere by any one. So there is no surety that data would be safe or not.

- **Confidentiality:** Cloud Computing has a very good feature of data sharing. We should concern about it that, how to keep confidentiality for data. Data should be disclosed for authorized users.

- **Audit:** Auditing is the process of checking records. Accessibility of data not possible anytime because it will work only server is available.

- **Security and Privacy:** Data stealing and confidentiality are major reasons of loosing privacy and security. It is depend on design of software. So, it should be designed with full of privacy and security.

- **Hackers:** The base of using this software is internet. Every social sites and web sites are facing of hacking problems. If someone hacked the software for doing any fraud, users can be affected very badly.

Cloud Computing Accounting V/s Traditional Accounting

Table 1: Traditional Accounting Vs. Cloud Computing Accounting. [viii]

S. No	Base of Changes	Cloud Computing Accounting	Traditional Accounting
1.	Accounting Storage	Cloud Computing software utilizes the cloud to share accounting data, making financial information accessible to owner and employees anywhere that the internet is available.	Company has one dedicated hard drive on which accounting software is installed and financial data is recorded.
2.	Affordable	Cloud Computing software tends to be a more affordable than traditional accounting.	Need of hard drive and staff to operate, it can unaffordable.
3.	Cost	Since the software has been using cost is always less.	To manage and records data it is more costly. Require to run hardware always need to operate a employee.
4.	Back up	Automatically back up option it has the best and secure forever.	It is hardware based accounting so, get back up of all the data it will take lot of time.
5.	Platform	This software service can be work on different applications and users at the same time.	Based on hardware device it can be work only one platform.
6.	Data stealing	Data stealing chances is less than traditional accounting.	Data stealing may be happens when company use this hardware based accounting.
7.	Location	Accounting data are available on cloud.	Availability of data chosen by the company.
8.	Numbers of users	Numbers of Data users are Unlimited.	Numbers of data users are limited.
9.	Accounting software licence	The company is the Tenant.	The owner is company.
10	Security & Privacy	Most of companies are adopting this software for privacy and security for data.	Security and privacy is less to compare cloud computing accounting.

Case Study of KPMG: A Leading Firm Providing Accounting& Auditing Services

Cloud is the new style of elastically scalable, self-service computing. In addition to process efficiencies and cost reductions, cloud offers the scalability, speed to market and centralization to coordinate and manage applications across various devices. This is often easier said than done. To find out more about the current state of cloud's maturity in business, we invite you to explore our 2014 survey results for insights from business leaders and KPMG partners on the growing impact of cloud technology in business today – and tomorrow. It's clear now that while organizations may have come to the cloud to reduce costs, it's not why they stay. The true potential of cloud lies in an organization's ability to leverage this agile delivery model to transform the business.

-Rick Wright, Principal and Global Cloud Enablement Leader at KPMG

- **Highlights of KPMG Cloud Survey Report 2014**

According to the executives in this survey, the top use of cloud is driving cost efficiencies (49 percent). But the 2014 survey results reveal that in increasing numbers organizations are using cloud technology to enact large-scale change, whether within individual business units or across the enterprise. These transformative uses of cloud include: better enabling a flexible and mobile workforce (42 %); improving alignment and interaction with customers, suppliers and business partners (37 %); and better leveraging data to provide insightful business decisions (35 %).

This is quite a difference from KPMG's survey data of two years ago. While cost efficiencies clearly took the top spot (48 %) in 2012, speed to adoption came in a far second with 28 %. Having such a large gap between the top two responses emphasizes how cost was a much more powerful driver in 2012 than it is today. Other changes are also evident. Consider that improved alignment with employees was cited as a cloud driver by only 14 % of executives in 2012 but more than doubled in the 2014 survey,

achieving a 42 % response rate. Making such changes to an organization are costly and time consuming, but such a large increase in responses signals the tremendous impact, beyond cost reduction, that cloud can have on an organization. These results suggest that for many organizations, cloud has truly become a transformative solution.

▪ **The top ways businesses using cloud to drive business transformation in 2014**

■ Drive cost efficiencies

■ Better enable mobile workforce

■ Improve alignment with customers/partners

■ Better leverage data to provide insight

■ New product development/innovation

■ Develop new business models

■ Shift to a global shared services model

■ Faster time to market
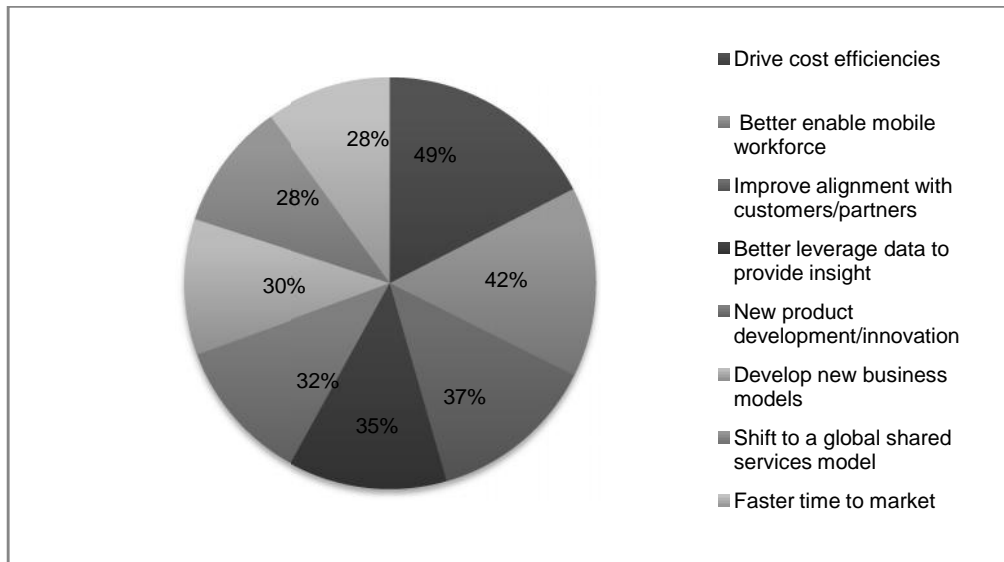
Figure 4: 2014 KPMG Cloud Survey Report

Cloud is not only a transformative solution that helps organizations advance strategic initiatives and achieve strategic goals. It can also be essential to the actual execution of transformation. As organizations undergo large-scale change, cloud improves:

- **Rapid Scale:** Enables IT to provision and modify complex infrastructure faster than traditional on premise systems.
- **Agility:** Cloud enables organizations to be more nimble and responsive to changing business needs.
- **Functionality:** Organizations can take advantage of innovation more easily with cloud, as it reduces the need for incremental investments in supporting technology infrastructure.

▪ **Most Successful Areas of Business Improvement a Result of Cloud Implementation**

73% Improve business performance

72% Improve levels of service automation
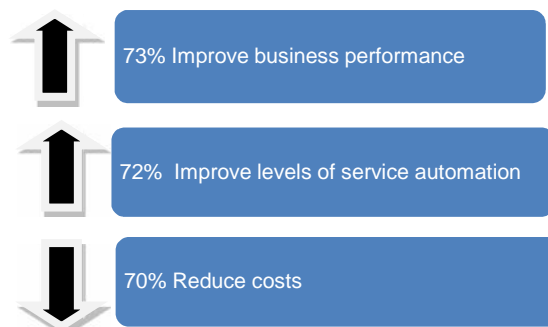
70% Reduce costs

Figure 5: 2014 KPMG Cloud Survey Report

Improve business performance	73%
Improve levels of service automation	72%
Reduce costs	70%

Better integrate systems	68%
Introduce new features/functions	68%
Enhance ability to interact with constituents	67%
Rapidly deploy new solutions	67%
Replace legacy systems	66%

According to this survey respondent, executives feel implementing the cloud has helped them improve business performance (73 %), improve levels of service automation (72 %), reduce costs (70 %), rapidly deploy new solutions (67 %), and achieve other important business objectives. And in many areas, organizations today are more successful in meeting their goals from cloud usage than when last surveyed in 2012.But although many organizations have grown in sophistication when it comes to cloud deployment and usage, challenges remain. Many businesses that have moved on from the launch and getting started phase are now dealing with day-today concerns around cloud implementation.

Most challenging areas when adopting Cloud Computing in Accounting
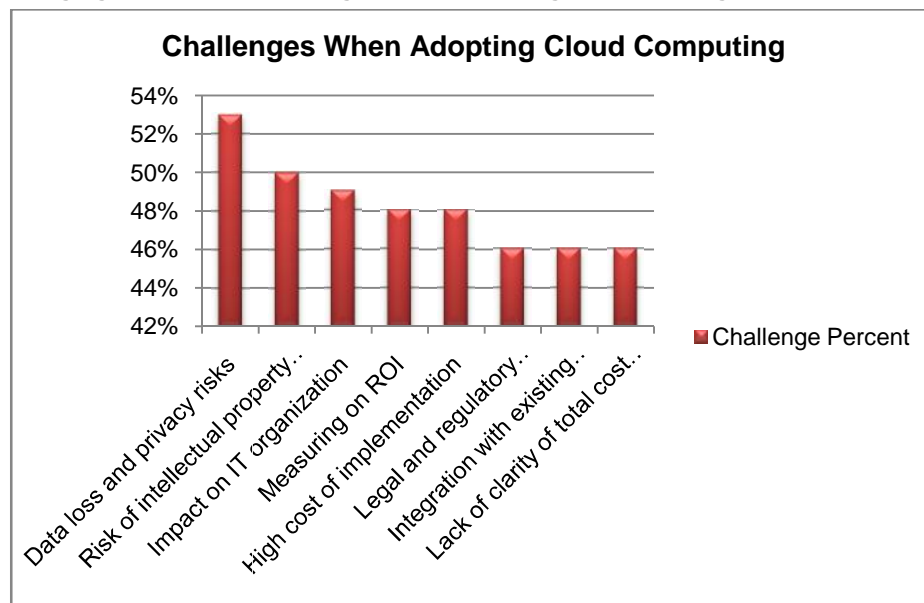
Figure 6: Challenge Percent While Adopting Cloud Computing

According to 53% of our survey respondents, data loss and privacy risks are the most significant challenges of doing business in the cloud, followed by intellectual property theft, which was cited as challenging or extremely challenging by 50%. In fact, comparing 2014 results with the answers from our 2012 survey, security and data privacy have become greater concerns than cost efficiency. The good news is that while respondents acknowledge continued security concerns, results show a substantial decline from 2012; when 78% of executives named intellectual property theft a challenge, and 83% named data loss and privacy risk a challenge. This suggests that over time, security has become less of a challenge and cloud adopters may feel they're better prepared now to secure their data.

Significant Driver for Adopting Cloud Strategy

Three keys to managing the complexity and risk in order to unlock value in this complex environment, taking a holistic enterprise-wide approach to cloud strategy, integrating effective cloud governance into the existing technology governance framework and deploying an integrated consumption platform that provides easy access to underlying cloud services and capabilities, holistically manages their operation, and embeds some of the governance policies through automation.

- **Adopt an Enterprise-wide Cloud Strategy:** Given that cloud solutions, especially SaaS, are often sold directly to the business, and can be procured quickly and with little upfront costs, it doesn't take long for organizations to accumulate significant pockets of shadow IT from multiple

cloud providers. A significant driver of the cloud strategy is a detailed workload assessment for all existing and currently planned applications. The assessment will identify which applications can be immediately migrated to the cloud, which applications will require re-work to move to the cloud, and which applications are not suitable for a cloud environment. The strategic guidance developed will inform cloud governance.

- **Integrate Effective Cloud Governance:** Cloud governance framework is beyond the scope of this report but conceptually cloud governance needs to be integrated with existing technology governance and cover the entire cloud lifecycle from planning through to off-boarding from a cloud provider. Cloud governance should address the following:

  - **Strategic Guidance:** Leads to a formal strategy and roadmap;

  - **Enterprise Architecture & Technology:** Adapts existing architecture and technology policies for cloud;

  - **Procurement, Contracts, and Legal:** Sets out policies for how cloud services will be acquired and managed;

  - **Security, Privacy, and Compliance:** Establishes policies around security, data privacy and location, and regulatory compliance; and

  - **Operational Policies:** Establishes who has access, how cloud is consumed, managed and monitored.

Components of cloud governance are tools to expose cloud services, simplify cloud access, monitor and manage cloud services and providers, create accounting and billing modules, regulate applications design and development, and more. An effective way to automate parts of cloud governance is to utilize an integrated consumption platform.

Deploy an Integrated Consumption Platform

Since the market for orchestration solutions is immature and no single orchestration product is a silver bullet we recommend developing a consumption platform instead. A consumption platform is a holistic set of capabilities for multi-modal service consumption (independent of deployment model).The current market is filled with traditional heavy orchestration providers (high touch, custom coding/ scripting, lock-in) with proprietary solutions that fail to deliver the end-to-end automation of all the hybrid components while "light" orchestration products born out of the open source market are evolving rapidly. The consumption platform contains tools and processes in four main categories including:

- **Management & Control:** A set of tools for API management and integration, metering & chargeback, performance management, analytics and reporting, and a self-service catalogue;

- **Orchestration:** A set of tools for workflow management, policy enforcement, template & configuration management, agile pipeline integration, and provisioning;

- **Identity:** Tools for identity integration, auditability, authentication, and authorization; and

- **Security & Governance:** Tools and processes for cryptography, data management, vulnerability management, and continuous compliance & configuration management.[ix]

Conclusion

As per this research study cloud computing software is deploying its own service in small and medium business area. Having large number of benefits and future growth capability will achieve big part of revenue by2020. With the help of this software enterprises are taking a step towards and getting digital. Simple accounting applications in the cloud are creates to help small business owners to organize and manage their IT operations. Since this is an online accounting service, one can access business data anywhere on a mobile phone or a desktop PC and his data is safe because there are backups recently "in the clouds" accounting offices, which are modern accounting solutions available anywhere. These are accounting offices, which do not need to be personally visited. It does not matter where physically clients and offices operate, and on what basis companies run accounting.

As per this research study, the ease of use and convenience is the biggest factor cited by SMEs to adopt cloud. The second factor to use and adopt cloud is improved security and privacy. The third factor for the usage and adoption of cloud is the cost reduction. This means that SMEs or SMBs find the cloud easy to use, convenient, adequately secured for their business, their business privacy is well

protected and lastly but not the least is that the cloud helps SMEs to bring down their cost in a significant way. According to KPMG survey report 2014, organizations transform their business to cloud and showing the huge benefits of cost efficiency, better relationship to customers and faster time to market. Now, we can see the better transformation and scalable growth of this internet base accounting system.

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